# REPORT TO THE GOVERNOR

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## The Committee to Study Puerto Rico's Finances

December 11, 1975

## PREFACE

The *Committee to Study Puerto Rico's Finances* was appointed by the Governor in March 1974. Its membership is as follows:

CHAIRMAN, James Tobin, Sterling Professor of Economics, Yale University

William Donaldson, since November 1975 Dean, School of Organization and Management, Yale University

Kermit Gordon, President, The Brookings Institution

Wilfred Lewis, Executive Director, National Planning Association and since May, 1975, Senior Associate Robert Nathan Associates

Sidney Robbins, Professor of Finance, Columbia University, Graduate School of Business

William F. Treiber, Consultant, Federal Reserve Bank of New York

Mr. Donaldson was appointed to the Committee in January 1975 to replace Ralph Saul, an original member, who resigned in September 1974 for personal reasons. During his membership on the Committee, Mr. Saul was Chairman, The First Boston Corporation.

The Committee began its work in May 1974, meeting with the Governor and the Finance Council. The Committee has met subsequently five times, three in Puerto Rico and two in New York City.

The Committee was ably supported by a two-man staff: its research director, Richard Porter, Professor of Economics, University of Michigan, and his assistant, Bernard Wasow. We wish to express our deep appreciation for their dedicated and perceptive research and for their substantial written contributions to the Report.

The Committee employed the following consultants:

Robert Holbrook, Professor of Economics, University of Michigan, on banking and financial structure.

Center for Capital Market Research, School of Business, University of Oregon (Michael Hopewell, George Kaufman, Ronald Forbes, John Petersen), on the market for Puerto Rican bonds.

Their oral and written contributions have been extremely valuable to the Committee and its staff.

The Federal Reserve Bank of New York, through the good offices of Mr. Treiber, gave generous logistical and intellectual assistance to the Committee. Our New York meetings were held at the Bank, and members of the Bank's research staff contributed several memoranda on problems confronting the Committee, some of which are to be included in the auxiliary papers which we will submit.

Throughout our work, the Committee, its staff, and its consultants relied heavily on the staffs of the Government Development Bank for Puerto Rico and of other government agencies for information, statistics, advice, comments, and criticism. Without their courteous and forthcoming cooperation we could not have completed our task.

The Committee and its staff also have had the benefit of consultations with Puerto Ricans outside the government, economists, business men, bankers, and others.

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Dear Governor Hernandez-Colon:

On behalf of your Committee on Puerto Rico Finances, I have the honor to submit to you and to your Finance Council the Committee's Report. At a later date thirteen background papers prepared by the Committee's staff and consultants will be submitted. Here in this covering letter, I shall try to summarize the major findings and recommendations of our Report.

Your appointment of this Committee nearly two years ago reflected some concerns over the economic and financial prospects of the Island. You wondered, quite rightly, whether the economic and financial strategies of the past two decades could be successfully continued without modification and innovation. But none of us foresaw then how rapidly and drastically the national and international economic climate would deteriorate. Nor did we foresee at that time the severe impact of U. S. recession on the finances of state and local governments and of the Commonwealth, and the sharp decline in investors' confidence in tax-exempt bonds. You and your colleagues will not be surprised that our Report is more somber than we expected when we began.

## PRINCIPAL FINDINGS

Puerto Rico's difficulties today are partly due to circumstances beyond the Island's control. These include the sharp increase in world petroleum prices, a severe blow for an island economy dependent on imported fuel, and the relative increases in prices of agricultural and mineral products, costly to a country that makes its living mainly by manufacturing. In addition, Federal anti-inflationary policies and the deep recession to which they contributed have damaged Puerto Rico's economic and fiscal position. Puerto Rico has especially strong reasons for advocating Federal fiscal and monetary policies which assure both a strong and sustained economic recovery and the restoration of stable and robust financial markets in the United States.

The Island's problems, however, also reflect economic and fiscal developments in Puerto Rico since 1969. It would be a mistake to blame the Island's current problems wholly on the U. S. recession and to expect that U. S. recovery will solve them. The trends of government expenditure, government enterprise deficits, Puerto Rican debt, and costs of production were not sustainable even with favorable economic weather overseas. Your government, beginning in 1974, has taken important steps to arrest these trends, and we must recommend intensification of your efforts.

We have been regretfully forced to conclude that Puerto Rico has very little scope for financial policies which would insulate the Island from overseas economic and financial developments. No small economy which depends on trade for its livelihood and on external capital for its development has much room for autonomous financial and monetary policies. Puerto Rico's association with the United States involves a common currency, a customs union, unrestricted movement of funds, capital, and persons between the two economies, exemptions from Federal taxes, and eligibility for Federal grants to the Commonwealth and its citizens. These arrangements have been economically advantageous for the Island, but they also imply some constraints which must be recognized.

On the financial side they mean that credit is available to Puerto Rican borrowers in almost unlimited amounts, but only on terms, standards, and yields competitive with lending opportunities in Mainland and world markets. Since Puerto Rican savers, depositors, lenders, and financial institutions have virtually the same worldwide opportunities as Mainland lenders, their funds will stay in Puerto Rico only if competitive comparisons are favorable. In short, Puerto Rico cannot pursue an independent monetary policy. It is for this reason that recommendations concerning financial structure and institutions play a smaller role in our Report than may have been anticipated at the outset. We do have some recommendations on these matters—especially with respect to the financing of local enterprise and the role of the Government Development Bank for Puerto Rico. But we cannot regard these, or other possible reforms of financial structure, as major items of a program to respond to the critical economic problems now facing the Island.

On the fiscal side, the Island has somewhat more freedom to pursue its own countercyclical policies. However, budgetary measures to stimulate economic activity and employment must be financed by external borrowing. They cannot be implemented unless the Commonwealth holds in reserve some capacity to float debt in the Mainland. At the moment, obviously, this condition is not met.

As Puerto Rican leaders have long recognized, the only durable basis for prosperity is to develop and maintain on the Island economic activities which are internationally competitive, in Mainland, world, and local markets. Competitiveness is especially critical right now, and for this reason a number of our recommendations concern productivity and cost.

Puerto Rico faces several years of fiscal, financial, and economic austerity. Drastic adjustments are required, especially painful because they involve the postponement of expectations deeply entrenched in the economic and political life of the Island during the era of rapid industrial growth and abundant external finance. The adjustments are necessary to lay the basis for renewed growth. They must be made. The only question is whether they are made in a timely, orderly and equitable manner or whether they are deferred until the exigencies of a financial crisis compel them to be made in haste. Fortunately, you and the officials of your government concerned with economic and financial management recognize the urgency of the situation. This has been demonstrated by the measures already taken to increase tax revenues, to control government outlays, and to limit the Commonwealth's debt issues. Measures of this kind will have to be resolutely pursued in the coming years.

The Commonwealth and its agencies cannot, we believe, safely borrow more than about \$300 million a year in the Mainland tax-exempt bond market, on average over the next several years. Moreover, the Commonwealth must repay on schedule its maturing bonds and its short-term debt to a consortium of banks. The net increase in the outstanding public debt of the Island will be limited to about \$150 million a year, on average. In other words, the net cash deficits of the Commonwealth government, municipalities, agencies, and public corporations will be limited to about \$150 million a year. Perhaps additional funds can be raised by initiative in tapping foreign sources of credit and by measures to increase the absorption of Puerto Rican obligations by local firms and individuals. The central point remains. Aside from a margin of \$150-250 million a year of net debt finance, all the outlays of the public sector, whether for current operations or for investment, will have to be covered by current receipts from taxes, fees, user charges, and Federal transfers.

Timely and well-planned measures to accomplish this result will have two salutary long-run effects. First, Puerto Rican debt issues will be reduced to more modest and acceptable proportions of the Island's GNP and of the total Mainland bond market. Second, the measures themselves will convince potential lenders that Puerto Rico's economy and finances are soundly managed. In both ways Puerto Rico's credit standing will be strengthened and its borrowing costs and debt service burden reduced. Given the present fragile state of the market for non-Federal government bonds in the United States, the importance of these objectives can scarcely be over-emphasized.

It should be possible to achieve these aims before the end of the decade, and we may assume that the general bond market will recover from its present nervousness. Then it will be possible for debt issues to assume once again an important role in financing the Island's development. But even then Puerto Rico's external debt should not grow faster than the Island's economy.

Capital expenditures by the government and by public enterprises have been financed by debt issues, and now that the volume of debt issues is limited it is inevitable that marginal investment projects will be cancelled or postponed. The line of least resistance will be to absorb the whole burden of austerity in reduced investment. We urge you *not* to follow so short-sighted a policy. Public and private consumption should give way, not investment for Puerto Rico's future. Economic progress in Puerto Rico and the promise of a better life for the people require investment in both public and private sectors. Puerto Rico must generate internal saving to finance this investment, especially now that external finance is limited.

Of course investment proposals require careful scrutiny. Only those which promise a decent return to the Puerto Rican people deserve their saving. Traditional projects should be reappraised in the light of the new scarcities and trends in the world economy. Furthermore, labelling a proposed expenditure "investment" or including it in the capital budget does not guarantee it meets this test. Moreover, some outlays which budget accountants call "current" and national income accountants call "consumption" are future-oriented investments. These may include outlays for industrial promotion and expenditures for education and other investments in "human capital".

In allocating its limited investable resources, the government should bear in mind that private investment can be financed by public funds channeled through the Government Development Bank or otherwise. Conceivably local private enterprises can on occasion yield a higher social return than projects of government and public enterprises.

## MAJOR RECOMMENDATIONS

The necessary general elements of an austere program are fairly obvious. The specifics, we fully realize, will be very difficult to decide and to implement. In the final analysis only you and the Finance Council can put the various elements together into a feasible package reflecting Puerto Rican priorities and constraints. Here are our suggestions for basic constituents of a program.

### 1. Limiting government consumption expenditures and pay increases

The analysis summarized above indicates that Puerto Rico must generate internal saving to replace external borrowing in financing the investment needed for economic growth. To this end the current budget of the Commonwealth must begin to generate surpluses. In Section VIII of the Report our fiscal assumptions and their consequences for the projected growth of the economy are spelled out in detail. It is clear that the required improvement of the budget involves both drastic restraint of expenditure and additional tax effort.

On the expenditure side, we recommend that over the next three fiscal years the annual growth of the current budget of the Commonwealth be held 3 to 4 percentage points below the U. S. rate of price inflation (as measured by the overall U. S. GNP "deflator"). Since a U. S. inflation rate of 6-7% per year seems likely, this means limiting the growth of the Commonwealth budget to about 3% a year in current dollars. In implementing this recommendation, it is of course essential to provide in the expenditure budget for all costs attributable to government operations during the year, whether or not the actual cash outlays are deferred. This means, for example, that the budget must provide for pension fund contributions and obligated subsidies to agencies and public enterprises.

As a major budgetary economy, and as an important contribution to the general health of the economy, we recommend that the scale of governmental wages and salaries be frozen for the three year period. This does not mean that individual wages would be frozen, but that year-to-year pay increases would be limited to normal seniority and merit awards within the scale and to such increases at the bottom of the scale as are mandated by Federal minimum wage law.

This policy will minimize the impact of budget tightness on the volume of public services and make it possible to maintain public employment in needed functions. Where the bureaucracy is staffed beyond public need, it should of course be reduced, if only by attrition.

### 2. Increasing tax revenues

Our fiscal projections in section VIII of the Report assume that tax revenues will grow as economy recovery proceeds and that the tax increases of 1974-75 will remain in force. The fiscal outlook for the next few years is a compelling reason for accomplishing some further much needed improvements in the tax system.

First, land and real property should be taxed on realistic market appraisals, with the substantial exemptions of residences eliminated. This reform would make the tax system more equitable as well as more productive of revenue. We recognize, of course, that so far-reaching a reform must be phased in gradually, but now is an opportune time to adopt the necessary legislation and schedule.

Second, the yield of the income tax can and should be further increased by tighter enforcement and collection. We recognize the progress the Treasury has already made and urge that its efforts be continued and strengthened. Here too equity, as well as revenue, is at stake.

Third, the government should consider further taxes on consumer durable goods, especially luxuries. For automobiles, graduated registration fees could supplement excises in curbing the importation of large cars, with poor gasoline mileage, which seem particularly inappropriate for Puerto Rico today.

### 3. Development of operating surpluses in government enterprises

Public corporations and other government enterprises must be required, as a group, to produce current surpluses. Shut off from accustomed dependence on bond finance, these enterprises will have to finance investment projects mainly from their own operating surpluses or from surpluses generated in the Commonwealth current budget. While we recommend careful scrutiny of investment projects to make sure that their social benefits, correctly calculated, justify their full costs, we emphasize again that the prospects of Puerto Rico for growth in employment and output depend on investment. Projects which meet benefit-cost tests should continue to be undertaken, even during the coming period of austerity. The main point is that the funds must be found internally.

We do not mean, of course, that every public enterprise should be allowed automatically to invest whatever funds it can generate internally. All capital budgets should be centrally evaluated, and common benefit-cost criteria applied.

To facilitate internal saving and to preserve equity, the freeze of pay scales recommended for government employees should apply also to public enterprises. In addition, significant increases in customer and user charges will be necessary in many cases. Neither the enterprises nor the Commonwealth government can afford to subsidize the customers of public utilities.

### 4. Straightforward marketing of Puerto Rican bonds

In the long run the only real protection for Puerto Rico's credit is to limit the increase in debt and to adopt policies which assure the Island's ability to service its debt. In the marketing of debt, Puerto Rico has a good reputation for full and candid disclosure, and we believe that Puerto Rico should strengthen this reputation. Puerto Rico should be a pioneer in frank and complete reporting of fiscal and economic facts and prospects. Disclosure is bound to become increasingly important in the marketing of bonds and some standards are very likely to be imposed by Federal legislation. We suggest that Puerto Rico begin voluntarily now to provide prospectuses which comply with S.E.C. requirements for corporate issues.

For the same reasons, Puerto Rico should eschew fiscal "gimmicks." Revenues should not be segregated to service particular bonds; in the market's view this only impairs the quality of other issues. The market has, in fact, come to view all Puerto Rican bonds as competitive with each other for the general debt servicing capacity of the Island's government and economy. There is no point in trying to circumvent this view. The market is particularly sensitive to such matters as timely and current payment of scheduled funds for future pension obligations, and the government should provide for these accumulations of reserves in its budgets.

At the same time, we encourage the Treasury and the Government Development Bank to seek, in consultation with its bond advisers, fruitful innovations in Puerto Rico borrowing. These may include: borrowing in European markets; "flower" bond issues; savings bonds for local savers; bonds tailored to the needs of tax-exempt subsidiaries of U. S. companies.

### 5. Measures for training and employment of Puerto Rican youths

Even with the best of policy and the best of luck, the Island faces a severe unemployment problem for several years. It will be especially difficult for young Puerto Ricans to get those all-important first jobs. Consequently the budget should emphasize measures which will make Puerto Rican youths employable and productive, and the government should seek all possible Federal funding of such programs. Vocational education, on-the-job training, and public employment projects are examples. We are aware that your inter-agency committee on development strategy is considering some youth employment and training programs particularly designed for the Puerto Rican scene. We also suggest, in view of the serious youth unemployment problem Puerto Rico is facing, that you ask Congress to permit suspension or reduction of minimum wages for persons under the age of 20 employed in Puerto Rico.

### 6. General restraint on wages

Under previous headings we have recommended temporary freeze of pay scales for government employees and for public agencies and enterprises. This will contribute mightily to the necessary improvement in the financial position of the entire public sector and will help to restrain production costs throughout the Puerto Rican economy.

It is clearly desirable to extend the policy of wage and salary restraint to the private sector as well. The government should make clear to employers and employees that the prosperity of their enterprises and the expansion of job opportunities are vitally dependent on their willingness to accept severe limits on labor cost increases for several years. To the same end, the Commonwealth should ask Congress to allow deferment of the application of Mainland minimum wage standards to the Island, while freezing all wage standards under its own control and that of industry wage boards. As stated above, we suggest suspension or reduction of minimum wages for youth.

At the same time, the government should undertake a thorough review of all legislation which raises labor costs, including: the large number of compulsory paid holidays; vacations and sick leave; year-end bonuses; overtime and free time.

It is of prime importance to hold dollar increases in labor costs in Puerto Rico below the trend in the Mainland. Over the next few years of austerity, the prospects for employment in Puerto Rico depend mainly on restoring a viable competitive position, expanding Mainland and foreign demand for Puerto Rican products and attracting new plants with new jobs. Unfortunately Puerto Rican labor costs have outrun productivity, while the rise in oil prices has also impaired the Island's competitive position. A trading economy like Puerto Rico has very little possibility of influencing the prices of products it buys and sells. It can, however, increase its market shares by gaining advantage in costs and productivity.

We do not make this recommendation lightly. We understand how unpopular wage restraint will be, and how difficult it will be to explain the need for it in a way that elicits understanding and acceptance. Certainly the same standards of restraint, or even more severe ones, must apply to executive and managerial salaries as to the wages of production workers. Moreover, we are recommending below that you obtain the cooperation of major firms operating in Puerto Rico to increase their employment and their commitments to the Island economy.

Nevertheless, it will seem unfair to many employed workers that they do not get compensation via wage increases for recent and current increases in the cost of living. The trouble is that the cost-of-

## I. Outline Summary of Report and Recommendations

The basic framework of the Report is analysis of the amounts of investment in productive capital associated with growth of production and employment in Puerto Rico, on the one hand, and internal and external sources of finance of this investment, on the other. Section II, "Accounting for Growth" explains the framework and shows how capital accumulation and economic growth have been related in Puerto Rico in the past. Section III discusses trends in the amounts and kinds of public and private investment in Puerto Rico. The next two sections take up the internal saving component of the equation, and Section VI concerns external finance in the forms of federal government transfers to the Island and private direct investment.

Bonded indebtedness as a source of external finance is reviewed in Section VII, and here the Report notes the obstacles to continued reliance on this source. This leads to some projections of the saving-borrowing-investment-growth nexus for the coming decade. The central conclusions are that the resumption of tolerably high growth rates will require internal saving to replace public borrowing, and that the needed internal saving must come mainly from the public sector.

In Section VII Puerto Rico's financial system is examined. The main conclusion is that there is, in the nature of the case, no significant possibility for independent monetary policy in Puerto Rico. Although some financial reforms are suggested, they cannot be expected to contribute greatly to the solution of the Island's major economic problems.

Section X concerns the economic dependence of the Island on the Mainland and world economies. Dependence, in the sense of external ownership of the Puerto Rican economy, can be reduced by the measures to promote internal saving recommended earlier in the Report. Dependence, in the sense of vulnerability to national and international economic fluctuation, trends, and surprises, is mostly an inescapable fact of life.

Finally, Section XI discusses some issues of long run policy and policy-making and makes a number of recommendations for improved fiscal, financial, and economic management.

A detailed summary of the contents and recommendations of the Report, in outline form, follows.

## II. Accounting for Growth

SUMMARY

1. Puerto Rico's rapid economic growth since 1947 has been accompanied by rapid transformation to an industrial export economy.

2. The rate of increase of labor productivity has been diminishing. Capital productivity has been falling steadily since the early 1960's. Both of these trends are grounds for concern.

3. Finance for investment in new fixed capital can come from internal saving or from inflows from the rest of the world, especially from the United States.

4. Historically, Puerto Rico has placed heavy reliance on resource inflows from the Mainland.

5. These inflows have played an increasing role in recent years, as internal saving has declined.

6. Accompanying the heavy reliance on external capital, has been a growing gap between the value of production on the Island (GDP) and the value of production income accruing to Puerto Rico residents (GNP). The difference reflects the return to externally owned capital.

7. Employment growth—certainly a key goal beyond that of income growth—can be achieved when investment is geared to activities which make productive use of Puerto Rico's ample labor supply.

## III. Investment

SUMMARY

1. Sustained growth of labor productivity requires investment in physical and human assets.

2. The productivity of fixed investment in Puerto Rico—as measured roughly by the incremental output-capital ratio—has been falling fairly steadily since the early 1960's.

3. Therefore, the proportion of GDP devoted to investment has had to climb to generate the same growth rate of output.

4. Contributing to the falling productivity of investment may be:

(a) inadequate attention to productivity of public investment

(b) increasing reliance in recent years on public investment

(c) shifting Puerto Rican international competitiveness

(d) problems of incentives to industry in Puerto Rico.

5. Public investment has been increasingly important in recent years, as private investment has declined.

6. In determining public spending policy, short-run multiplier considerations have been given too much weight, and longer-run productivity considerations too little.

7. Private investment—traditionally attracted to Puerto Rico for political, tax, and labor cost reasons—is flowing increasingly into sectors in which labor costs are relatively unimportant.

8. Substantial evidence exists, however, to show that there is much surplus labor with low skills.

9. Private investment is not adequately utilizing this resource because Puerto Rico's competitiveness in labor intensive sectors is declining.

10. Rising wages and tax incentives which reward profits at market prices combine to distort incentives towards relatively capital intensive private investment.

Recommendations

1. The use of uniform social cost-benefit techniques for project appraisal should be required for all major public investment projects and for all subsidies of the private sector.

2. Public wages and fringe benefits should be frozen on the present scale for three years. Thereafter, they should grow only as fast as Mainland wages for another five years. Government influence should be used to effect similar restraint in the private sector.

3. Tax incentive policy should be revised to reward reinvestment of profits in employment generating activities. A proposal for such a revision is detailed in the report.

4. Private tax-exempt companies should show that they are prepared to match the contributions of government and labor and to contribute to revitalized growth by making substantial new real investments in the near future.

## IV. Internal Private Sources of Saving

Summary

1. Resources for investment come from the surplus of GNP over public and private consumption and from external resource inflows.

2. Internal private saving can be divided into personal and business saving.

3. Personal saving has always been very weak in Puerto Rico.

4. Business saving (by locally owned firms) has been positive and rising.

5. Since retained earnings are already a large fraction of total earnings, the scope for increased business saving is limited.

6. The fact of negligible personal saving must be established, since it has been questioned recently.

7. Although saving, as a residual, is a more uncertain statistic than many, massive underestimation of income, in conjunction with accurate estimation of consumption, seems implausible.

8. Moreover, the consumer budget survey of 1963 confirms low saving rates. Finally, consistent massive underestimates of saving would mean that investment or capital outflows have been correspondingly underestimated.

9. Evidence corroborates a negligible personal saving rate in Puerto Rico.

10. Low personal saving may be due to generous social insurance, expectations of rapid income growth, and influences of "Mainland culture."

RECOMMENDATIONS

1. Low private saving rates do not appear to be due to capital market imperfections. Wholesale restructuring of capital markets is not called for.

2. Several changes might improve saving rates marginally:

(a) Gradual removal of the special personal income tax deduction for interest paid on taxpayer's personal indebtedness.

(b) Prompt resumption of employer's contributions to the public pension funds.

3. Taxation of consumer credit is not to be recommended. Rather, consumption of luxuries should be taxed directly.

## V. Public Saving

SUMMARY

1. Public saving in Puerto Rico is the surplus of unborrowed receipts over current expenditures in the government and in public corporations.

2. This saving is a source of finance for public and/or private investment.

3. Before 1969 public saving was positive and generally increasing.

4. From 1969 to 1973 expenditures accelerated dramatically. After 1973 revenues and expenditures both fell sharply.

5. The net effect of these changes was to reduce public saving and to increase the need for public borrowing sharply.

6. In the government sector, acceleration of all categories of expenditures occurred without introduction of major new programs.

7. In the public enterprise sector, saving had never been high; such saving as there was declined as a result of international price movements and public policy, which supports a growing number of subsidized public enterprises.

8. Even accounting for the substantial revenue shortfall of 1974—which should be a temporary phenomenon—public finance policies of previous years have placed the economy in an untenable position.

9. Total public sector saving in 1974 would have to be \$200-\$400 million above 1974 "normal" levels (adjusted for shortfalls) to return to sustainable public sector borrowing levels.

RECOMMENDATIONS

1. Public enterprise pricing policies should be reviewed comprehensively.

2. In general, public enterprises which sell services to the public should be expected to generate some surplus.

3. The central problem of the tax system must be to raise revenue equitably. Reform of the property tax and continuing better enforcement of tax laws should be given top priority in tax reform.

4. Public current expenditures must not be allowed to grow as they have in the past even when revenues recover.

### VI. External Inputs into Growth

SUMMARY

1. The recent decline in internal saving in Puerto Rico has meant increasing reliance on external resources.

2. Capital inflows (i.e. those which must be repaid) have become increasingly important in recent years.

3. Increasing reliance on borrowing has led to rising interest costs.

4. Unilateral transfer payments—aside from food stamps—cannot be expected to grow as rapidly in the future as they have in the recent past.

5. Transfers to individuals increase private saving very little, but they permit public saving.

6. Direct investment includes a good deal of financial investment by tax-exempt corporations.

7. These flows should be viewed, largely, as a substitute for other financial flows, such as intra-bank transfers.

8. It is unlikely that Puerto Rico can attract capital unless it offers a rate of return competitive with alternative assets.

9. Real physical external investment is economically desirable when it returns more to Puerto Rico than its cost in Puerto Rican resources.

RECOMMENDATIONS

1. Longer run budgetary planning must reflect expected reduced growth of transfer payments.

2. External direct investments should be better screened to ensure that they make a net contribution to Puerto Rico. Social cost-benefit techniques should be used.

### VII. Puerto Rico's External Debt

SUMMARY

1. Puerto Rico's external public debt is large and growing rapidly.

2. Interest costs to Puerto Rico relative to other borrowers have recently risen. This is due to Puerto Rico's increasing share of the market and to investors' perceived increase in the relative risk of holding Puerto Rican debt.

3. Puerto Rican issues are regarded by investors as relatively homogeneous, regardless of the issuing agency.

4. Investors are becoming increasingly aware of the problems we discuss in this report. In 1975 in particular, Puerto Rican debt took a sharp turn for the worse in the market.

5. If Puerto Rico continues to issue new debt in large volume, the interest rate spread could grow to two or three percentage points, or more, above other bond issuers.

RECOMMENDATIONS

1. The rate of issue of new debt must be substantially curtailed, to about $300 million per year.

2. Policy measures recommended elsewhere in this report will probably also decrease the risk investors perceive in Puerto Rico.

3. The limits to external borrowing cannot be avoided by creating new bond issuing agencies.

## VIII. Economic and Fiscal Projections

SUMMARY

1. Our projections take 1974 as the base year because the data are complete.

2. The 1974 figures are adjusted to account for differences between 1974 and "normal" figures.

3. "Naive" extrapolation of recent trends suggests rapid increases in the ratio of debt to income and continued deterioration of the internal saving position of the economy in spite of much improved public revenue figures in the "normal" 1974 figures.

4. Projections based on a simple model in which public finance policy can be varied, and in which rates of growth of external inflows are adjusted to reasonable expectations, are not encouraging.

5. It will be difficult to achieve growth rates of real GNP of 5% per year over the next ten years, even without recession.

6. These pessimistic conclusions stem from three grounds:

(a) Investment requirements have been rising and are now quite high

(b) The public sector has dug itself into a deep financial hole from which it will be difficult to emerge

(c) Borrowing opportunities will be much curtailed

7. In order to achieve growth rates on the order of 5%, investment spending will have to be productive (the incremental capital-output ratio must be prevented from rising) and public saving must be pursued keenly.

8. A three year wage scale freeze followed by continued, but reduced, austerity, with the resulting public saving productively invested, may be enough to achieve the 1967-1974 growth rate.

9. Increased public saving will also reduce the cost of public borrowing.

## IX. The Financial System and Monetary Policy

SUMMARY

1. Free, riskless flow of funds between Puerto Rico and the Mainland has been of great economic benefit to Puerto Rico, but it makes independent monetary policy impossible.

2. Financial institutions move funds internationally and interregionally seeking the highest returns.

3. Therefore, Puerto Rico cannot maintain effective interest rate differentials with the Mainland. It faces externally determined interest rates.

4. By the same token, however, there is no limit on the availability of credit for assets perceived to be comparable to assets elsewhere, in terms of yield and risk.

5. Puerto Rico is a substantial net importer of capital; there is much to lose even by threatening the mobility of capital.

6. Although the level of interest rates is determined externally, the allocation of loans can be altered somewhat by public policy, particularly by lending policies of the Government Development Bank.

7. Corporations operating under Section 931 of the U. S. Internal Revenue Code own large quantities of liquid assets, but Puerto Rico stands to gain little if these funds are deposited in banks on the

Island. Given the mobility of capital, deposits of 931 corporations would have little impact on the rate of interest in Puerto Rico; they would simply replace other funds.

8. The important issue with 931's is not where they hold their financial assets, but what real contributions they make to Puerto Rico through reinvestment of profits in new productive facilities.

9. The local capital market is small and relatively inactive. In the long run it could play a more important role in financing investment by Puerto Ricans.

10. The Government Development Bank has never been able to play a very active role as a development bank because it has lacked stable low-cost funds, and because its role has never been well defined.

RECOMMENDATIONS

1. Puerto Rico cannot undertake effective independent monetary policy nor institute "central-bank-like" functions.

2. The government should seek more actively to develop the local equity market. To this end it should

(a) Seek out, educate, and actively encourage suitable local firms to issue equity capital.

(b) Provide, either directly or through encouragement of local intermediaries, underwriting services for local issues.

(c) Assure sufficient regulation to avert abuses.

3. The provision of stable, low cost funds to the Government Development Bank must be given high priority.

## X. Economic Dependence

SUMMARY

1. We focus on the strictly economic aspects of Puerto Rico's dependence on the Mainland. These include dependence on capital inflows, dependence on trade, and dependence on cyclic behavior of the U.S. economy.

2. Puerto Rico has chosen a development strategy which places heavy reliance on external resources.

3. As a result, something like half of the tangible reproducible assets on the Island are externally owned.

4. Economic dependence stems from the reliance on net external resource inflows and the resulting external controls.

5. External trade by itself is necessary and useful for any small region and should not be considered a problem of dependence.

6. Scope for independent Puerto Rican counter-cyclical policy is limited not so much by an absence of policy instruments as by Puerto Rico's small size and high degree of integration into the international economy.

7. Other small advanced economies are hardly better able to counter international business cycles.

8. In the past, U.S. recessions had little impact on Puerto Rican growth.

9. Little can be said about the impact of the current recession because the data base and analytical tools are both weak.

10. Fiscal policy is weak because the multiplier is low due to import leakages.

11. Unless Puerto Rico maintains a borrowing "reserve" or "margin" in "good" times, it will be unable to borrow more in "bad" times to finance counter-cyclical spending. When the borrowing limit

is binding, the only spending policy decision open to the government is how to allocate its resources between expenditure types (including current and capital expenditures).

12. Labor intensive public spending has a higher multiplier, but unless it is productive in the long run, it comes at the expense of growth.

RECOMMENDATIONS

1. Trade policies—such as import substitution—may have some potential for accelerating growth but it is not likely to be substantial.

2. If borrowing and spending are high when conditions are good, and borrowing and spending are low when conditions are unfavorable, the resulting pattern will be pro-cyclical. This pattern should be avoided.

## XI. Policy and Policy Making for the Long Run

SUMMARY

1. Puerto Rico can have substantially more control over its economy in the long run than in the short run.

2. It is difficult, if not impossible, to pursue goals with any degree of autonomy as long as dependence on external capital flows is so great.

3. Revision of budgetary practices—to insure the generation of an investible surplus and its effective disposition—must be a keystone of long run planning.

4. The budget must be properly implemented if it is effectively to represent collective choices.

5. Tax evasion is of concern in this context.

6. Matching and tied grants distort the budgetary decision making process. Puerto Rico's choices may well differ from those of the Mainland.

7. Private investment by Puerto Ricans can be stimulated through public policy, particularly through the Government Development Bank.

8. Public investment should not simply create short term cash flows to the private sector. Investment decisions must be made on the basis of productivity.

9. The take-over of utilities by the public sector comes at the expense of the creation of new assets.

10. Tax exemption can be more closely tied to expected net benefits to Puerto Rico.

11. Policy must be better informed by ongoing research and data collection.

RECOMMENDATIONS

1. Puerto Rico should continue in the effort to gain greater control over Federal monies disbursed on the Island.

2. Take-over of existing assets is not recommended unless the expected *increase* in social profits from the take-over exceed the *level* of social profits from new investment.

3. Puerto Rico has relied too heavily on outside consultants rather than on ongoing research by people with cumulative knowledge.

4. A research institute should be organized to meet the basic research needs of the government. Among issues urgently needing study are the following:

(1) Improvement of the macroeconomic accounts.

(2) Linking of macroeconomic variables to United States variables.

(3) Analysis of the incentive effects of current promotion policies.

(4) Study of the effect of legislated labor costs on unemployment.

(5) An economic study of pricing, investment and cost control policies of public enterprises.

## II. Accounting for Growth

Economic growth cannot by itself end the problems of poverty and unemployment which beset Puerto Rico. In spite of high growth rates over a quarter century, poverty and unemployment are still immediate problems for a large portion of Puerto Rico's population. Yet it would surely be wrong to conclude that things would be better if growth were slower. Growth is only part of economic progress, but it is an indispensable part. Without it, many other social goals are very difficult to achieve. At a minimum, real incomes must grow as rapidly as population. More rapid growth can provide opportunities for increasing welfare and for new employment.

We will concern ourselves with the prospects and policy alternatives Puerto Rico faces in promoting continued growth. Our focus is on problems of financing, but we hope to illuminate if not answer related questions concerning the type of growth and its direction.

In this section we review the broad outlines of Puerto Rico's economic transformation since World War II. We examine the fundamental relations and identities connecting the basic macroeconomic variables in order to provide the framework for the analysis, conclusions, and recommendations of Sections III through VIII.

The growth of output can be "accounted for," though not explained, by the growth of inputs and of the productivity of inputs. This accounting, even though it is a tautology, provides a useful framework for discussing the basic sources of growth. We will focus on one of the inputs, physical capital, because its formation through investment gives rise to the financial requirements which are our primary concern. But we will also discuss the employment of labor not only because it is so important an input in the productive process, but also because unemployment has always been, and is now, so important a problem for Puerto Rico, and because the welfare of the people depends on opportunities for productive work as well as on average income per-capita.

A. *Output.* The Puerto Rican "miracle" is well documented, but in no way can it be more clearly seen than in the output trend. As Figure II-1 shows, the Island Gross Domestic Product (GDP) rose from barely one-half billion dollars in 1947 to nearly eight billion dollars in 1974, a trend growth rate over 1947-74, of 10.2% per annum.* Even after adjusting for price movements, the real GDP rose over 1947-74 at a trend growth rate of 6.9% per annum. In per capita terms, Island production income (Gross National Product—GNP) has risen from $658 in 1947 to $2,245 in 1974, a trend growth rate of 4.9% per annum (see Figure II-2). Standing out clearly in Figure II-2 is, however, a fact to which we shall return—real GNP per capita declined in 1974, for the first time since World War II. Previously, growth had quickened and slowed, but never ceased.

The economic transformation of the Island has meant not only growth but structural change. Primary production, once nearly one-third of output, has declined to barely 5% of total production (see Figure II-3). Manufactures have grown, especially manufactures other than food, beverage, textile and apparel. There is a "bulge" in construction in the late 1960s and early 1970s, now narrowing. Tourist services grow, but remain relatively small. And government grows steadily, accelerating in the 1970s.

B. *The Labor Input.* If growth is to have the potential for increasing the welfare of a people, ever larger output must be produced per employed worker. Or, if we view this phenomenon in reverse, ever fewer workers must be required per unit of output. Puerto Rico has achieved this declining labor-cost per unit of output, as shown in Figure II-4. Nevertheless, there are two problems to be noticed.

*Throughout, unless otherwise noted, years are fiscal years, e.g. "1974" means the twelve months ending June 30, 1974. Our data come largely from the Planning Board. Our figures were last revised in March 1975. Since then, Planning Board series have been revised substantially from F.Y. 1972 onward. Trend growth rates are the slopes of log-linear regressions.

FIGURE II-1

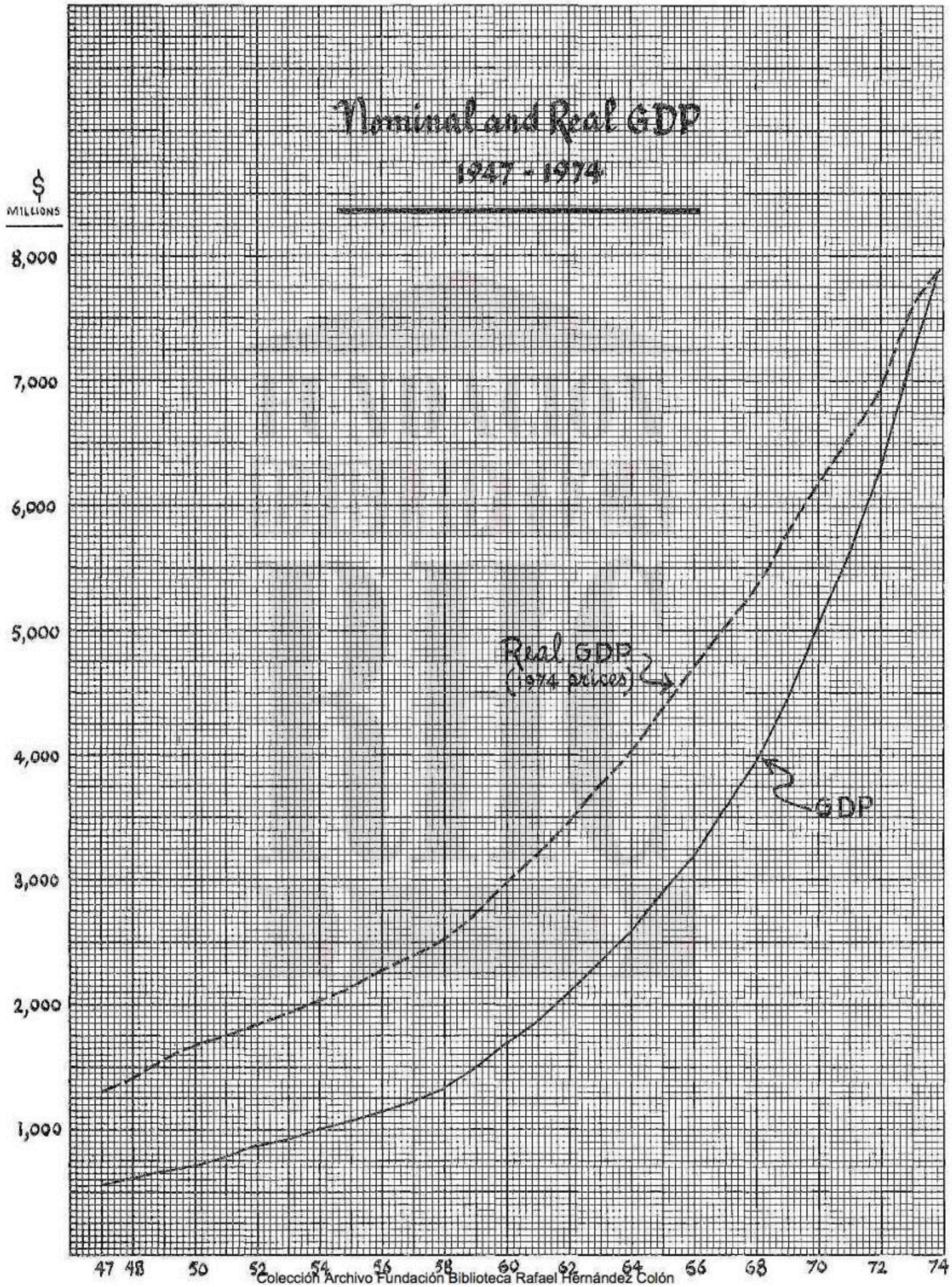
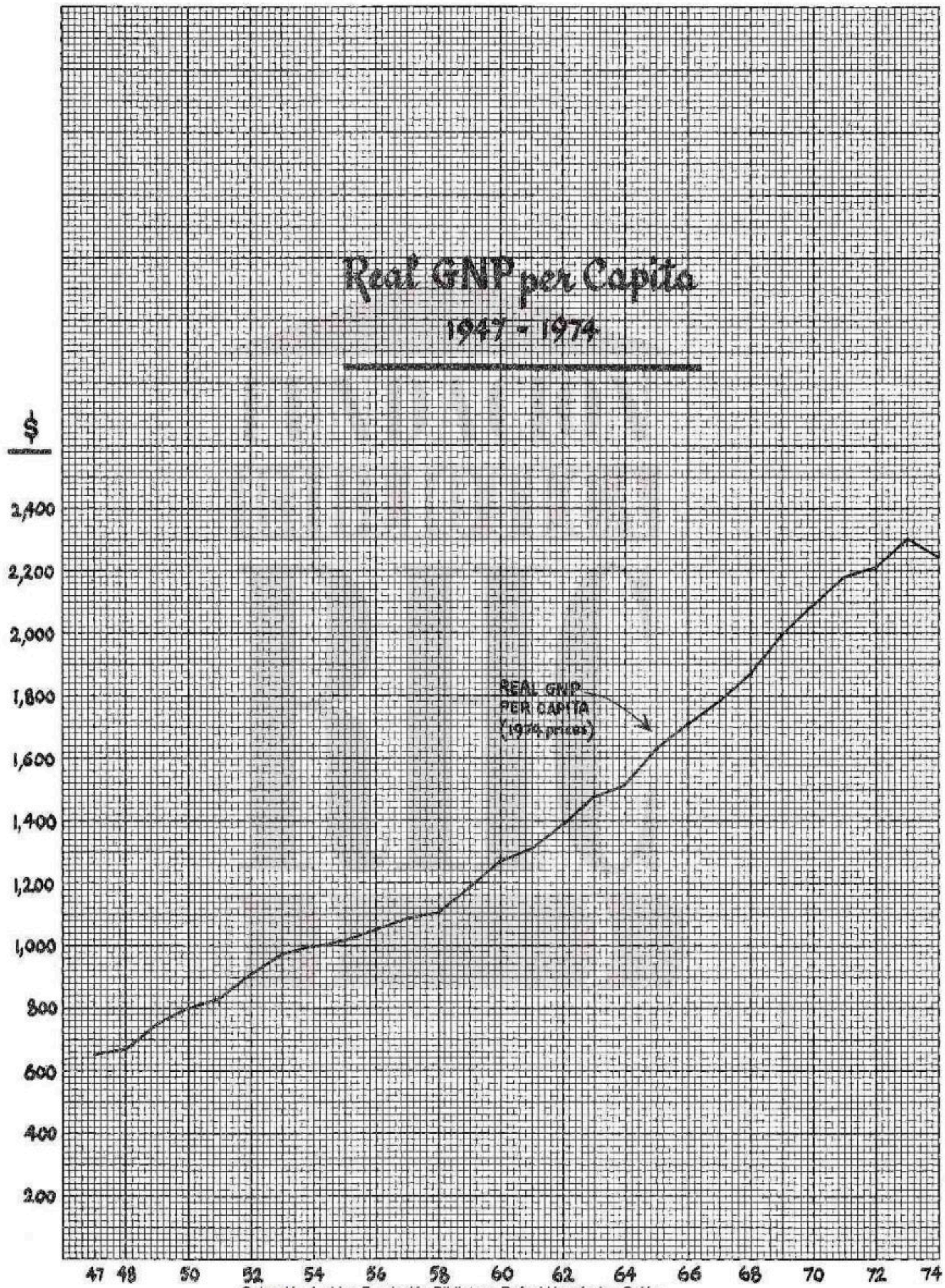
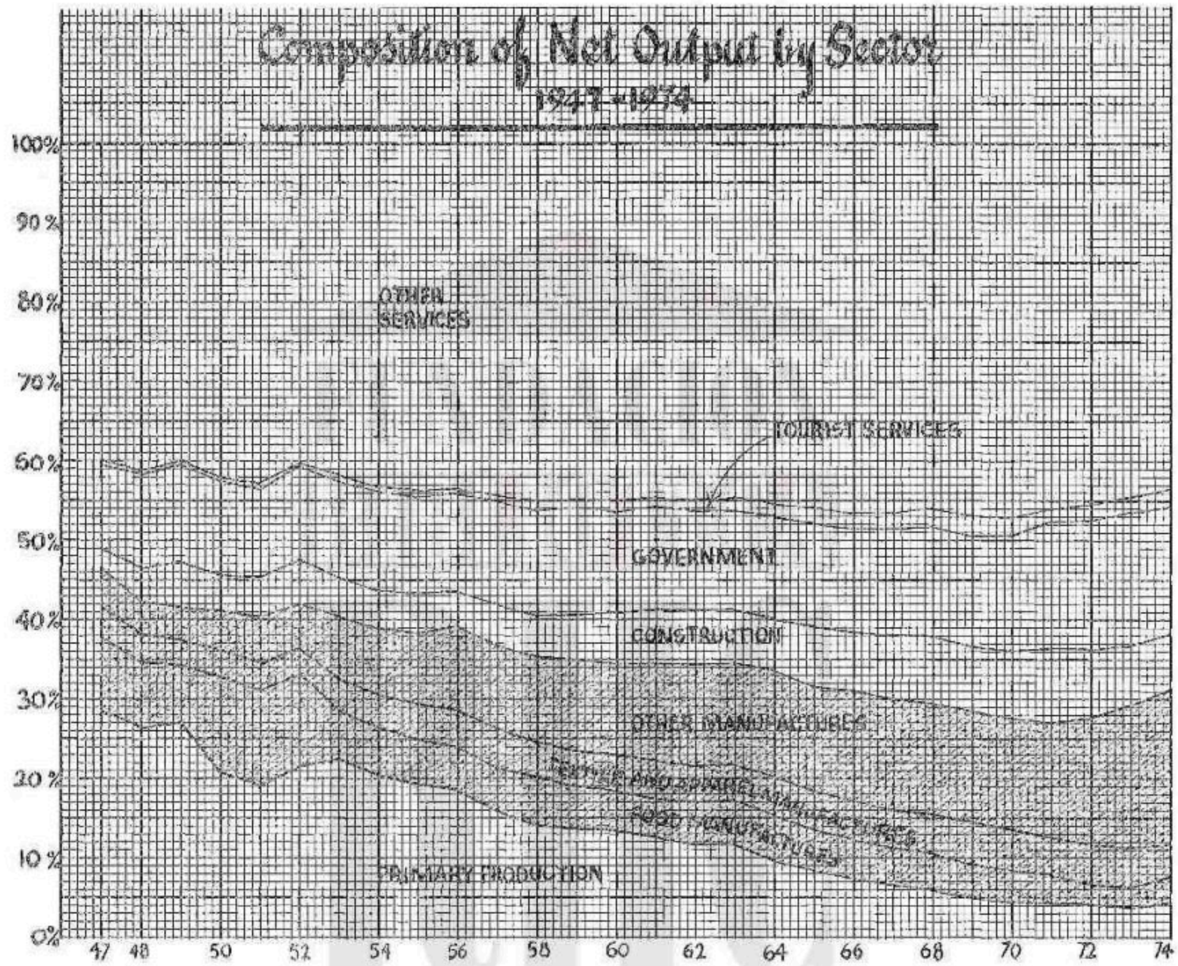

Nominal and Real GDP
1947 - 1974
$ MILLIONS
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
Real GDP (1974 prices)
GDP
47 48 50 52 54 56 58 60 62 64 66 68 70 72 74

FIGURE II-2



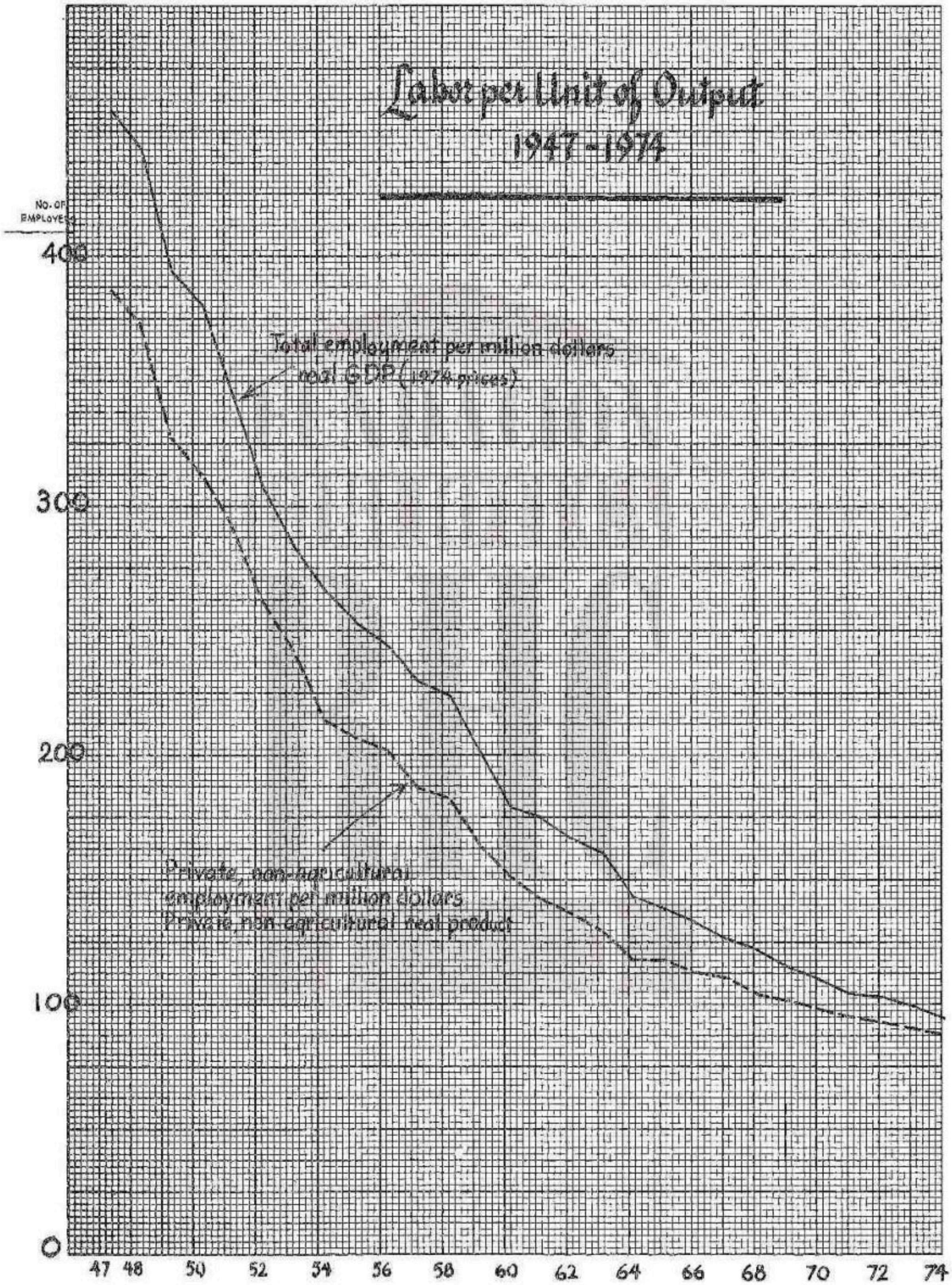
Real GNP per Capita
1947 - 1974
$
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
REAL GNP PER CAPITA (1974 prices)
47
48
50
52
54
56
58
60
62
64
66
68
70
72
74

FIGURE II-3



Composition of Net Output by Sector
1947-1974
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
OTHER SERVICES
TOURIST SERVICES
GOVERNMENT
CONSTRUCTION
OTHER MANUFACTURES
TEXTILE AND APPAREL MANUFACTURES
FOOD MANUFACTURES
PRIMARY PRODUCTION
47
48
50
52
54
56
58
60
62
64
66
68
70
72
74

FIGURE II-4


Labor per Unit of Output
1947 - 1974
NO. OF EMPLOYEES
400
300
200
100
0
Total employment per million dollars real GDP (1974 prices)
Private, non-agricultural employment per million dollars Private, non-agricultural real product
47
48
50
52
54
56
58
60
62
64
66
68
70
72
74

First, the trend in the growth rate of labor productivity has slowed noticeably in recent years. Over the period as a whole, output per worker rose at 6.5% per annum, but the trend rate of growth for 1967-74 is only 3.8% per annum. Productivity growth has slowed within manufacturing as well.

Second, we feel these trends have not been viewed with sufficient concern. Official concern appropriately focuses first on the always too high Puerto Rican unemployment rates, but employment growth at the expense of productivity is likely to undermine sustainable long-term growth. Employment growth and labor productivity growth must rather be seen as complementary ways of raising the rate of output growth; and government policy must seek to raise them both. Only in this way can both real wage rates *and* employment rates be improved in the long run.

C. *The Capital Input.* Physical capital—plant, machinery and equipment—plays an important role in the growth of output in two basic ways: (1) additional capital can permit the employment of additional labor, and the two together can produce additional output and (2) additional capital can replace labor, which can be used more productively elsewhere, with resulting additional output. Typically, both processes are simultaneously occurring—along with technical progress in its various manifestations—and the resulting movement in the ratio of capital to output may be up or down. Not only is the movement unclear in theory, but the historical evidence of advanced countries displays no strong trends in the capital-output ratio even over long periods of time. In this respect Puerto Rico is not very unusual; as Figure II-5 shows, the capital-output ratio* has risen and fallen over different periods in the last quarter century.

Nevertheless, the fact that the Puerto Rican capital-output ratio has risen almost steadily over the past decade is a cause for concern. In view of the serious chronic unemployment on this island, additional capital should predominantly be cooperating with, not substituting for, labor; and when capital and labor are being added together to the productive process, output should be rising at least proportionately to capital. Thus, the rising capital-output ratio is worrisome, and we worry at length about it in the next section of this report.

D. *Investment.* There is another growth-accounting identity which is useful for sorting out the various influences affecting an economy's rate of growth: (growth rate of output) equals (ratio of net real investment to output) divided by (the ratio of net real investment to the change in output). This identity views the growth rate of output as the result of two variables: (1) the fraction of output which is being set aside to form new capital, and (2) the amount of new capital needed to produce one unit of additional output. This second variable is simply the familiar capital-output ratio, at the margin.

On this accounting too, the rising Puerto Rico capital-output ratio appears as a cause for concern. To maintain any particular growth rate of output when the capital-output ratio is rising, net real investment must become a rising fraction of output. Puerto Rico *has* in fact been maintaining its output growth rate, until recently, but only by raising the ratio of net real investment to output.

E. *Resources for Investment.* A high or rising rate of investment represents, from an economic viewpoint, a high or rising demand for productive resources. Any economy is constrained in its ability to invest by its ability to supply the real resources required to effect the investment. There are essentially three sources:

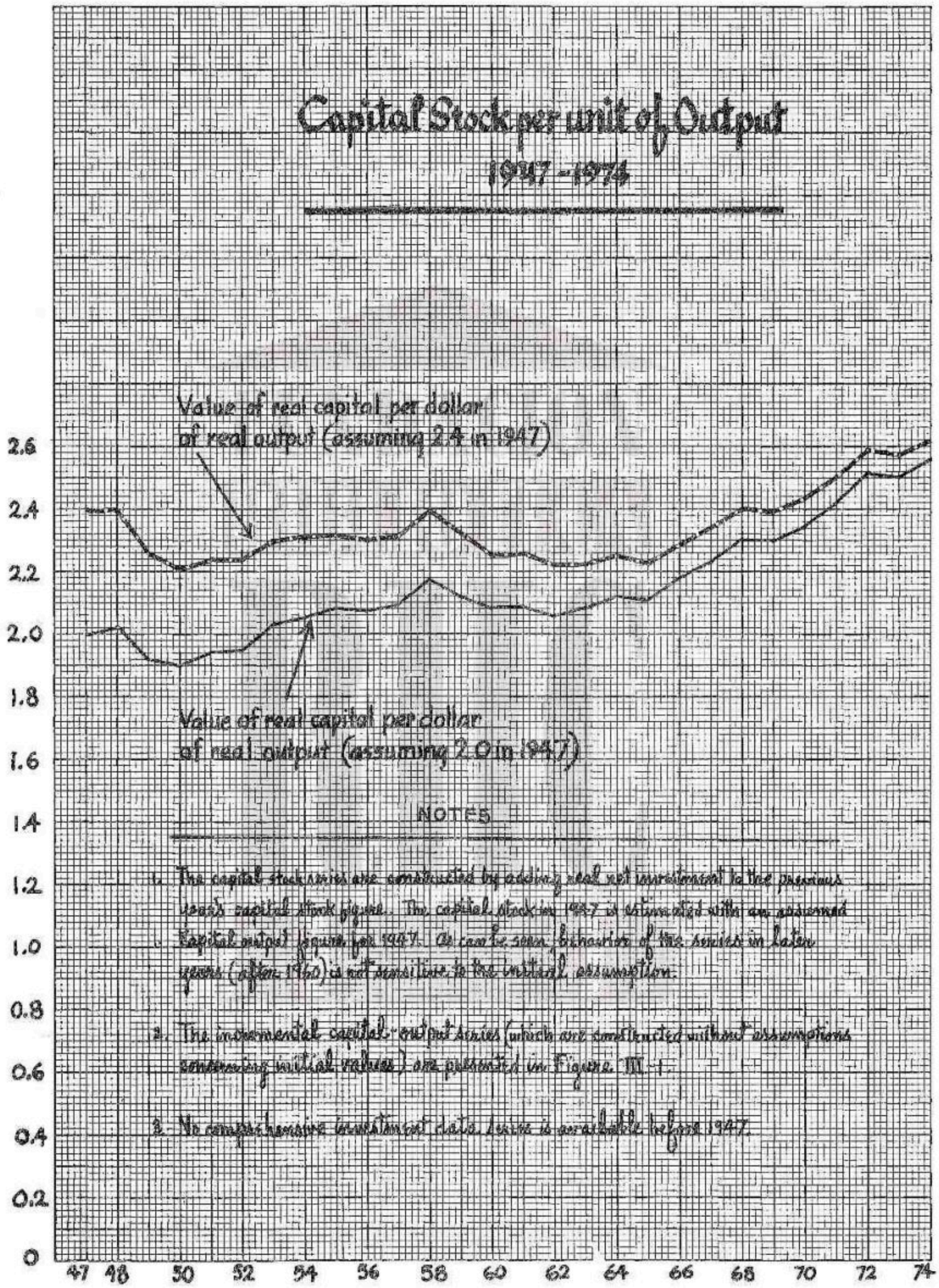
(1) From a given gross output, consumption can be reduced. The increased internal saving provides the additional resources for investment.

(2) Idle resources such as unemployed labor represent a potential source of investable resources *provided* (i) a way can be found to employ these idle resources productively and (ii) the resulting increased output can be prevented from flowing entirely into increased consumption.

(3) The investment resources can be acquired externally.

*Since there are no figures for the capital stock in 1946, this is the ratio of total net real investment over the period from 1947 up to the year in question to the change in real GDP over that same period. This simple calculation is sufficient here and is expanded and discussed in the next section.

FIGURE II-5



Capital Stock per unit of Output
1947 - 1974
Value of real capital per dollar of real output (assuming 2.4 in 1947)
Value of real capital per dollar of real output (assuming 2.0 in 1947)
NOTES
1. The capital stock series are constructed by adding real net investment to the previous year's capital stock figure. The capital stock in 1947 is estimated with an assumed capital output figure for 1947. As can be seen, behavior of the series in later years (after 1960) is not sensitive to the initial assumption.
2. The incremental capital-output series (which are constructed without assumptions concerning initial values) are presented in Figure III-1.
3. No comprehensive investment data series is available before 1947.
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
47
48
50
52
54
56
58
60
62
64
66
68
70
72
74

The way Puerto Rico has acquired its investment resources, since 1947, is shown in Figure II-6. The first two of the sources listed above, while conceptually separable, are in fact impossible to distinguish in the economic accounts and are shown together as "gross internal saving (excluding transfers)". External sources, the third item, are divided into two parts:

(i) *Net transfer payments to Puerto Rico,* which finance resource movements from the Mainland and carry *no* repayment obligation. These transfers must be added to gross internal saving to find *gross internal saving (including transfers).*

(ii) *Net capital flow to Puerto Rico,* which finances resource movements from the Mainland and elsewhere and *do* carry a repayment obligation. The sum of these three sources, of course, equals the "gross investment" which takes place in Puerto Rico.

Discussion of these components of saving, external financing, and investment—of facts, implications, and policies—will take up much of Sections III through VII of this report. But a few comments based on Figure II-6 are appropriate here. The most noteworthy is that gross internal saving (excluding transfers) declined since 1970 and became *negative* in 1973 and 1974. This means that public and private consumption in Puerto Rico together now exceed the Island's GNP, leaving no surplus for investment. Sections IV and V will examine the absence of Puerto Rican saving, private and public; and Section IX will look at its implications for the economic dependence of Puerto Rico on the Mainland.

The other striking aspect of Figure II-6 is the rapid rise in recent years in the volume of external financing of investment. The extent to which such external transfers and capital flows can or should continue to grow so rapidly is the subject matter of Sections VI and VII.

F. *GDP versus GNP.* There is one final aspect of macroeconomic accounting which must be mentioned because while it is legitimately ignored for most economies, it is of critical importance to Puerto Rico. This is the distinction between Gross Domestic Product (GDP) and Gross National Product (GNP). GDP refers to the production which occurs within the Island, while GNP refers to the production which generates income for residents of Puerto Rico.* The difference is mainly the remittance of profit and interest to Mainland firms and creditors (an outflow) less the wages and salaries paid by the Federal government to Puerto Rican residents (an inflow). This difference is not small and is growing steadily. GDP in 1974 was $7,864 million and GNP only $6,806 million; in 1960 there was no gap at all. The 1947-74 trend growth rate per annum of GDP was 10.2% and that of GNP 9.4%.

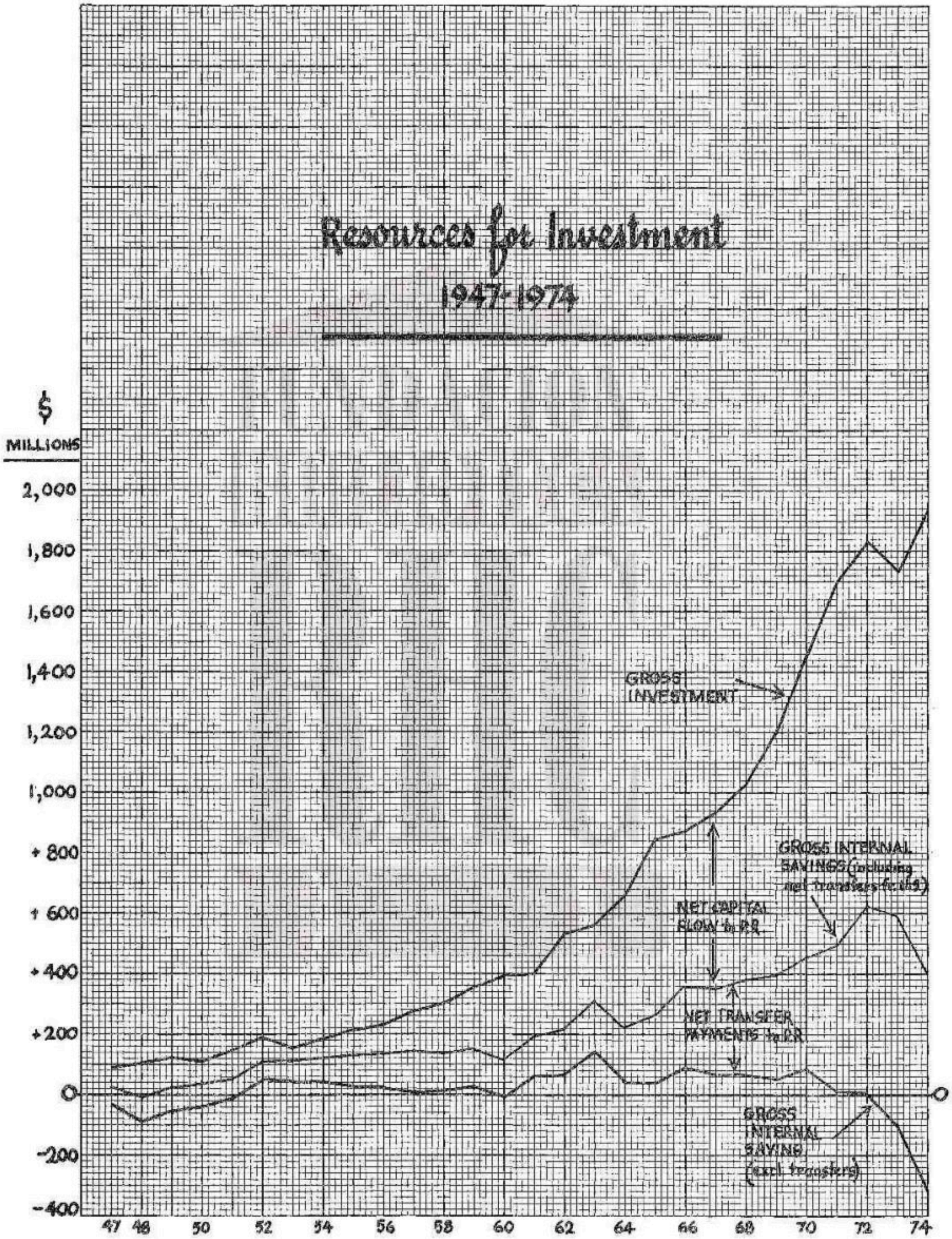
Both concepts are useful. GDP is the best single measure of the total productive activity on the Island. But GNP is clearly the more relevant in discussions of the production income of Puerto Ricans. The difference between GDP and GNP, and the difference in their growth rates, is one more reflection of Puerto Rico's growing dependence on external resources for its growth. From the viewpoint of Puerto Rican residents' welfare, high levels and rapid growth of GDP are of little merit if not accompanied by a high and rising GNP.

G. *Income Growth and Employment Growth.* So far we have focused on the growth of income, but from a welfare viewpoint, more employment is certainly at least as important as more income. We believe, however, that income growth and employment growth are fully compatible goals. The type of activities which generate the greatest net social returns over social cost are activities which make good use of Puerto Rico's abundant labor supply. A well planned investment policy should result in sustained growth in both income and employment.

In projecting employment we use an identity we alluded to earlier: employment growth equals output growth less labor productivity growth. As we mentioned then, labor productivity growth contributes to output growth when it is due to improved skills and organization. It detracts from employment growth only when it is due to premature capital deepening. We have not investigated the sources of labor productivity growth. Rather we project productivity from trends when we draw the employment implications of growth.

*The word, "national," is customary and will be used throughout our Report, although precise usage in the Puerto Rican context would require a new term like "Gross Commonwealth Product."

FIGURE II-6


Resources for Investment
1947-1974
$
MILLIONS
2,000
1,800
1,600
1,400
1,200
1,000
+ 800
+ 600
+ 400
+ 200
0
-200
-400
47
48
50
52
54
56
58
60
62
64
66
68
70
72
74
GROSS INVESTMENT
GROSS INTERNAL SAVINGS (including net transfers fr. U.S.)
NET CAPITAL FLOW to P.R.
NET TRANSFER PAYMENTS to P.R.
GROSS INTERNAL SAVING (excl. transfers)
0

### III. Investment

Investment is not an end in itself, of course; rather, it is a means of increasing income and employment. Investment is the use of currently produced goods and services to build up stocks of assets which will increase future production and future opportunities for consumption. These assets can take the form of factories, infrastructure, trained people, inventories, or durable commodities. It is sometimes difficult to distinguish investment from consumption in specific cases but the basic difference in concept is important. Productivity improvement almost inevitably requires that resources be used in ways which produce returns only with delay—i.e. invested. In an economy such as Puerto Rico's, the achievement of steadily increasing social welfare requires growth of output. Therefore it requires productive investment, rather than simply direct income transfers or "make work."

A. *Growth and Investment.* The definition of investment in the macroeconomic accounts does not always segregate "growth producing" uses of resources from "direct welfare producing" uses. For example, education expenditures are largely classified as public consumption, while public monuments and buildings are classed as public investment. Nevertheless, the investment figures in these accounts give a very useful basic picture of the "growth orientation" of spending. To make this picture more complete, we use a measure of the overall productivity of this investment, the incremental capital-output ratio.*

The investment rate and the incremental capital-output ratio, although crude measures, indicate fairly clearly the changing size and shape of growth in Puerto Rico. What they show is this (see Figures III-1 and III-2):

(1) Investment, relative to GDP rose steadily until 1971. Since then, it has fallen steeply. By 1974 the ratio was at the level of the early 1960s.

(2) Private investment in fixed assets, which increased as a share of total fixed investment in the 1960s, has fallen as a share of investment since 1970. It has fallen in absolute terms since 1972.

(3) The incremental capital-output ratio has risen steadily since the late 1950s.

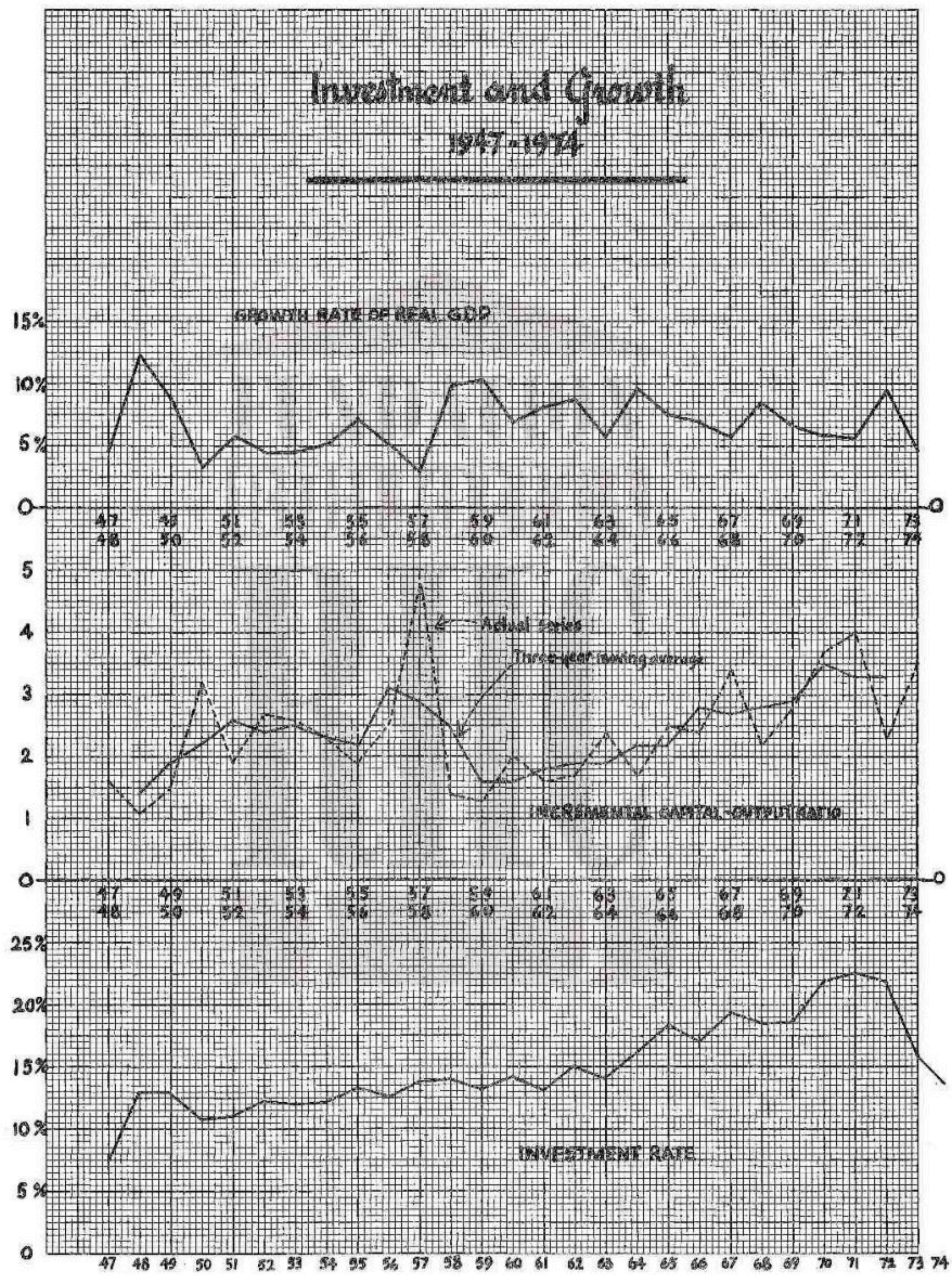
These trends are very disturbing for Puerto Rico. The rising investment rate in the 1960s did not lead to more rapid growth because the incremental capital-output ratio was rising (i.e. the productivity of investment was falling). Then, when private investment sagged, the economy could not sustain its historical growth rates. Because the productivity of investment had been falling steadily in the intervening years, a real investment rate of about 13%—which produced a real GDP growth rate of 8% in the early 1960s—produced a growth rate of only about 4½% in the mid-1970s. And, if labor productivity trends continue, a growth rate of about 3½% is needed simply to prevent employment from falling absolutely.

Behind these disturbing trends are several problems. They are, broadly, (1) productivity of *public* investment, (2) Puerto Rico's international competitiveness, and, related to this, (3) the nature of the incentives for industry in Puerto Rico. While all three of these problems raise critical questions for Puerto Rico's entire growth potential and strategy, we will stress the financial aspects, the principal mandate of the Committee.

B. *Public Investment.* The distinction between "consumption" and "investment" is more difficult to draw for public than for private spending. Public "current" spending for services such as vocational training may be more productive of future income and employment than much spending that is labeled "investment." It is crucial, however, to consider the productivity of public spending when problems of growth are considered. The public sector is large in Puerto Rico, and careless spending can ill be afforded.

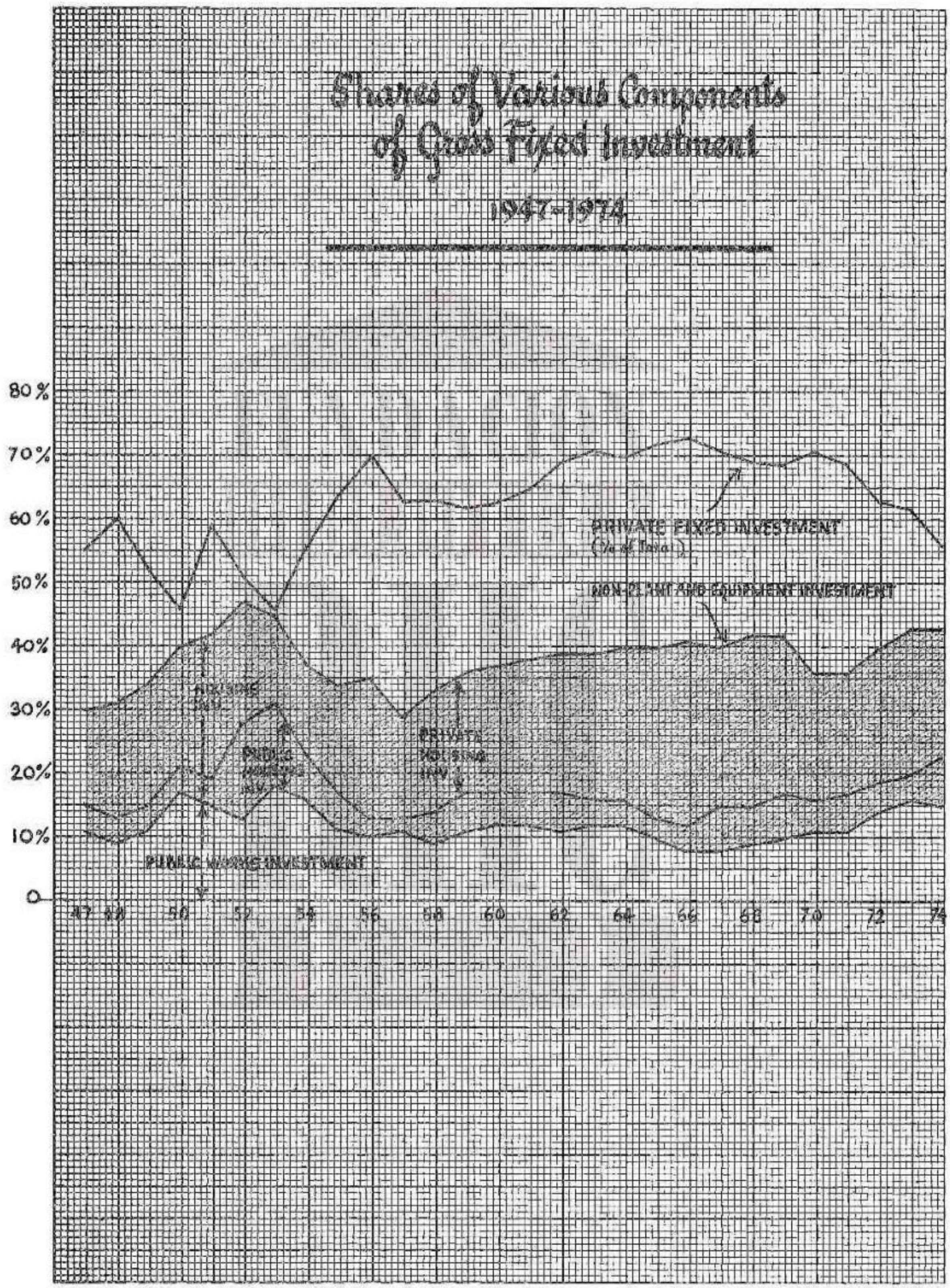
*The incremental capital-output ratio is the ratio of real net fixed investment in a year to the increase in real GDP that occurs in the subsequent year. In Figure III-1, the ratio is shown as the dashed line, which not unexpectedly fluctuates a great deal; the solid line is a three-year moving average of the ratio. The investment rate in the third panel is the ratio of real fixed investment to real GDP each year.

FIGURE III-1



Investment and Growth
1947-1974
GROWTH RATE OF REAL GDP
15%
10%
5%
0
Actual series
Three-year moving average
INCREMENTAL CAPITAL-OUTPUT RATIO
INVESTMENT RATE
25%
20%
15%
10%
5%
0
47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74

FIGURE III-2



Shares of Various Components
of Gross Fixed Investment
1947-1974
80 %
70 %
60 %
50 %
40 %
30 %
20 %
10 %
0
47
48
50
52
54
56
58
60
62
64
66
68
70
72
74
PRIVATE FIXED INVESTMENT
NON-PLANT AND EQUIPMENT INVESTMENT
PRIVATE HOUSING INV.
PUBLIC WORKS INVESTMENT

Public investment has a number of effects on the economy. In the short run, while public works or plant construction are underway, a public investment project may have a multiplied impact on income and spending. In the longer run, the project will generate a stream of services which will produce income directly, if the project is directly productive, or indirectly, if the project represents economic or social infrastructure. The productivity of an investment is measured by its effect on output over its entire life. Multiplier effects are important if policy is aimed at countering a short-term cyclical fluctuation in income and employment. But the allocation of scarce investment funds in the longer run must be based, not on short run multiplier effects which accrue to *any* spending whatever its purpose, but on the return in sustained social profit.

The social profitability of a project may not be the same as its private profitability because resources such as land and labor may have different values to the private entrepreneur and to the society as a whole. Such differences are particularly important in the case of external investment because the costs and returns to Puerto Ricans differ from the costs and returns to the investors.

It is highly improbable that scarce public investment resources can be allocated effectively without some overview of alternative projects and comparison of their expected social costs and benefits. Yet, in spite of repeated recognition of the uncoordinated nature of public investment decision-making, not much has been done to improve the process. Rather, many Puerto Rican observers agree that much of the post-1969 surge in public investment—and public works in particular—has been designed mainly to fill the spending gap caused by reductions in private investment. The very spending which must be based on long-term social profitability if growth is to be sustained, has instead been geared to the short-term goal of buoying the economy.

In the absence of good long-run planning, the employment implications of public investment *beyond* the construction phase have been neglected. Highways and electricity generation facilities have comprised the bulk of public investment, and they are extremely capital-intensive. They provide very few jobs per dollar of equipment. Employment of unskilled labor has a low social cost in Puerto Rico, while funds borrowed at low rates in the state and municipal bond market has a cost—for a given use—above the interest rate.* It is not enough to say a project "covers its costs". This reasoning is inadequate for many private investment decisions, and it is even worse for most public investment decisions. A project which can "cover its financial costs" and generate employment in the construction sector while it is built has not established itself as viable. It must be viewed in competition with other investment projects.

Infrastructure investment and subsidized plant construction have been undertaken in Puerto Rico to attract external, even more than internal, private investm t. But the magnitude of the profit remitted on external investment in Puerto Rico, and the resource-cost of the Puerto Rican inputs needed to generate this income, make it necessary to calculate the expected profit to Puerto Rico of the expenditure in infrastructure and other support to external investment. It may well be that subsidization of land, buildings, electricity, etc., to attract Mainland firms is worthwhile. On the other hand, Professors Kuh and Lefeber may be right in their judgment in the early 1970s that the real costs of these investments "would turn out to be prohibitive."** The answer can be ascertained only if coordinated planning and project-appraisal procedures are introduced.

To this end, we recommend the introduction of uniform social cost-benefit analysis techniques for all major public investment projects as well as for subsidies of private investment. Since external borrowing requests must pass through the Government Development Bank, the project appraisal experts could be based in the Bank. Alternatively, the cost-benefit team in the Planning Board could be expanded and its authority increased.

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* Rather than the interest cost of capital, the return in alternative uses is a better measure of its cost to society. Since Puerto Rico's ability to borrow in the tax exempt bond market is limited and the rates paid reflect the credit of the Commonwealth, Puerto Rican bond rates understate the social cost of capital for specific risky investment projects.

** E. Kuh and L. Lefeber, "Final Report on Planning and Administrative Organization for Economic Development," mimeo, 1970.

C. *Private Investment.* Part of the increase in capital requirements for growth can no doubt be explained by the increasing role, in recent years, of public investment. (See Figure III-2). Yet the rise in the incremental capital-output ratio predates the acceleration of public investment spending of the late 1960s and early 1970s. And as Figure III-3 shows, plant and machinery investment requirements for growth have also risen fairly consistently since 1963. This declining productivity of capital has played a role not only in the overall rise of capital requirements but probably also in the decline of total private investment in recent years.

The productivity of private investment in Puerto Rico has declined because Puerto Rico has not been able to maintain its competitive position internationally. Historically, Puerto Rico has attracted Mainland capital because it was a politically safe region for investment, because tax exemption offered high take-home profits, and because labor was cheap by U.S. standards. Access to cheaper Venezuelan oil was also an advantage before 1973. Over the years, Puerto Rico has improved its competitive position in some ways. In particular, the education and training of its labor force have improved. But other developments have tended to erode Puerto Rico's overall competitive position. Other areas of the world have also proved safe for profits; U.S. trade policy has opened U.S. markets for Puerto Rico's competitors; and probably most fundamentally, wage rates in Puerto Rico have risen very rapidly.

People are ultimately Puerto Rico's major resource. Like other islands with dense populations and modest endowments of natural resources, Puerto Rico must rely on the qualities of its population to attract investment. The evidence strongly suggests that Puerto Rico's labor force and labor costs are no longer attracting an adequate rate of investment. In the past five years, the sectors with the most rapid growth and highest investment rates have been sectors where labor costs make almost no difference. Petrochemicals, pharmaceuticals, and other chemical industries grew rapidly in the late 1960s and early 1970s. These industries came to Puerto Rico because of local and Federal tax laws and because Federal policy kept the price of oil artificially lower than on the Mainland. Labor costs make little difference to these industries because they have extraordinarily high capital-labor ratios. These investments provide few jobs, especially few unskilled jobs, and they generate little income for Puerto Rico; they generate much GDP but little GNP. Other industries—apparel in particular—for which low wages were an important attraction in the early 1960s are no longer entering Puerto Rico at earlier rates.

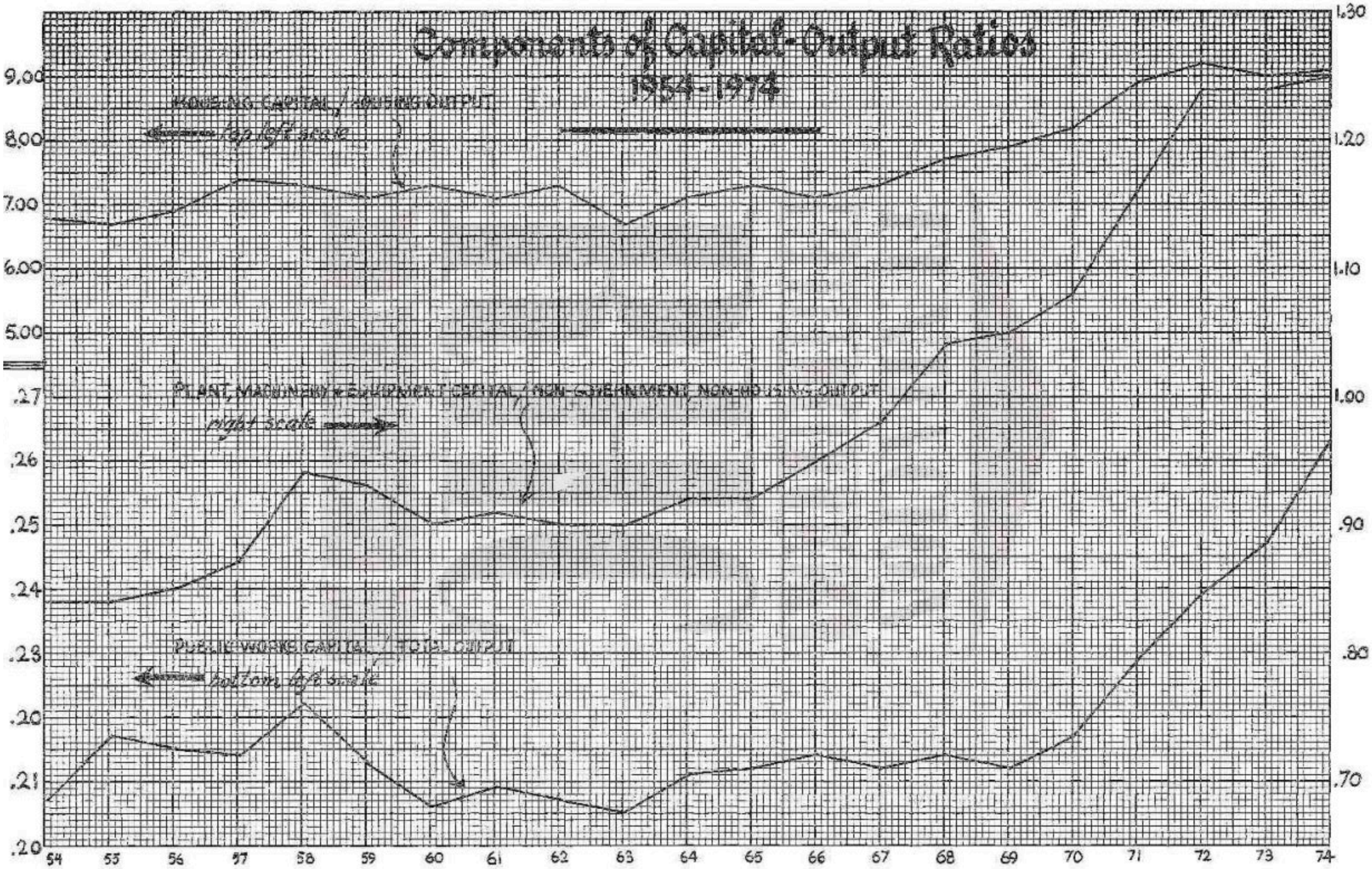
The shifting structure of industry reflects partly the shifting real comparative advantage of Puerto Rico. As the Puerto Rican labor force has become better trained and more productive, it has become too valuable a resource to use in these industries. But the persistence of high unemployment suggests that there is more to the story. Wages have outrun the improvement of labor skill. Puerto Rico's labor is becoming relatively less and less attractive to investors, and so more and more, tax-saving considerations dominate decisions to locate plants in Puerto Rico. This shift shows up in macroeconomic data as increase in capital requirements per unit of output. (See Table III-1.)

TABLE III-1

GROWTH TRENDS OF PRINCIPAL SECTORS OF THE PUERTO RICO ECONOMY

| Sector | Average Growth Rate per Annum 1947-59 | 1959-74 |
|---|---|---|
| Primary | 1.4% | 1.4% |
| Manufacturing—Food | 2.8 | 8.5 |
| Manufacturing—Textile | 34.0 | 11.2 |
| Manufacturing—Apparel | 9.1 | 11.5 |
| Manufacturing—Chemical | 9.8 | 27.2 |
| Manufacturing—Metal & Machinery | 35.3 | 15.2 |
| Manufacturing—Other | 15.6 | 11.0 |
| Construction | 11.6 | 14.2 |
| Services—Government | 9.1 | 14.1 |
| Services—Tourism | 26.2 | 15.9 |
| Services—Other | 8.8 | 12.0 |
| Net Domestic Income | 7.8 | 11.9 |

FIGURE III-3



Components of Capital-Output Ratios
1954-1974
top left scale
PLANT, MACHINERY + EQUIPMENT CAPITAL / NON-GOVERNMENT, NON-HOUSING OUTPUT
right scale
PUBLIC WORKS CAPITAL / TOTAL OUTPUT
bottom left scale
9.00
8.00
7.00
6.00
5.00
.27
.26
.25
.24
.23
.20
.21
.20
1.30
1.20
1.10
1.00
.90
.80
.70
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74

Loss of attractiveness to low wage industry should not occasion regret. Successful economic development should diminish the need to rely on low-wage, labor-intensive factories. However, in Puerto Rico's case, the growth of these factories is declining long before full employment of the labor force has been achieved. Unemployment in Puerto Rico has never been below 10%, even though participation in labor force is unusually low and net migration to the Mainland has further reduced the labor force. Statistics reveal that in 1972, 73% of the people who could be working but had no job, had never had a job—in contrast to 10% of the unemployed who have never had a job on the Mainland. These statistics show clearly that Puerto Rico, after 25 years of development, still needs a massive number of jobs before it will have fully incorporated its labor force into its "modern" sector.

Yet the record of the last 10 years shows that the type of industry which offers these jobs, with relatively low investment requirements per job, is providing a smaller and smaller part of new investment in Puerto Rico. Replacing this type of industry are others which do little to ease the unemployment problem. Ironically, too, the recent "growth industries" such as petrochemicals and pharmaceuticals have a much higher profit share in net income than the apparel industry which is not growing as rapidly as before. Here there is an important lesson for wage policy, as well as for development strategy. *Wage increases which aim at capturing more income for Puerto Rican labor at the expense of profits may well do just the reverse. Wage increases hasten the replacement of industries with large wage bills by industries with small wage bills.*

Puerto Rico is pricing itself out of the market for industries which provide jobs and require little capital. What can be done? In the longer run, Puerto Rico can "bring the labor up to the price" by upgrading skills through training programs. Vocational training, subsidies for training, and related programs can be reviewed and expanded in socially profitable directions. However, there is much evidence that skills and work practices learned on the job form a large part of labor training. These forms of "human capital" simply will not be developed in an unskilled worker if he can never find his first job.

In the shorter run, real wages can be held in line by insuring that nominal wages do not grow as rapidly as the rate of price inflation. World inflation and the devaluation of the U.S. dollar will have beneficial effects on the Puerto Rican economy only if wages can be prevented from rising as rapidly as prices and wages on the Mainland and elsewhere.

Finally, crucially, public employees must not be permitted to increase their wages above the target rate for the economy at large. Public wages in Puerto Rico set a standard which the private sector can fail to match only at the cost of labor unrest. Moreover, the urgent need to increase the investible surplus in the public sector can be met only if costs—and this means wages at the top of the list—can be controlled.

We therefore recommend a freeze of the wage structure for employees in the public sector (including particularly the Public Corporations) for the next three years. No increases should be permitted beyond those arising from promotions and advances on existing scales. Thereafter, we recommend that money wage rates increase no faster than on the Mainland until Island unemployment falls below 10% at most. The government should use all its influence to secure similar wage restraint in the private sector.

This is strong medicine, but we feel it is necessary. As we have discussed above, and as we shall continue to argue, Puerto Rico has developed deep structural problems to compound the cyclical problems it faces today. No real solution to these problems will be easy. To increase Puerto Rico's competitiveness, and to generate resources for investment internally will take difficult measures.

It should be noted, however, that a wage freeze will have benefits in the short run as well as in the long run. The decline of public sector employment through attrition and even lay-offs will be reduced in direct proportion to wage austerity. When public current spending declines, as it must (see Sections V and VIII below), either public workers will receive lower wage increases, or there will be fewer public workers.

In addition to the wage rate, which discourages labor-intensive investment, some features of the tax-exemption laws further distort investment incentives in Puerto Rico. They do so for two reasons:

First, in exempting from the corporate profit tax profits generated at market prices, they implicitly equate social and private profits. Thus a firm which employs many unskilled workers at low social cost but perhaps at high cost to the firm receives no more favorable treatment than a capital-intensive firm which employs almost no labor at all. Returns to investment in capital-intensive projects are magnified in this way, while labor-intensive projects get much less benefit. In addition, the firm is encouraged by present law to accumulate profits in liquid form during its period of tax exemption. In this way the firm is prepared to repatriate its profits when its exemption expires or to present a credible threat to leave Puerto Rico in negotiating an extension to its tax exemption.

If the law were revised to reward reinvestment in socially profitable activities, a more desirable and easily sustained type of investment growth might be achieved. We doubt that the answer lies in extending the period of, or in renewing, the tax exempt status. Nor is the recently introduced wage subsidy a fully satisfactory measure. The wage subsidy should help correct the labor-intensity bias of tax exemption. However, it does not create incentives to reinvest profits, and it may make substantial net demands on the already hard-pressed Treasury. Innovation in incentive policy is necessary and welcome. We believe it should continue.

Below is a proposal for a revision in the tax exemption laws which aims at increasing the rate of reinvestment and increasing the employment generated by that investment.

1. A tax-exempt firm could earn *tax credits,* expressed in dollars, to apply against Puerto Rican taxes after its exemption expires. There would be two ways to earn credits as outlined below.

2. First, tax credits would be earned in any year, during the exempt period, to the extent that investment in plant and equipment in Puerto Rico exceeded the Puerto Rican taxes exempted. A firm would have a running tax credit account, on which interest would be credited. In a year when real investment fell short of the exempt taxes, the account would be debited. At the end of the exempt period, firms with a positive balance would be able to use them, or save them up with interest, for use in subsequent years. A firm with a negative balance at the end of the exempt period would not be penalized and would not lose any of the credits earned in the second way about to be described.

3. Second, tax credits would be earned, and accumulated with interest, each year in proportion to total employment in man-hours during the year. Some experimental calculation would be needed to determine the rate, e.g., 10 cents per man-hour. These credits too would be usable against Puerto Rican taxes after the exemption period, whenever the firm chose. To avoid abrupt increase in labor cost when exemption ceases, tax credits of ⅔ and ⅓ the standard amount might be allowed in the next two years.

4. For the benefit of existing firms near the end of the exempt period, firms might be allowed to earn both kinds of credits for at least 5 years from the date of the legislation, or to the end of their exemption, whichever is longer. (The two transitional years of employment credits would be added in any case.)

5. Sale of credits would not be allowed, except to a firm taking over the operations of the firm that acquired them.

The purpose of both credits is to keep the firm in Puerto Rico, and to induce it to expand its real productive investment in Puerto Rico.

The purpose of the employment-generated credit is to encourage the creation of jobs and correct the present bias against labor-intensive techniques.

Although revision of tax exemption laws should help increase investment in Puerto Rico in the longer run, we feel that a more immediate contribution by the tax-exempt corporations to the recovery effort is also in order. Particularly since workers are being asked to retrench in their drive to increase their standard of living, we believe that investors can be expected to make a contribution to growth as well. Individually or collectively, tax exempt corporations should be expected to make real investments in productive capacity in the near future to stimulate growth and employment in Puerto Rico.

## IV. Internal Private Sources of Saving

The resources that go into Puerto Rico's net real investment each year must, in the end, come from some combination of three sources: (1) outside the Island (2) public internal surplus, i.e., an excess of the Commonwealth, municipalities and public corporation internal revenues over their current expenditures; and (3) private internal surplus, i.e., an excess of income from output over consumption by Puerto Rican business and residents. The first of these sources, the external sources, will be discussed in Sections VI and VII. The second source, public saving, will be discussed in Section V.

A. *Private Saving.* Private saving can be divided into business saving and personal saving, as shown in Figure IV-1. The trends in each are clear. Business saving gross or net, is generally positive and rising. Net personal saving, inclusive or exclusive of transfer from the Mainland, is negative and declining. Total net private saving, excluding transfers, is the Puerto Rican private sectors' resource contribution to net investment. And this has *always* been negative, according to the official national income accounts.

Private saving has never been strong in Puerto Rico. Personal saving in particular has exhibited a significant downward trend for many years. During most years since 1963, total private saving (including transfer payments) in Puerto Rico has been negative. The private sector of Puerto Rico is thus not only failing to contribute resources towards investment; it is actually *withdrawing* resources. It regularly consumes more resources than it produces, even while investment requirements are rising.

This failure of the private sector, taken as a whole, to provide some positive fraction of Puerto Rico's investment needs has had serious consequences. First, it has meant that—in the absence of offsetting public saving—Puerto Rico has been forced to rely heavily and increasingly on external resources for its investment. Continued acceleration of this reliance will become ever more costly in the near future. Heavier indebtedness will mean rising interest rates, and increased profit remissions by Mainland subsidiaries increase the gap between GDP and GNP, as we discuss later in Sections VI through X.

Another serious consequence of negative domestic private saving is external ownership and control of the Puerto Rican capital stock. The net acquisition of productive assets (exclusive of consumer durable goods) by the Puerto Rican private sector has been negative in ten of the past eleven years. The Puerto Rican private sector has actually reduced its ownership of Puerto Rico's capital stock over a period in which that capital stock has been rising rapidly. We return to this problem in Section X.

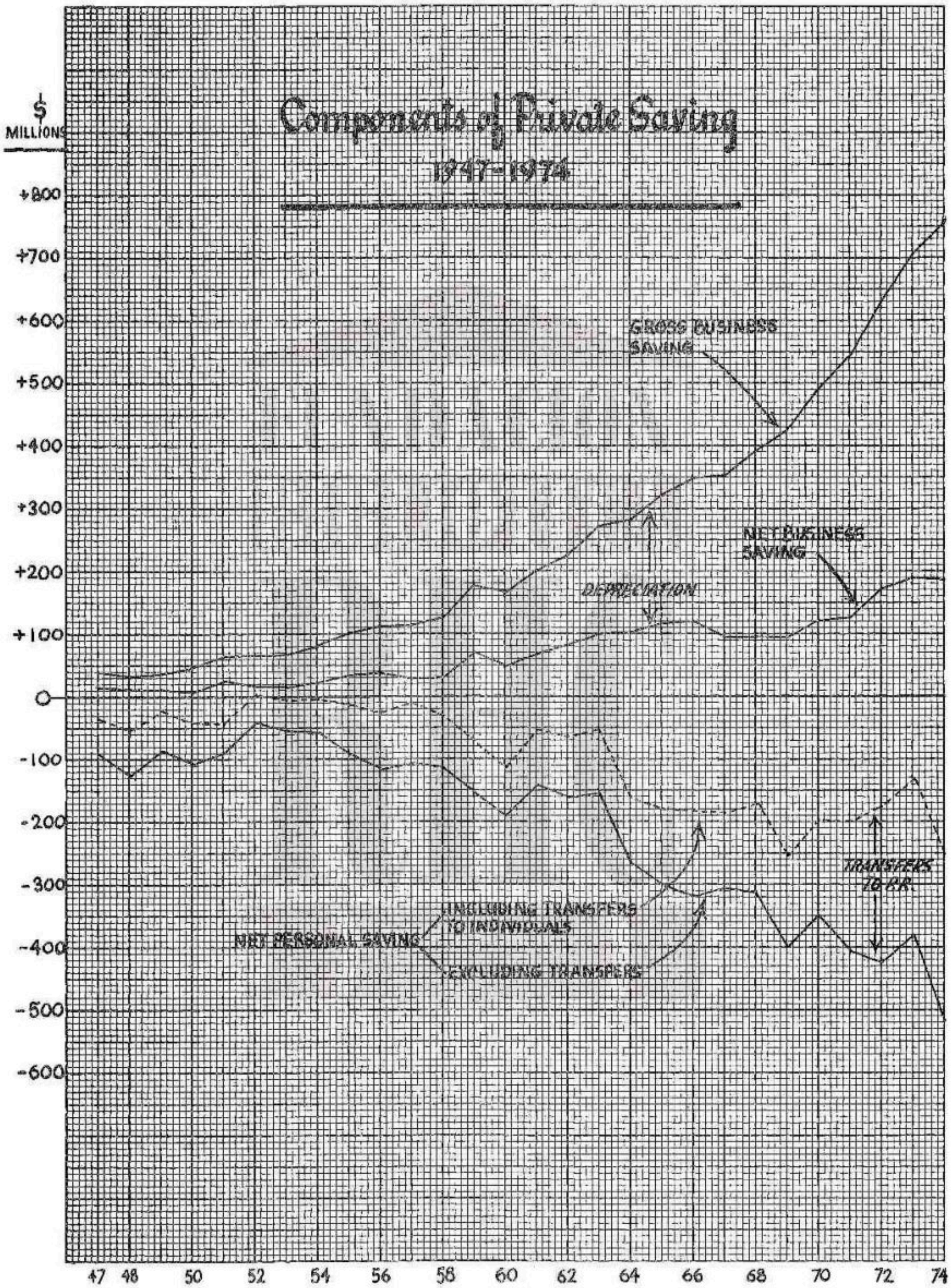
B. *Business Saving.* Business saving has been an important source of investment funds in Puerto Rico. The net business saving of Puerto Rican corporations—i.e., their profits after payment of taxes and dividends—is now nearly $200 million per year, which represents nearly one seventh of Puerto Rico's total net investment. This is a significant contribution from what is often popularly considered to be an insignificant portion of the Puerto Rican economy.*

Unfortunately—from the viewpoint of increasing Puerto Rican private-saving—there is little scope for increases in net business saving, precisely because so large a fraction of the after-tax profits of Puerto Rican corporations are already being saved. In 1974, for example, while Mainland corporations saved 58% of their after-tax profits, Puerto Rican corporations saved 88%.

C. *Personal Saving: The Facts.* Currently three important issues discussed in Puerto Rico are concerned with the "fact" of negative net personal saving. Before discussing these issues, let us emphasize that no important issue of analysis or policy, and no recommendation of this Report turns on the question whether personal saving falls on one side or the other of zero. This may depend on definitions and on statistical procedures. The real question is whether personal saving of any significant magnitude is available for financing the capital accumulation on which Puerto Rico's growth depends. If not, the trend toward external ownership, with larger payments from Puerto Rico to foreign owners, will continue.

*It must be remembered that "net business saving" does *not* include the retained earnings of (1) Mainland subsidiaries, whose entire profit is assumed by the accounts to be remitted to the Mainland; and (2) unincorporated enterprises, whose saving is treated as personal saving.

FIGURE IV-1


Components of Private Saving
1947-1974
$ MILLIONS
+800
+700
+600
+500
+400
+300
+200
+100
0
-100
-200
-300
-400
-500
-600
GROSS BUSINESS SAVING
NET BUSINESS SAVING
DEPRECIATION
TRANSFERS TO P.R.
NET PERSONAL SAVING
INCLUDING TRANSFERS TO INDIVIDUALS
EXCLUDING TRANSFERS
47
48
50
52
54
56
58
60
62
64
66
68
70
72
74

The first issue is whether net personal saving should or should not include external transfers to Puerto Rican residents. The answer depends upon the purpose to which the figure is put. If we want to know the *ultimate* source of investible resources, it would be misleading to treat such external transfers as internal. If, on the other hand, we are interested in the saving propensities of Puerto Ricans and in the ownership of new capital, transfers should be included both in household income and in net personal Puerto Rican saving.

But this issue is no longer relevant to the question of negative net personal saving in Puerto Rico. As Figure IV-1 shows, for the past twenty years, net personal saving has been negative whether or not transfers are included. And the generally downward trend of the last decade emerges under either definition.

The second issue of fact is whether the official Planning Board data are correct. It is true that (1) personal saving is estimated as a residual and hence is highly sensitive to errors in estimates of income, and (2) tax evasion makes income estimation more susceptible to error. But we are reluctant to go further, for two reasons. One, there is corroborating evidence of negative personal saving in the consumer budget survey of 1963. And two, we can find no answer to the question: If there is more output, and income in Puerto Rico than the Planning Board measures, where does it go? If into unmeasured consumption, then the negative saving problem remains. If into saving transferred abroad, why is there no other evidence of sizeable private Puerto Rican foreign holdings? And if into unmeasured saving and hence investment on the Island, then the already high and rising Puerto Rican capital-output ratio must in fact be even higher than the official data suggest.*

The third issue concerns the propriety of considering net accumulations of consumer durable goods —purchase less depreciation—as saving. We agree that, in principle, such an inclusion is appropriate, but the stubborn fact remains that, to our knowledge, in no other region of the world is it necessary to include net consumer durable goods investment in order to attain a positive figure for net personal saving (including external transfers).**

In short, we find it difficult to accept the "revisionist" thinking about Puerto Rican personal saving; and we find it difficult to believe that personal saving has made a significant contribution to economic growth. No cosmetic surgery on the data can avoid the real consequences of this disturbing fact.

D. *Low or Negative Personal Saving: The Causes.* Since the phenomenon has long been recognized, there has been a great deal of conjecture about, and some study of, its causes. The following are the more frequently suggested explanations:

(1) Puerto Rico's immersion in Mainland cultural values, which emphasize material consumption and which advertise a consumption stereotype beyond the reach of most Puerto Ricans.

(2) The highly developed consumer-credit facilities of Puerto Rico, which make possible "dissaving" through installment purchase of consumer durables.

(3) The rapid historical growth of family incomes in Puerto Rico, which if expected to continue, makes rational the postponement of saving for retirement until late in the working life.

(4) The large net Federal transfers to Puerto Rican households, which makes possible an excess of consumption over pre-transfer disposable income.

(5) A social-insurance system which is generous relative to the Island's production and income levels. Retirement and health programs and subsidization of housing and higher education all reduce the need for individual saving.

It is not possible to evaluate the importance of these factors because so few budget studies of households have ever been conducted in Puerto Rico. Jorge Freyre has looked into the relationship between personal saving and asset holdings, income distribution, and age composition of the population. He

* Since the sum of all past unmeasured net saving is being added to the numerator, capital stock, while only the current year's unmeasured income is being added to the denominator, output.

** In fact, by 1974, even the inclusion of durable consumer goods investment fails to make net personal saving (including transfers) positive.

found that none of these could explain the low levels of personal saving. What the most recent (1963) survey does show clearly—see Figure IV-2—is that Puerto Rican families save less than Mainland families at almost all levels of income. And the source of Puerto Rico's negative aggregate personal saving is clearly attributable to the fact that Puerto Rican families do not begin to save on the average until their income (in 1963) passes $8,000.

These figures dispose of the large net Federal transfers argument (No. 4 above) since: (1) it is not the middle-income families that receive most of these transfers, (2) such transfers were still small in 1963, and (3) there is in any case dissaving inclusive of such transfers in recent years. The consumer-credit argument (No. 2 above) is also not viable. It explains how families' desires to dissave can be implemented in Puerto Rico, but it cannot explain why more families apparently choose to dissave in Puerto Rico than at comparable income levels on the Mainland, where credit is equally available.

The expected-rising-incomes hypothesis (No. 3 above) receives support from the 1963 budget data. On the average, families whose head is below age 45 dissave and families whose head is 45 or older save, even though the younger families had a higher average income.

Careful investigation might uncover influences like rising income expectations, but it is likely that there would always remain a significant amount of dissaving that would have to be vaguely attributed to the cultural-immersion effect (No. 1 above) and the generous-social-insurance effect (No. 5 above).

E. *Personal Saving: Policies.* We have argued above, and will continue to argue throughout, that Puerto Rican saving must be increased because the traditional external resources are not likely to continue to grow fast enough and because Puerto Rico cannot otherwise increase its ownership and control of the Island's assets. It is tempting, therefore, to seek ways to find this increased saving in household incomes.

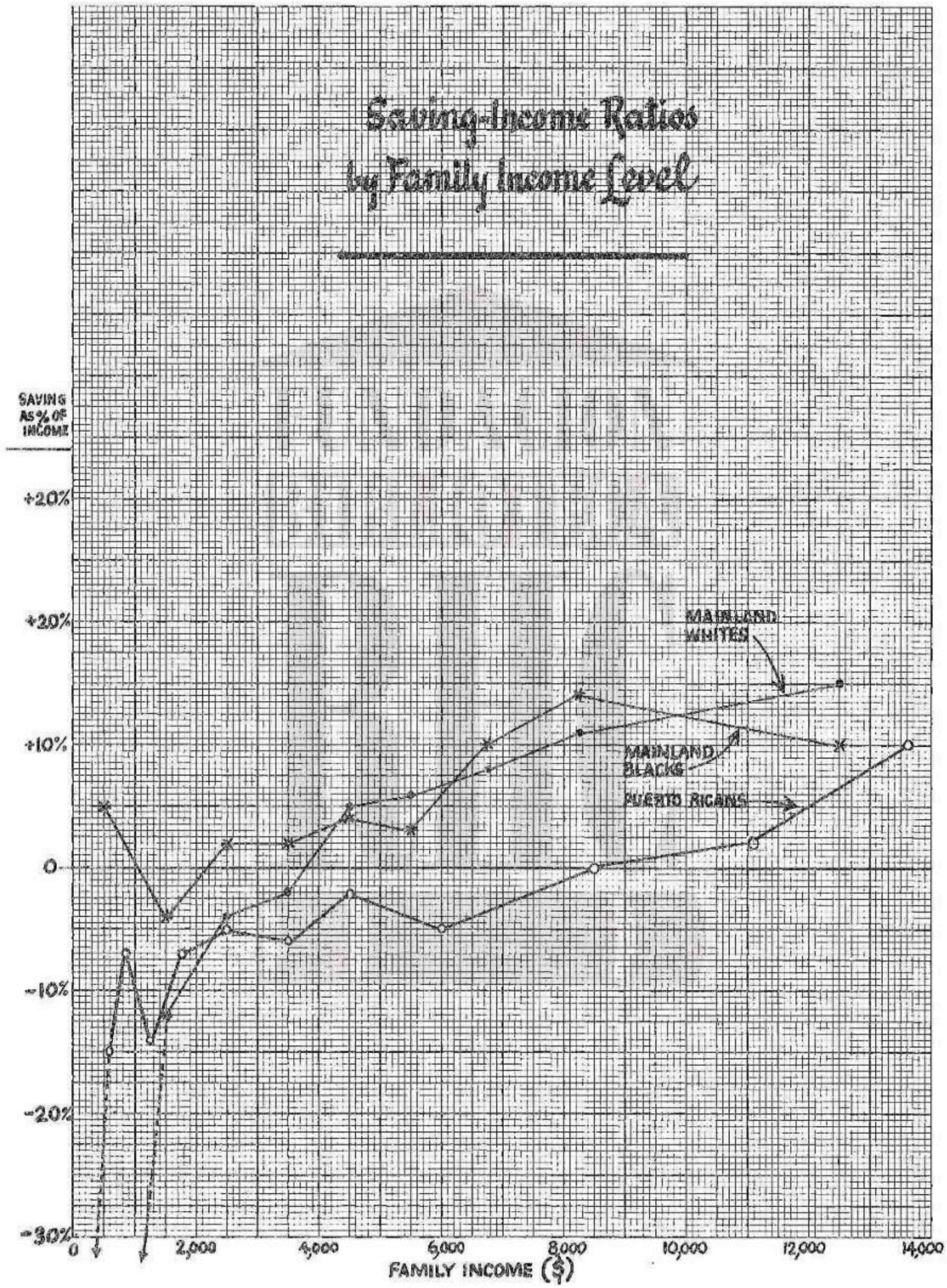
However, many of the characteristics of the Puerto Rican economy that appear to underlie the negative personal saving have been chosen, consciously or unconsciously, by the Puerto Rican people and their governments. The Commonwealth relationship with the Mainland makes insulation from cultural values difficult, if not impossible; the embrace of the auto culture has led to construction of an extensive highway net work, to periodic reductions in the tax on autos, and to public neglect of mass and inter-urban transit facilities; a generous social-insurance system has been adopted through implementation of Mainland Social Security, Medicare, food-stamp and unemployment programs; the Puerto Rican legislature has been generous on minimum wages, fringe benefits, retirement fund, etc. The Puerto Rican people may, in the process, have been deliberately choosing low or even negative personal saving. It goes beyond our charge to suggest reversals in Puerto Rico's basic social priorities and development strategies.

Our conclusion might be different in an economy where the backwardness of savings instruments and institutions could be blamed. Puerto Rico already has a highly developed and efficient financial system. Wholesale restructuring of the system is certainly not called for. Minor tinkering is not likely to eke out significant additional saving.

Tinkering, as a policy for increasing saving, faces other problems. Subsidies to savers, or to saving, or to asset-holding, are expensive to the Commonwealth budget—either directly or through foregone tax revenues. Moreover, such subsidies, no matter how carefully devised, are usually regressive. They reward saving effort by the rich much more, proportionately, than an equivalent effort by the poor. Taxing dissaving avoids the budgetary problems, but tends also to be regressive—for example, a tax on consumer credit hits hardest those not rich enough to pay cash for their durable purchases.

However, the special income tax deduction currently permitted for interest paid on taxpayer's personal indebtedness is hard to justify on any grounds. It subsidizes dissaving, it reduces public revenue, and it is quite possibly regressive since richer people pay higher marginal tax rates and are also more sophisticated in filling out tax returns. This deduction, probably never justifiable, is less so now than ever. It should be removed.

FIGURE IV-2



Saving-Income Ratios by Family Income Level
SAVING AS % OF INCOME
+20%
+20%
+10%
0
-10%
-20%
-30%
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
FAMILY INCOME ($)
MAINLAND WHITES
MAINLAND BLACKS
PUERTO RICANS

Beyond this revision of tax laws, we believe that blanket taxes on dissaving or credit are unwise. A tax on consumer credit would tax borrowing for all purposes, whether socially desirable or not. It would not increase credit for other purposes; Puerto Rico faces externally determined interest rates, not a fixed supply of credit (see our discussion in Section VIII below). Rather than taxing consumer credit, we recommend increased taxation of the type of purchase—whether cash or credit—deemed of low social value. Taxes on luxuries can be increased; the pattern of reducing automobile taxes every few years can be reversed. In general, spending on selected types of goods and services should be taxed, rather than consumer credit. This should provide resources for public saving to finance public or private investment.

Saving can be increased, and it can be more productively used, if public pension funds are well managed and contributions are kept current. Citizens rightly view their contributions as savings, and reduce other savings correspondingly. When Puerto Rico's public pension funds are on a sounder footing, it will be worth considering whether they should be broadened to offer greater saving opportunities to higher income recipients in the private sector.

Our recommendations are not sweeping, nor can they be expected substantially to increase private saving. In our view, hopes and reforms lie far more with the public sector, to which we now turn.

## V. Public Saving

The term "saving" popularly evokes a picture of money piling up. "Public saving" or a "budgetary surplus" implies to many people that funds are accumulating because revenues exceed disbursements. There is often an element of truth to these notions, but they are misleading in the Puerto Rican case.

A. *Budget Accounting*. Puerto Rico uses an accounting practice called the divided budget, as do many nations of the world, but not the Federal government of the United States. This procedure distinguishes a "current budget" (i.e. finance for public consumption) and a "capital budget" (i.e. finance for public investment). Revenues and expenditures are divided into these two categories. Revenue for the current budget includes almost all taxes, grants, fees and, in general, all receipts not borrowed. Finance for the capital budget comes from two major sources, the surplus of the current budget and public long-term borrowing. Thus a current budget surplus does not imply that government funds are accumulating. Rather, it means that less borrowing is being utilized to finance public investment.

In public corporations as well, accounts are sometimes prepared which separate a current (or operating) budget from a capital budget. Like private companies, public corporations might normally be expected to cover operating costs, but not to generate internally all the resources they require for investment. To the extent, however, that they are able to generate an operating surplus, "saving," they can rely less on capital markets to finance their investment projects.

For these reasons "public saving" in Puerto Rico is very different from a surplus in the Federal budget. For the Federal government, the deficit or surplus measures the overall Federal demand for goods and services less the purchasing power withdrawn from the economy through taxes.* In Puerto Rico, in contrast, the surplus measures the margin by which unborrowed receipts exceed *current* spending, and this margin constitutes internal resources for investment.

It is also important to recognize that public borrowing in Puerto Rico means, for practical purposes, external borrowing. Because private saving is so small, there is no surplus in the private sector which the Commonwealth government can channel into its capital budget. Thus, whether it borrows in the New York tax-exempt bond market, or from local banks, or from "931" corporations** its borrowing is essentially external. Repayment of such external debt must be effected in the future by a reduction in Puerto Rican consumption to provide the resources needed for the repayment. Thus "public saving"

* It is also principally a tool for dealing with the cyclical problems of the economy. We return to this, in the Puerto Rican context, in Section X.

** I.e. Mainland corporations' subsidiaries in Puerto Rico, which maintain large holdings of financial assets for reasons of the Federal Internal Revenue Code (namely Section 931).

in Puerto Rico is real saving: it involves the reduction of present consumption in order to finance investment which will provide goods and services in the future. The alternative is either less investment—which means a slower growth of income and employment—or investment financed externally at the expense of future consumption and present financial independence.

B. *Public Saving Performance.* Commonwealth government saving performance can usefully be broken into a pre-1969 phase and a post-1969 phase. Before 1969, the current budget produced a surplus every year and, on the whole, this surplus was growing. Surprisingly, it grew at approximately the same rate as net transfer payments from the Federal government to the Commonwealth government. That is, the "internal" surplus defined as internal sources of revenue, plus rum and tobacco tax revenues (transferred to the Commonwealth by right), minus current expenditure—was seldom far from zero. The slight internal surplus which typically resulted was combined with Federal transfer payments (under programs of health, education, labor, etc.) to provide an overall current account surplus. Through 1969, this surplus almost always covered government investment.

After 1969 this pattern was broken dramatically. From 1969 to 1973, current expenditures grew at over 20% per year, more than doubling in four years. Over that same period, internal revenues grew by barely 13% per year. Thus a 1969 internal surplus of $30 million was converted to an internal deficit of $350 million by the end of 1973. Transfer payments from the United States were growing by 23% per year over this period, so a current account surplus was maintained; but it fell from over $200 million to under $100 million. During the same period, government investment grew $150 million. As a result of the fall in saving and the rise in investment, the requirements for external finance for the government sector grew to over $200 million. (See Table V-1.)

In 1974, the government cut down sharply on its current expenditures, raising them by only 11% (in contrast to 19% in 1973). This pattern of restraint appears to have continued through 1975. However, in 1974, revenues decelerated by even more than expenditures under the impact of international recession and uncertainty. Internal revenues grew by only 3%, and Federal transfer payments fell slightly. Thus, the internal deficit rose beyond half a billion dollars, the current account surplus deteriorated into the now well-known deficit of 1974, and borrowing requirements rose by a further $150 million. So between 1969 and 1974, a modest internal surplus became a $508 million deficit; a $216 million current account surplus became an $85 million deficit; and as a result, annual borrowing requirements rose to $366 million.

In the public enterprise sector, saving also fell and borrowing requirements rose after 1969. (See Table V-2.) But in contrast to the government sector proper, the public enterprise sector had never run large surpluses and had never received massive Federal transfer payments.* However, the investment of this sector has increased substantially over time, and so its borrowing requirements have grown. In addition, the small net current-account surpluses of this sector have become a net deficit in recent years.

The current-account surplus of public enterprises has been eroded for two reasons. First, corporations have been hit hard by the current economic crisis. The Water Resources Authority, the supplier of electricity to the Island, in particular has suffered from the increase in the price of petroleum and from sluggish demand. And second, public corporations are increasingly being run at a loss for social or political reasons. We return to this problem shortly.

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*We are treating the University of Puerto Rico and the Highway Authority throughout as parts of the government sector in conformity with Planning Board practices. The major debt issuing Public Enterprises are the Water Resources Authority (electricity), the Aqueduct and Sewer Authority, the Public Building Authority (renting to the government), the Ports Authority, and recently, the Telephone Authority.

## TABLE V-1

## GOVERNMENT BUDGET: REQUIREMENTS FOR FINANCE

(Million $)

| | Current Budget | | | | Capital Budget | | |
|---|---|---|---|---|---|---|---|
| | 1 Internal Revenue +Rum, Tobacco and Customs Transfers | 2 Current Expenditure | 3=1−2 Internal Surplus/ Deficit | 4 Unilateral Transfers from U.S. | 5=3+4 Current Budget Surplus/ Deficit | 6 Government Investment | 7=6−5 Requirements for Finance |
| 1960....... | 301 | 282 | + 19 | 40 | + 59 | 50 | + 9 |
| 1961....... | 331 | 326 | + 5 | 42 | + 47 | 51 | — 4 |
| 1962....... | 365 | 358 | + 7 | 46 | + 53 | 55 | — 2 |
| 1963....... | 434 | 412 | + 22 | 58 | + 80 | 65 | + 15 |
| 1964....... | 486 | 467 | + 19 | 71 | + 90 | 83 | + 7 |
| 1965....... | 543 | 525 | + 18 | 87 | +105 | 87 | + 18 |
| 1966....... | 623 | 564 | + 59 | 128 | +187 | 77 | +110 |
| 1967....... | 679 | 658 | + 21 | 147 | +168 | 95 | + 73 |
| 1968....... | 759 | 771 | — 12 | 158 | +146 | 111 | + 35 |
| 1969....... | 906 | 876 | + 30 | 186 | +216 | 135 | + 81 |
| 1970....... | 1,012 | 1,066 | — 54 | 212 | +158 | 181 | — 23 |
| 1971....... | 1,173 | 1,295 | —122 | 268 | +146 | 197 | — 51 |
| 1972....... | 1,368 | 1,533 | —185 | 358 | +173 | 274 | —101 |
| 1973....... | 1,491 | 1,840 | —349 | 431 | + 82 | 286 | —204 |
| 1974....... | 1,534 | 2,042 | —508 | 423 | — 85 | 281 | —366 |

SOURCE: Income and Product Account (I+P) and Balance of Payments (B of P). Planning Board—Municipal governments are included.

NOTES:

Column 1. Includes payments to pension funds but excludes net revenue of public corporations. Source: I+P Table 17 row 1 minus rows 7 and 10.

2. Excludes subsidies to public corporations. Source: I+P Table 17 row 11 minum row 19 minus subsidies to Public Enterprises.

3. A negative entry means current expenditures exceed internal revenues.

4. Net transfers to the Commonwealth government, the Highway Authority and the University. Together these are treated as the government sector. Source: B of P Table 15.

5. This entry plus the surplus of the Public Enterprise sector (Column 1 of Table III-2, below) equals "Government Saving," I+P Table 17 row 20.

7. Overall surplus or deficit defined similarly to U. S. unified budget method. Negative entry means finance is required from capital markets.

TABLE V-2

## PUBLIC SECTOR FINANCE: REQUIREMENTS AND SOURCES
(million $)

| | 1 Public Enterprise Current Surplus Deficit | 2 Public Enterprise Investment | 3=1—2 Public Enterprise Finance Require-ments | 4 Government Sector Finance Require-ments | 5=3+4 Total Public Sector Require-ments | 6 Public Net L.T. External Borrowing | 7 Public Net S.T. External Borrowing | 8 Net Sales of U.S. Instruments by Public Sector | 9 Remaining Require-ments |
|---|---|---|---|---|---|---|---|---|---|
| 1960...... | + 5 | 80 | — 75 | + 9 | — 66 | 96 | —20 | — 9 | — 1 |
| 1961...... | + 6 | 81 | — 75 | — 4 | — 79 | 102 | 7 | —30 | 0 |
| 1962...... | + 9 | 85 | — 76 | — 2 | — 78 | 65 | 8 | —21 | 26 |
| 1963...... | +15 | 75 | — 60 | + 15 | — 45 | 122 | — 3 | —26 | — 47 |
| 1964...... | +17 | 95 | — 78 | + 7 | — 71 | 87 | 5 | —40 | 19 |
| 1965...... | +19 | 115 | — 96 | + 18 | — 78 | 111 | 4 | 4 | — 41 |
| 1966...... | + 9 | 122 | —113 | +110 | — 3 | 7 | 68 | —27 | — 45 |
| 1967...... | +14 | 165 | —151 | + 73 | — 78 | 183 | —39 | 48 | — 18 |
| 1968...... | +14 | 192 | —178 | + 35 | —143 | 184 | 5 | —31 | — 15 |
| 1969...... | +11 | 209 | —198 | + 81 | —117 | 67 | 12 | —41 | 79 |
| 1970...... | + 7 | 224 | —217 | — 23 | —240 | 181 | 29 | —24 | 54 |
| 1971...... | + 5 | 299 | —294 | — 51 | —345 | 306 | 53 | —35 | 21 |
| 1972...... | — 6 | 379 | —385 | —101 | —486 | 449 | 52 | 3 | — 18 |
| 1973...... | —68 | 307 | —375 | —204 | —579 | 411 | 87 | 60 | 21 |
| 1974...... | —17 | 434 | —451 | —366 | —817 | 458 | 88 | —51 | 322 |

SOURCE: Income and Product Account and Balance of Payments Planning Board.

NOTES:

Column 1. Includes transfer payments from U. S. to Public Enterprise (column taken from Table V-1 Column 7). Source: I+P Table 17 row 7 less subsidies from Government plus transfer payments to Public Enterprises (B of P Table 15).

2. Source: I+P Table 2 row 14 plus row 20.

6. and 7. A positive entry means borrowing undertaken. A negative entry means net repayment. Source: B of P Table 17 and 18.

8. A negative entry means purchases of U. S. Instruments by the public sector. Source: B of P Table 21.

9. Residual. A negative entry means net domestic accumulation of financial assets or finance for transfer of assets.

The last row is probably in error. The figures are preliminary.

C. *Sources of Public Saving Problems.* The pattern of public finance we have just surveyed shows dramatic declines in public saving over the past six years. From a situation of fairly solid current-account surpluses in the government sector and marginal current-account surpluses in the public enterprise sector, the situation has deteriorated into one of current-account deficits for both. Coupled with rising public investment expenditures, this deterioration has created extremely high external financing requirements, in excess of $800 million in 1974.

Why has the situation deteriorated so seriously so rapidly? As we have suggested earlier, there are different answers for the two sectors.

In the government sector, expenditures grew at unprecedented rates from 1969 to 1973 and when expenditures growth decelerated in 1974, revenues growth decelerated by even more. Table V-3 shows how governmental expenditures, broken down into a few categories, grew from 1964 to 1974. The table makes clear that, aside from public investment—which exhibited characteristic stop-go behavior—all government expenditure categories reached maximum growth rates in 1969-70 or 1970-71 and were decelerating sharply by 1974. We have found it impossible to uncover detailed information on expenditures by functional category, but the information we have suggests that health, education and welfare expenditures grew relatively slowly while general government grew at the astonishing rate of 44% per annum from 1969 to 1973. Budgeted current expenditure growth in all major categories was over 15% per year from 1969 to 1975, with a number of categories budgeted to grow at over 20% per year.

TABLE V-3

GROWTH RATES OF GOVERNMENT EXPENDITURE CATEGORIES

(% Per Annum)

| | 1964-69 | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 | 1969-74 |
|---|---|---|---|---|---|---|---|
| Labor Wages and Salaries .............. | 13.0 | 20.5 | 20.7 | 19.1 | 17.5 | 6.7 | 16.8 |
| Non-labor purchases (Net of Sales) ...... | 12.0 | 28.7 | 17.6 | 22.5 | 21.5 | 13.6 | 20.7 |
| Current expenditures for goods and services | 13.2 | 21.0 | 22.0 | 17.2 | 21.8 | 11.6 | 18.6 |
| Capital expenditures for goods and services | 10.2 | 34.1 | 9.2 | 38.8 | 4.5 | —1.9 | 15.8 |
| Transfer payments ..................... | 14.6 | 28.2 | 24.0 | 25.9 | 13.1 | 10.3 | 20.1 |
| Total ................................. | 12.6 | 23.3 | 19.6 | 20.9 | 18.3 | 9.2 | 18.6 |

In the twenty year period 1949 to 1969, government consumption of goods and services rose from 11.4% to 15.4% of GNP.* In the next four years, from 1969 to 1973, the ratio of government consumption to GNP grew by over one and a half percentage points *per year*, so that by 1973, government consumption claimed 21.4% of GNP. Thus in four years, government consumption as a share of GNP increased by more than in the previous twenty years. This increase does not seem to have been associated with specific new programs; it simply represents more of everything. In the early part of the period, public wages grew steeply; in 1972 employment accelerated sharply.

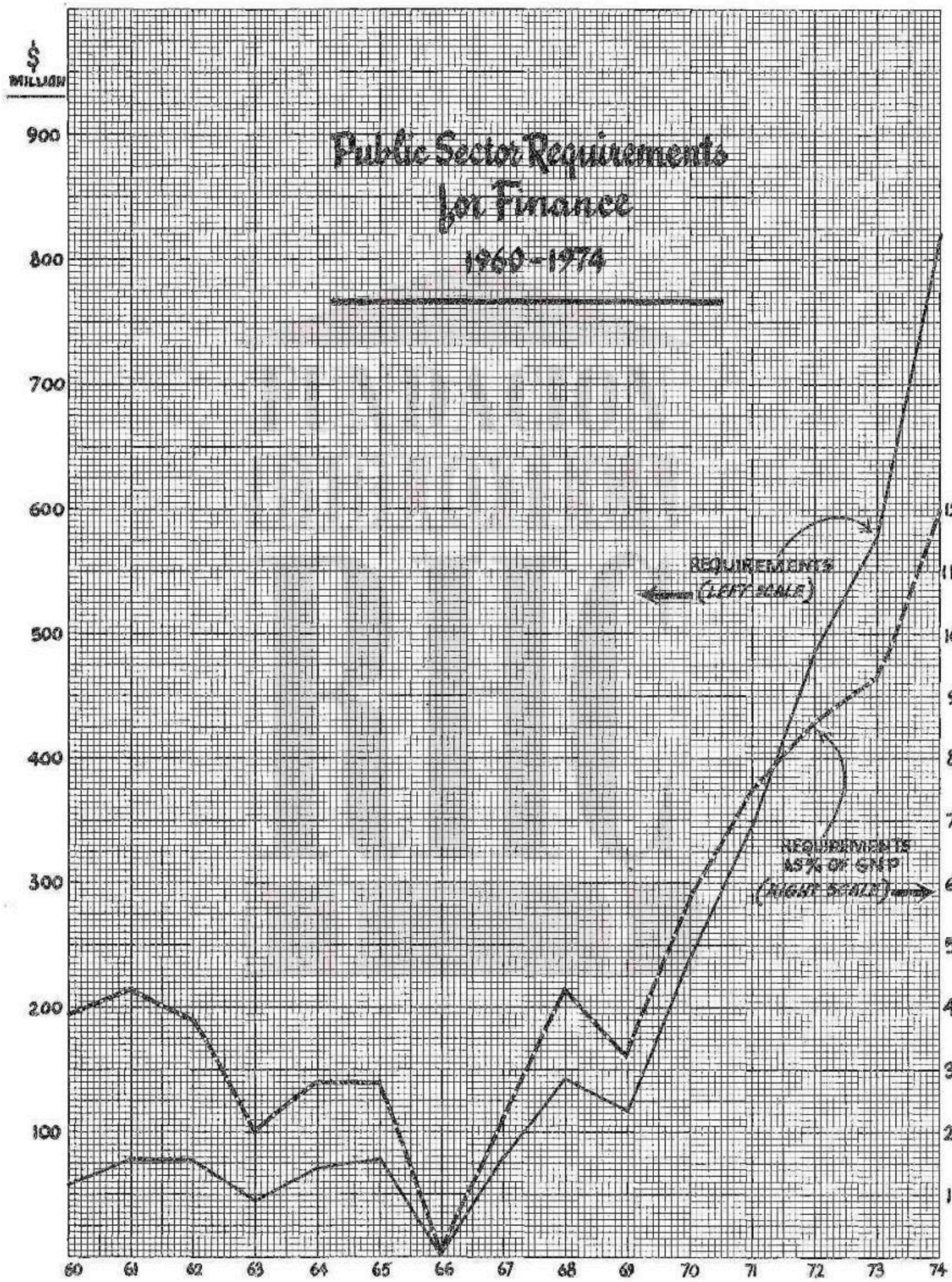
From 1969 to 1973, revenues from internal sources grew rapidly, and transfer payments from the Federal government grew very rapidly, so the government current account surplus did not fall very much. But in 1973 and 1974, revenue growth from both sources was sluggish and the current account surplus became a deficit. It is important to recognize, however, that *the expenditure growth trend of 1969 to 1973, coupled with the revenue growth trends of the same period, were already unsustainable* before the unhappy deceleration of revenue growth in 1974.

It is also important to recognize that *it is not enough just to balance the current account of the budget.* As Figure V-1 shows, public sector borrowing needs rose from 3% to 12% of GNP between 1969 and 1974. Balancing the current account budget of the government and the public enterprise sectors (together) in 1974 would have reduced borrowing needs by only $100 million. *To finance the public expenditures of*

*One and a half of this four percentage point increase occurred over the period 1965-69; there was already some acceleration before 1969.

*1974 in a manner comparable to that of 1969—with borrowing at about 3% of GNP—the government and public enterprise sectors in Puerto Rico would have had to run a combined current account surplus in 1974 of almost $450 million.* Instead, they ran a deficit of $100 million. International recession and the effects of the energy crisis can account for no more than $200 million in revenue shortfalls. Expenditure growth of the 1969-1973 period explains the absence of a substantial surplus; and it is current expenditure growth that presents the far more serious long-run problem for Puerto Rico.

FIGURE V-1


Public Sector Requirements for Finance
1960-1974
$ MILLION
900
800
700
600
500
400
300
200
100
12%
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
REQUIREMENTS (LEFT SCALE)
REQUIREMENTS AS % OF GNP (RIGHT SCALE)
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74

D. *Public Enterprise Saving.* The saving of the public enterprises, taken as a group, needs to be separately considered. The motives which induce public enterprises to create, or fail to create, a surplus in their current-account budgets differ widely among themselves and from the government.

In Puerto Rico, public corporations have been set up for a variety of reasons. Some were established to escape awkward budgetary or bond-issuing problems, as in the case of the Public Buildings and Highway Authority. Others are intended to provide roundabout subsidies for particular interests; they are expected to receive state appropriations or to depend on state capital contributions for which they do not pay market interest returns. The Sugar Corporation and PRIDCO are important examples. Still others sell goods and services to the public, but with the understanding that they will lose money; these include the Metropolitan Bus Authority and the Import and Distribution Corporation. These enterprises today far exceed in number, though fortunately not yet in importance, the traditional public corporations that sell services to the public and normally can show at least some small operationg profits—such as the Water Resources and Aqueduct and Sewer Authorities.

This collection of public enterprise has never run large operating-budget surpluses, but even the small positive surpluses have turned negative in recent years—i.e. since 1969. At the same time, the investment of this sector has risen from $80 million per year in 1960 to $434 million in 1974. Thus, the public enterprises have been a major source of the external borrowing needs of Puerto Rico. These changes are the result partly of the expansion of the sector, in terms of numbers of public enterprises, and partly of the fact that most new corporations have not been intended to be self-supporting. But more is involved.

It is tempting to look upon public corporations principally as a source of employment in the job-scarce economy; and to allow prices to be kept low for the sake of consumers and wages high for the sake of workers. However, it is a serious mistake to behave as though public enterprises should not make "profits". The fault perhaps lies in the choice of words. Public enterprises must generate some "investible surplus" or they must seriously curtail their rate of investment and growth. Their recent rates of external borrowing cannot be sustained—as is now becoming apparent to everyone.

Public corporations will have to review both their revenues and their expenditures. In many cases, prices need to be rationalized: as a general rule, users of resources should pay their cost. All public corporations which sell goods and services—not only the Water Resources Authority, but PRIDCO, CRUV, the Ports Authority, the Aqueduct and Sewer Authority and others—should regularly review their pricing policies. The present web of subsidies and taxes implicit in the price system must be made explicit, and justified or removed.

Of particular importance and urgency is the pricing policy of the Water Resources Authority. The subsidy to small electricity users instituted recently was an understandable response to the sudden rise of fuel costs and electricity rates. It had the advantage of built-in incentive to hold consumption below the amount at which eligibility for the subsidy ceased. Nevertheless it is a drain on the public budget which cannot be afforded. Rates to all users will have to reflect the real costs of providing electricity. Fortunately the distributional impact of ending the subsidy is now mitigated by the introduction of the food stamps program.

Public contributions to sugar production and manufacture also demand prompt review. The massive drains of the sugar economy on the public budget and borrowing capacity cannot be continued.

E. *The Role of Public Saving in Future Growth.* The public sector today in Puerto Rico finds itself at a critical juncture. With prospects for private investment less clear than in the past, the government may have to play a more important role than it has in the past to ensure sustained flows of productive investment. At the same time, the sources of finance for such publicly supported investment look worse than ever. Transfer payments from the Federal government to the Commonwealth government have abruptly stopped growing, and it is very unlikely that they will ever regain their earlier rate of expansion.

Much more serious for Puerto Rico, in the long run, is the internal deficit position of the public sector. As we have mentioned, the recession can explain no more than $200 million of the problem in 1974. The new taxes which the government wisely imposed in 1975 raise on the order of $100 million more. However, the gap in 1974 was much larger than $300 million. To return public borrowing to the rates of the 1960s (until 1969) public current-account saving would have had to be about $450 million, or $250 million more than the new tax system could be expected to bring in, even with the temporary income tax increase.*

Since the public corporations sector has grown recently, there is justification to the argument that the rate of public borrowing should not be expected to return to as little as 3% of GNP. Even if Puerto Rico decided to service a larger public debt to match a larger public sector, its saving would have to rise by a great deal more than the $300 million already built into the system to provide the finance for investment. If Puerto Rico wanted to (and were able to) keep the ratio of borrowing to GNP at 5%, there would still be a need for over $100 million in internal saving above what the new tax system can be expected to produce.

Beyond this, there is little chance that Puerto Rico will be able to borrow as much as it would like for some time. As of March 1975, the outstanding short-term debt of public corporations was $880 million, and that of the government was $86 million (this latter debt increased in June 1975 by $115 million).** Thus, there is now one billion dollars of short-term debt to be funded. This is $400 million more than a year ago and $850 million more than 1969. The government, having consolidated much of this debt, is now required to reduce it by about $80 million a year.

The implications of these numbers are unmistakable: *the public sector in Puerto Rico must increase its rate of saving dramatically.* To maintain the 1974 level of investment with sustainable rates of borrowing, the public sector would have to increase its internal saving by at least $200 million—and probably more like $400 million. (The precise level depends on the capacity of Puerto Rico to borrow, which we explore in Section VII.) To increase its support of productive investment the public sector will have to save more than this.

What options does the public sector have? Basically, it has two options; they are both simple, but neither is easy. Puerto Rico can introduce measures to increase revenues, and/or it can reduce the growth of current expenditures. On both fronts, the government has taken decisive action in the past two fiscal years. A very commendable beginning has been made, but a great deal more is needed.

On the revenue side, we found that Puerto Rico's fiscal effort is quite good by Mainland standards. The level of taxation, including Social Security and government pension fund taxes, is *not* low relative to personal income in Puerto Rico, in spite of extensive tax exemptions. Nevertheless there are some aspects of the tax system which need to be revised. The Governor's Tax Reform Commission has prepared a very praiseworthy set of recommendations which aim principally at increasing the equity of the tax system. We find its work sound and have little to add. We would like to emphasize, however, that the principal task of the tax system in Puerto Rico today must be to raise adequate amounts of revenues equitably. Thus reform of the property tax, and continuing improvements in enforcement of tax laws should be given top priority, while other recommendations—such as the indexing of tax liability—should await a time when public saving is a less grave problem.

In addition to reform of the present tax structure, the option exists to introduce more taxes. The new sales tax and the income tax increase appear to be soundly conceived measures. But they are not enough, and if the income tax reverts to its previous level, the situation will be still worse.

The principal key to future government saving probably lies on the expenditure side of the budget because a sustained effort, not a short term effort, is needed. The post-1969 burst of spending, which

*In 1974 there was a deficit of $100 million. To this must be added the $450 million surplus required. From the sum is subtracted the $200 million tax shortfall and $100 million from new taxes to leave a shortfall of $250 million.

**Of the total short-term debt, about $150 million was of the new public corporations ($95 million by the Telephone Authority, $45 million by the Shipping Authority and $8 million by the Import and Distribution Corporation).

created the grim situation Puerto Rico faces today, may have to be followed by "seven lean years". The budget for 1974, 1975 and 1976 have begun the drive.

Ironically, this is a time when counter-cyclical spending (and borrowing) would have been most useful. Such policy has been impossible because of the turmoil in the bond market and beyond that because Puerto Rico has already exhausted its capacity for low-cost borrowing.

The critical time for public saving in Puerto Rico will come when the economy recovers somewhat from the current recession. If new revenues can be sought as decisively as they have been in the past year, and if current expenditure growth can be restrained at least as much as it has been in the recent crisis, then after several years the economic position of the government sector will become sound once again. The public sector surplus will come to constitute a major source of development finance.

If on the other hand, current expenditures are freely permitted to grow when revenues recover, Puerto Rico will continue to have a hand-to-mouth economy, heavily dependent on external capital and constrained by lenders' interference in its policy.

## VI. External Inputs into Growth

When an economy utilizes more resources than it produces over a period of time, it shows up in the macroeconomic accounts in two ways. First, there is an excess of investment, private and public, over internally provided saving. And second, there is an excess of imports of goods and services over exports. These two excesses are identical since they measure the same thing, namely, the extent to which the economy has relied upon external resources. In the first measure, these external resources are seen as the investment financing done externally; and in the second, they are seen as the transferred goods and services themselves.

The recent decline in internal saving in Puerto Rico, together with the rise in Puerto Rican investment, has meant an increase in reliance on external resources. This reliance is shown in Figure VI-1 where the external resources are indicated by the top line—which represents the excess of Puerto Rican investment over internal saving or, the same thing, the excess of imports into Puerto Rico over exports from Puerto Rico. No more than a glance at Figure VI-1 is needed to see how rapidly Puerto Rico's dependence on these external inputs has been growing. The trend growth rate per annum is 12.5% for the entire period, 1947-74, but it is 18.2% for the period, 1967-74. From another perspective, the net external resources flowing into Puerto Rico equaled only 22.4% of its GNP in 1967, but by 1974 represented 33.4% of the Island's GNP.

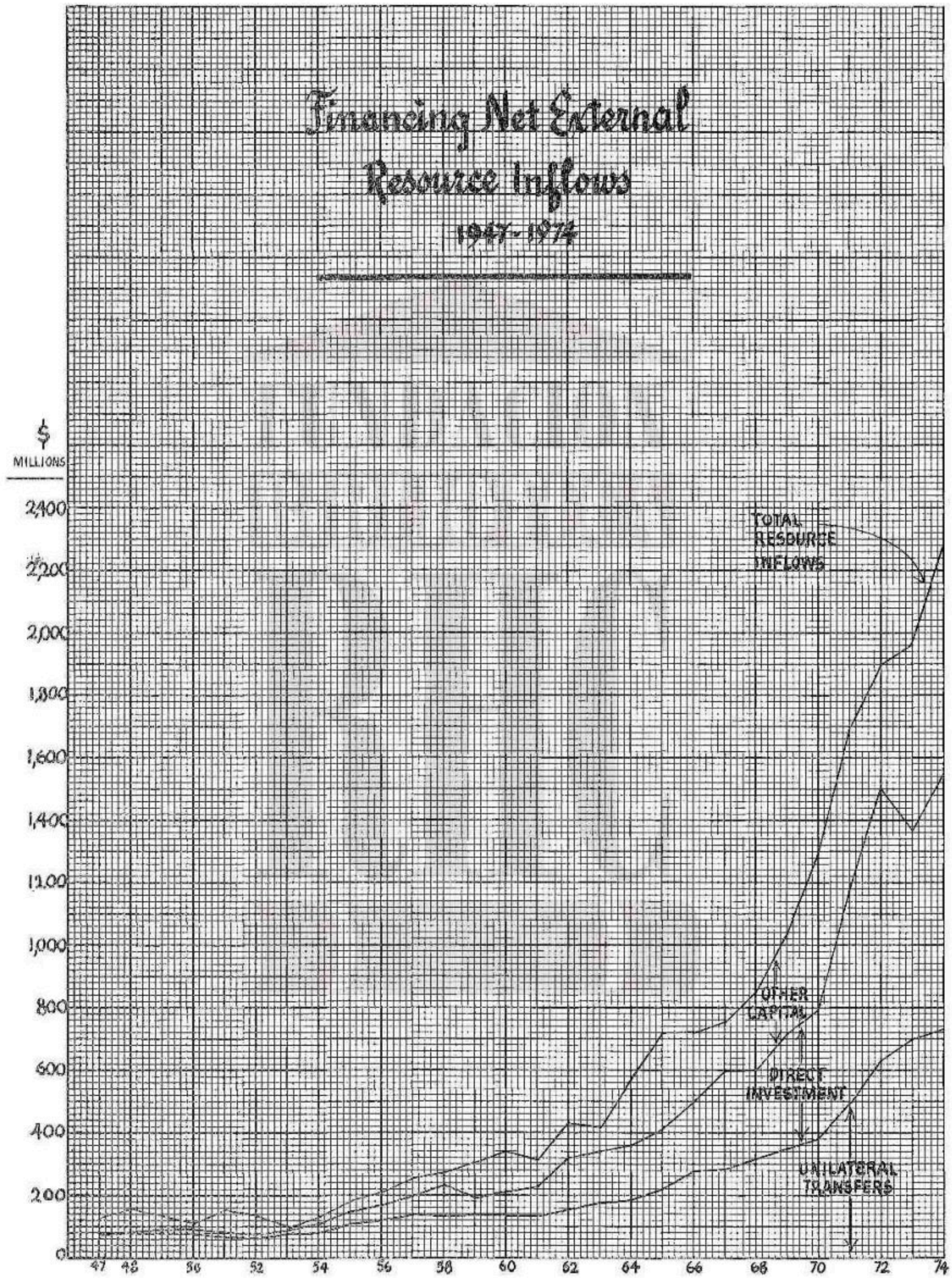
The current magnitude and the recent acceleration of Puerto Rico's reliance on external resources worries us for three reasons:

(1) The fraction of the external resource flow that is free of any obligation for repayment —i.e. the net unilateral transfers from the Federal government to Puerto Rican governments and persons—has been declining. Unilateral transfers were 37.2% of the flow in 1967, but only 31.8% in 1974, in spite of their rapid growth, 16.6% per annum, over the period. This means that Puerto Rico is obligated to pay interest on, and some day the principal of, an ever larger part of its external resource acquisitions.

(2) The fraction of the unilateral transfers to Puerto Rico which go to Commonwealth government agencies, and hence which are more easily channeled into investment, has also been declining. Government agencies received 66.9% of Federal transfers to Puerto Rico in 1967 but only 49.7% in 1974. The fraction has of course fallen even lower with the advent in 1975 of the food-stamp program. This means that for an ever larger part of the Federal transfers to Puerto Rico, it is difficult to direct them to finance of investment; they may well represent no more than a rise in external resources offset largely, if not entirely (given the Puerto Rican personal saving propensity) by a decline in the internal surplus of production over consumption.

(3) An accelerating reliance on borrowed funds means—for most persons, businesses, or governments—rising interest rates. Puerto Rico is no exception. Indeed, there is already evidence

FIGURE VI-1



Financing Net External
Resource Inflows
1947-1974
$ MILLIONS
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
47
48
50
52
54
56
58
60
62
64
66
68
70
72
74
TOTAL
RESOURCE
INFLOWS
OTHER
CAPITAL
DIRECT
INVESTMENT
UNILATERAL
TRANSFERS

that the interest cost of Puerto Rico's public borrowing is rising—relative to other borrowers. The picture for private borrowing, principally through the direct investment of Mainland firms in Puerto Rico, is more complex but not really dissimilar.

These three problems are discussed in the remainder of this section. Because the motivations for flows of external resources into Puerto Rico differ among the parties and programs involved, it is useful to discuss the major categories of external inputs separately. These categories are:

(1) Federal transfers to the Commonwealth government and its agencies (Part A below).

(2) Federal transfers to individuals (Part B below).

(3) Direct private investments of external firms in Puerto Rico (Part C below).

(4) External borrowing of the Commonwealth government and public corporations (Section VII).

These four categories are not exhaustive but cover most of the external resources. The "other" category is small but volatile, and important to an understanding of Puerto Rico's financial system. It consists largely of net external bank indebtedness. It will be touched on in Part C but mostly deferred to Section IX.

A. *Federal transfers to the Commonwealth Government and its Agencies.* Federal grant programs have grown rapidly during the last decade. (See Figure VI-2.) For the United States as a whole, the amounts transferred from the Federal level to lower governmental levels rose from $44 per capita in 1963 to $207 per capita in 1974. Until the advent of revenue-sharing, Puerto Rico participated in almost all of these Federal grant programs, although Congress often limited its participation below the states. Transfers to Puerto Rico have grown even more rapidly. Once Federal aid to Puerto Rico was very small compared to the poorest states. Now Puerto Rico receives almost as much as the poorest states.

But Puerto Rico has not achieved equality with the states in eligibility for Federal aid. Some Federal grants are inversely related to income per capita, and Puerto Rican personal income per capita is still well below that of the poorest states. Consequently, if Puerto Rico were treated as a state, it would receive more, though how much more would be difficult to estimate. Of course, practical political considerations suggest that Puerto Rico, as a Commonwealth not subject to Federal taxation, cannot aspire to full equality with the states in Federal grant programs. Probably the time is ending when Federal aid of Puerto Rico grows more rapidly than total Federal aid to states and local governments.

Indeed Puerto Rico may not even hold its own, thanks to the shift from categorical grants to general revenue sharing, in which Puerto Rico, for obvious reasons, participates not at all. It is too early to tell how great an impact revenue sharing will have. So far it has only slowed the rate at which Puerto Rico is gaining on the states. There are, however, some disturbing signs: Puerto Rican receipts from several Federal departments declined in 1974. (See Figure VI-2.)

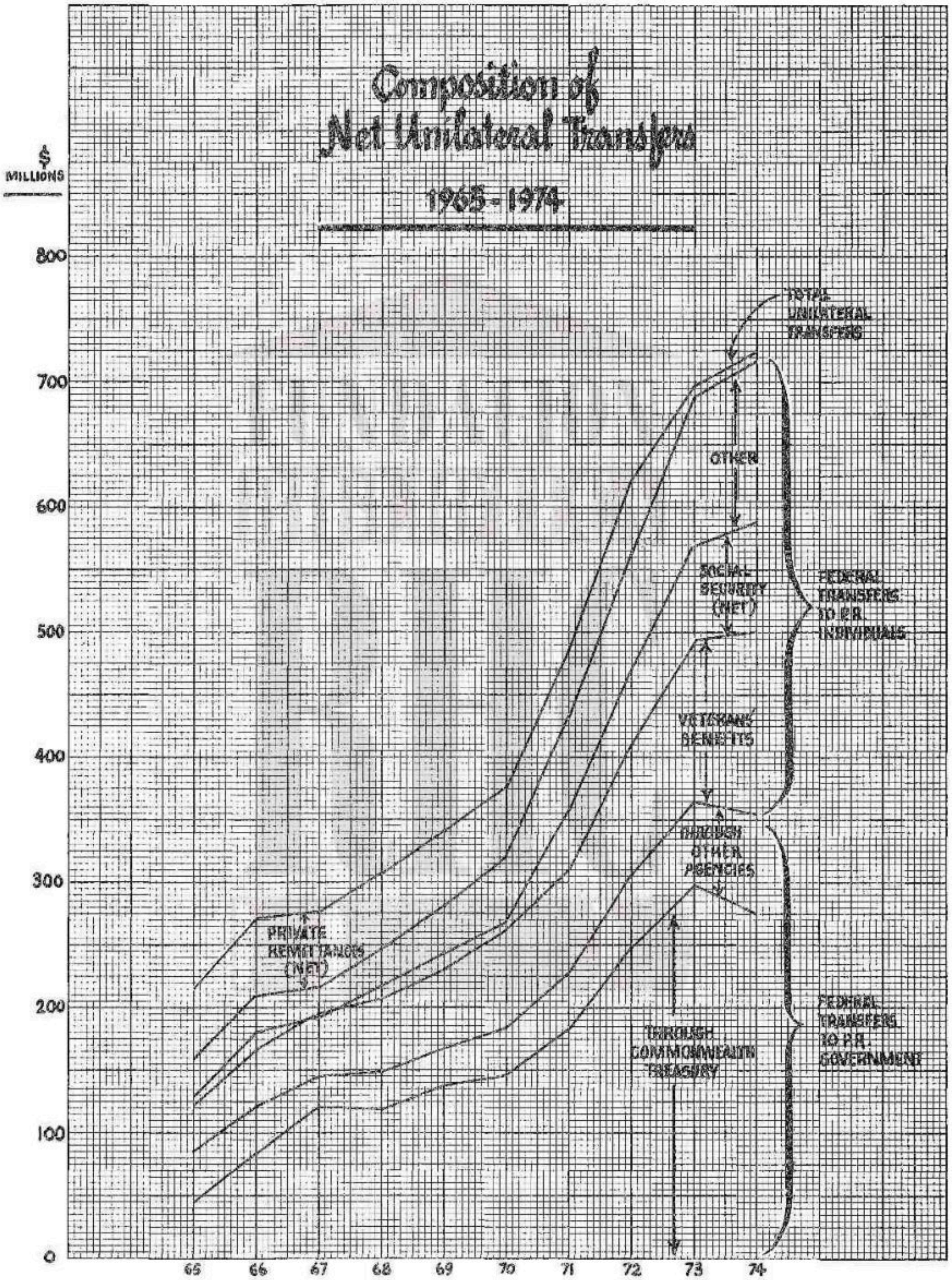
The outcome will depend on trends in Federal budgetary legislation of policies, and on the effectiveness of Puerto Rican lobbying in Washington.

Certainly Puerto Rico cannot expect its Federal grants to continue to rise more rapidly than the total. Moreover, it is inconceivable to us that the total will continue to rise at the rate of the past decade. The nearly 20% per annum growth of net transfers from the Federal government to the Commonwealth government and its agencies will not be maintained. Puerto Rican budgetary thinking must recognize this new reality.

B. *Federal Transfers to Individuals.* Puerto Ricans participate as individual U. S. citizens in Federal programs. Receipts by persons have grown even more rapidly in the last decade than receipts by government. In 1974, before food stamps, they averaged more than $100 per capita.

These transfers arise mainly from three Federal programs (see Figure VI-2) in each of which Puerto Rican participation has been growing rapidly:

FIGURE VI-2


Composition of
Net Unilateral Transfers
1965-1974
$ MILLIONS
800
700
600
500
400
300
200
100
0
65
66
67
68
69
70
71
72
73
74
TOTAL UNILATERAL TRANSFERS
OTHER
SOCIAL SECURITY (NET)
VETERANS' BENEFITS
FEDERAL TRANSFERS TO P.R. INDIVIDUALS
THROUGH OTHER AGENCIES
THROUGH COMMONWEALTH TREASURY
FEDERAL TRANSFERS TO P.R. GOVERNMENT
PRIVATE REMITTANCES (NET)

(1) *Veterans Benefits.* These generally grow rapidly immediately following a war, and then decline. Vietnam War benefits seem to be no exception. Puerto Rican receipts of veterans benefits began to decline in 1974, though the amount is still large—nearly $150 million.

(2) *Social Security and Medicare.* Puerto Ricans have more than proportionately participated in the rapid recent growth of net benefits under Federal Old Age, Survivor, Disability and Health Insurance. As recently as five years ago, benefits to Puerto Ricans barely exceeded payments, but by 1974 there was a net inflow of nearly $100 million.

(3) *Food.* Already by 1974, the distribution of food under Federal programs had reached $81 million in Puerto Rico. The introduction of the food stamp program in 1975 added perhaps $600 million. The arrival of food stamps, for which it is estimated 70% of Puerto Ricans are eligible, is an immense gain in the war on poverty in Puerto Rico. The new program has been particularly welcome in a year of serious recession. But Puerto Rican receipts of food stamps will grow only modestly in the future.

Federal transfers to Puerto Ricans, as individuals, rose at an astounding trend rate of 24.5% per annum over 1967-74. Welcome as they are for raising the welfare of Puerto Ricans, Federal transfers to individuals contribute very little to Puerto Rico's growth. These programs increase consumption, mostly of imports, but do not provide additional resources for investment. The marginal propensity to save of the recipients is probably very low.

Nevertheless these Federal transfers provide the Commonwealth government with a precious political opportunity to take growth-oriented measures. This is because the transfers do protect Puerto Ricans from the harshest aspects of poverty. The food stamp program in particular gives Puerto Rico a few years in which new taxes can be levied, and local welfare expenditures cut, utility rates increased, etc., without the decisive counter-argument that the poor cannot afford the change. In other words, the recent rise of Federal transfers gives "breathing space" to Puerto Rican efforts to increase public saving.

C. *Direct Investment.* For a quarter century, the primary ingredient in Puerto Rico's development strategy, "Operation Bootstrap," has been the attraction of Mainland firms. The success of the strategy is everywhere apparent. Without the jobs and production of these firms, Puerto Rico could not have achieved its remarkable record of progress and modernization since the Second World War.

The cumulative total of direct investment from overseas has now passed $5 billion a year and increases by nearly $1 billion per year. In a macroeconomic accounting sense, direct investment clearly provides its own external financing and does not require domestic saving. But the connection between direct investment and Puerto Rican growth and welfare is not always close, for several reasons.

The complex nature of the resource and financial flows that comprise "direct investment" can be illustrated by following the life-cycle of a stereotypical Mainland firm in Puerto Rico. The new firm, today more likely to be in pharmaceuticals or electronics than textiles or apparel, begins with a physical investment provided by its Mainland parent. Since the operation has been established as much, or more, for the exemption from Federal and local taxes as for the low-cost labor or other advantages of Puerto Rico, there are large profits. The Mainland corporation has strong reason to locate in Puerto Rico those of its interdependent operations which are the most profitable. Federal tax regulations currently prevent profits from being returned at once to the Mainland parent. Therefore the subsidiary begins to accumulate financial assets. The income from these assets will also be exempt from Federal taxes if the investments are in U.S. territories, and this explains the popularity of high-interest certificates of deposit in banks in Guam. By the time its Puerto Rican tax-exemption period expires, the subsidiary holds substantial financial wealth as well as its depreciated operating capital in Puerto Rico. The assets are then sold, the subsidiary is liquidated, and the accumulated profit of the entire operation is absorbed into the Mainland parent, free throughout of both Puerto Rican and Federal taxes. The physical facilities are still in Puerto Rico, of course. They will be operated only if some firm, perhaps a new child of the old parent, finds them profitable, and this in turn may depend on whether or not a new tax exemption can be arranged.

The rates of return to direct private investment in Puerto Rico are very high, evidently between 15% and 20% over the last fifteen years. This may not seem high for manufacturing operations, but the typical Mainland subsidiary is holding as much as 80% of its assets in financial form. If such a firm is earning a 10% interest rate on the 80% of its assets in financial instruments, and an overall 15-20% profit rate on all its assets, then the rate of return on the 20% of its assets in physical capital must be in the range of 35% to 60%.

It might be thought that "direct investment" is all physical investment and has built up in Puerto Rico over $5 billion of plant, machinery and equipment. Nothing could be farther from the truth. "Direct investment" includes all increases in the net worth of external firms, including paper assets such as Commonwealth bonds. Puerto Rican mortgages, CD's in Puerto Rican banks or CD's in Guam, as well as real assets, such as factories and machinery. Although the facts are not readily ascertainable, perhaps half of the $5 billion represents financial rather than real assets.*

Even when direct investment *does* represent real physical investment, it does not necessarily imply an increase in Puerto Rican welfare. Although investment by subsidiaries of Mainland firms does provide new output and employment, it also entails new subsidies and real infrastructure investment by the Puerto Rican government and the greater remission of profit to the Mainland. The *net* benefit to Puerto Rico is not automatically positive; it must be carefully estimated case by case. No doubt past external investment on the whole was an important contributor to Puerto Rico's growth. But this history does not, we feel, justify for the future uncritical approval of tax exemptions and subsidies for every new Mainland investment. Caution and calculation are especially warranted for capital-intensive enterprises where profit-shifting, rather than real and durable cost advantages of Puerto Rican location, is the powerful motivation of the Mainland company.

The fact that Federal tax regulations cause a large part of external direct investment to be lodged in financial instruments raises an important policy issue. This source of finance will be of special benefit to Puerto Rico only if it is lower in cost than alternative external sources. Otherwise it simply replaces comparable flows; such as intra-bank or inter-bank transfers. External firms are free to purchase high-interest Guam instruments. Banks in Puerto Rico are free to move the deposits of these firms into the U.S. and world markets. Consequently the accumulated profits of direct investment are not necessarily a significantly cheaper form of finance than any other in the private capital markets.

The brief experience with the new Puerto Rican tax-exemption deposit, tailored to induce the retention of these funds, is not promising. Indications are that the interest rate needed to retain funds will not be low, nor will the retained funds represent net inflows of external resources. While marginal improvements to this new deposit can be effected, we doubt that this should be pushed too far, for two reasons. First, if at present Puerto Rico gains little from the billions of dollars of direct investment in financial assets, neither does Puerto Rico now stand to lose much if the Federal government were to change its tax laws and the same billions were to leave Puerto Rico. Other inflows largely replace the lost direct investment, and at interest costs only slightly higher, at worst. Second, it must be remembered that the external corporations and banks in Puerto Rico move funds in and out of the Island

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*It should be remembered that the statistic "direct investment" does not represent a *net* flow of new resources into Puerto Rico. Mainland investments earn profits, which can be freely remitted from Puerto Rico. Remittances have in fact been relatively small because unremitted profits are exempt from Federal corporate income tax, and accumulated profits can eventually be "repatriated" "tax-free." Puerto Rican macroeconomic accounts count unremitted profits twice, once as an outflow as if they were remitted and once as an inflow of new direct investment. Probably something like 80% of recorded direct investment in Puerto Rico is simply the accumulation of profits on past direct investments.

Direct investments placed in financial instruments may not represent a new flow of new resources to Puerto Rico. They may do no more than replace other funds that would otherwise have flowed into Puerto Rico into the same financial instrument. Or they may represent financial investments that are not really in Puerto Rico at all, e.g. certificates of deopsit in banks in Guam. In such a situation, the same dollar may appear as three flows in Puerto Rico's accounts: (1) as profit remitted to the Mainland; (2) as new direct investment in Puerto Rico; and (3) as an out-flow of "other capital" from Puerto Rico. The profit of Mainland firms appears to "return" to Puerto Rico but in fact represents no additional external resource flow.

The rate of accumulation of unremitted profits has been high for a combination of reasons: historically the total initial investments of newly attracted firms have grown rapidly; profitability has been high; and the eventual repatriation of accumulated profits does not occur for 10-15 years, the usual period of Puerto Rican tax exemption. If the attraction of new firms should level off, and if parent firms do in fact liquidate their Puerto Rican subsidiaries when their local tax exemptions expire, then in time their annual return of capital to the Mainland would in aggregate equal their earnings in Puerto Rico.

because it is profitable to do so. If the profitability of such transfers were seriously impaired the funds would simply not come to Puerto Rico in the first place. It is an illusion to view Puerto Rico as having special claim to these funds.

### VII. Puerto Rico's External Debt

A major source of funds for investment by the Puerto Rican Commonwealth and public corporations has always been the issue of long-term debt. The total outstanding public debt is now around $4 billion and has been rising at a rate in excess of $500 million dollars per year in recent years. This increasing reliance on external funds is in itself disturbing—as we discuss elsewhere—but what has made it especially serious is the concomitant rise in Puerto Rico's interest costs.

In this section, we discuss this recent rise in interest costs, and in greater detail, the upward surge of interest rates in 1975. We then consider possible trends until 1980 and examine the policy choices facing Puerto Rico.

A. *Causes of the Recent Rise in Interest Costs.* Puerto Rican securities—whether issued by the Commonwealth, by other agencies and guaranteed by the Commonwealth, or by various public corporations against their own revenues—are sold and traded in the Mainland's "municipal bond market".* Interest rates have been rising in that market for reasons beyond Puerto Rico's control. But Puerto Rican bond interest rates have recently risen *relative* to other rates in the market. The reasons are (1) the increased volume of Puerto Rican debt relative to the total debt in the municipal market, and (2) deterioration in the credit quality of Puerto Rican debt as perceived by investors.

The first reason is the more tangible. Of the gross new sales in the municipal market, Puerto Rico's share was under 2% in the late 1960s, but by 1974 had almost doubled to 3.63%. To place the increased volume, traditional buyers of Puerto Rican securities must be induced to increase their purchases and new buyers must be found. Higher interest rates—higher than the yields available on issues of comparable credit rating—are the main inducements. The municipal market provides little scope for other ways of increasing demand.

The deterioration of credit quality that investors perceive is less tangible but no less important. Credit quality means, to an investor, assurance that the borrower can make the promised coupon and redemption payments on schedule. It is a complex phenomenon, and cannot be simply measured. One common measure of credit quality is the ratio of the net revenues of the bond-issuing agency to its debt service. This ratio, called "coverage", has been declining in recent years for the revenue bonds of the Puerto Rican public corporations. For the Water Resources Authority, for example, coverage has declined from over 2.00 in the late 1960s to 1.66 by 1974. For general obligation bonds, the relevant comparison is between debt service and the actual and potential tax revenues of the government. In the final analysis it is the net income of the whole Island economy which determines Puerto Rico's ability to service its debt.

Interviews with municipal market professionals have reinforced these measures. Since all the Island's securities are viewed as a relatively homogeneous "Puerto Rican" obligation, backed ultimately by the Commonwealth government and the Island economy, the credit quality of Puerto Rico's securities is much influenced by the Island's fiscal and economic situation. Thus, recession, diminished growth prospects, deficit budgets, and the consumptionist nature of public investment programs—all discussed elsewhere in this Report—have not passed unobserved by those whose job it is to assess credit quality.

B. *1975.* Many of these forces have been operating for several years, but they have become especially apparent and especially costly to Puerto Rico in the last year. Table VII-1 shows the "twenty-year reoffer yield" of the last bond issued in each of the recent fiscal years by various Puerto Rican public issuers.** These yields rose dramatically in 1975.

* The market for tax-exempt securities, mostly issued by states and municipalities and their agencies.

** "Twenty-year reoffer yield" is the interest date earned by buyers of the twenty-year maturity of the bond issue. The use of such a common denominator is necessary for comparing different issues since the distribution of maturities changes between borrowing agencies and years.

## TABLE VII-1

### TWENTY-YEAR MATURITY INTEREST RATES

| Issuing Agency | (fiscal years) 1970 | 1971 | 1972 | 1973 | 1974 | 1975 |
|---|---|---|---|---|---|---|
| Commonwealth | 6.60% | 5.30% | 5.35% | 5.35% | 5.75% | 9.00% |
| Water Resources Authority | 7.40 | 6.60 | 5.95 | 5.65 | 5.65 | 8.67 |
| Highway Authority | 6.90 | 6.60 | 5.80 | 5.40 | — | 8.00 |
| Urban Renewal and Housing Corp. | 6.60 | 5.55 | — | — | 5.95 | 7.90 |
| All Other | — | 6.75 | 5.50 | 5.50 | 7.75 | 8.40 |

Note: — means no issue.

This sharp increase can only partially be explained by a decline in "coverage" of the debt. In Figure VII-1, on the horizontal axis, "coverage" is measured, in an aggregate sense for all Island public issues, by the ratio of Puerto Rican public debt to net Island income; on the vertical axis, is the "spread" in interest rates between Puerto Rican issues and an index of medium grade municipals.* Statistical regression analysis indicated that the rising debt-income ratio was largely "responsible", in the early 1970s, for the rise in the spread—from around zero in 1970 to just under 0.30 percentage points by 1974. But this analysis cannot explain the surge to a 1975 spread well over one percentage point.

There are several possible explanations of the surge:

(1) the sale of new Puerto Rican debt had jumped from 2.29% of the total municipal market's new sales in 1973 to 3.63% in 1974;

(2) two new, large and unusual Puerto Rican issuers (Telephone and Sugar) entered the market for the first time; and

(3) the Commonwealth reported the first (and unexpected) deficit in its current budget in fiscal year 1974.

Evidently these developments led the market to reassess Puerto Rican credit quality in 1975.

The increase in interest rates is not the only symptom of this reassessment. The method of selling Commonwealth bonds has been changed from bid to negotiation; several underwriters have withdrawn; recent bond issues have been cut back in size at the urging of underwriters; institutional support of Puerto Rican bonds has dropped off; and fears of a downgrading of Puerto Rico's credit rating are widespread.

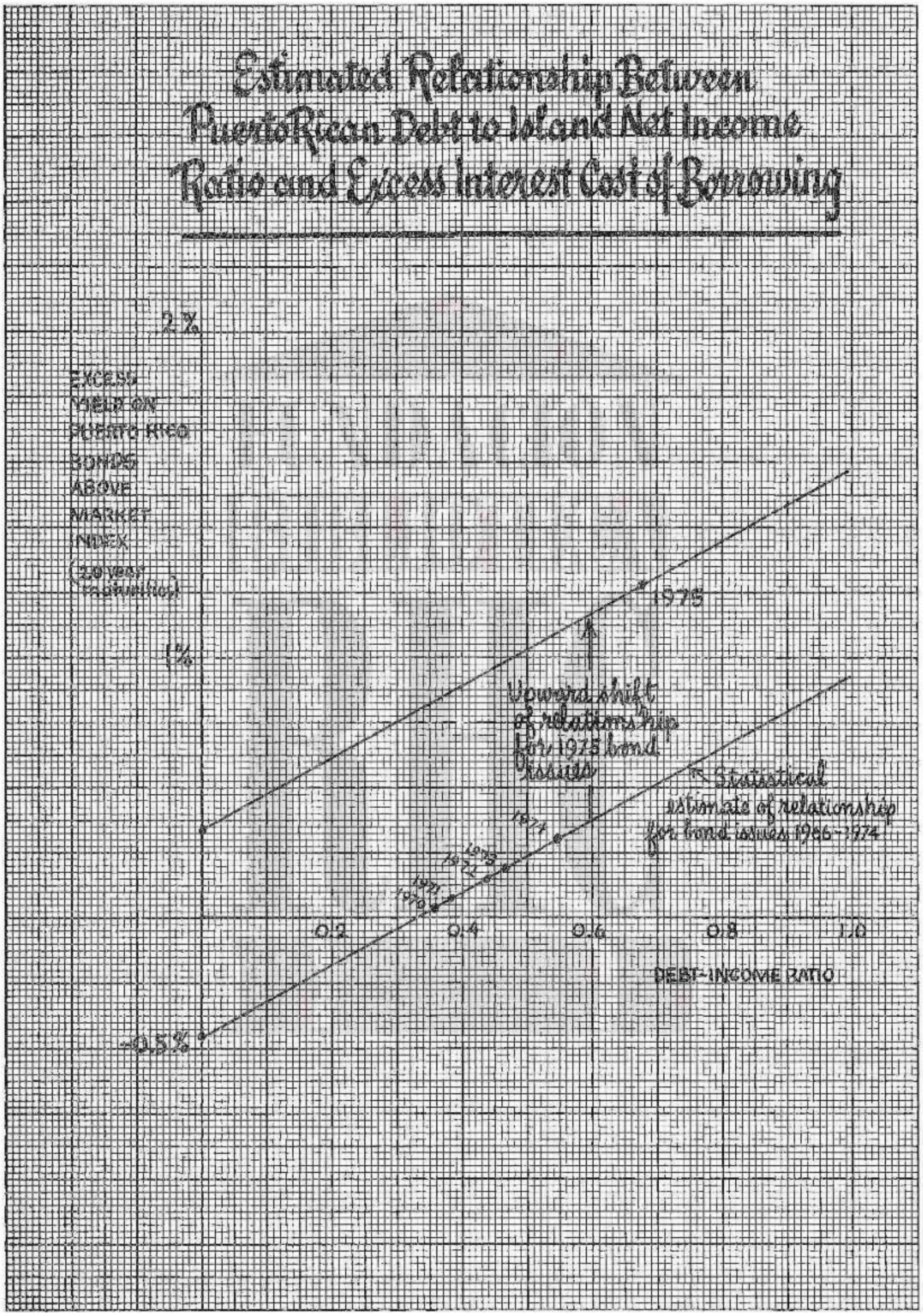
So far, of course, the new higher interest spreads apply to only a part of the total Puerto Rican public debt; but as time goes on, if the changes and trends remain unfavorable, an ever larger part of the debt will become involved, and total interest costs will accelerate.

C. *1980*. We have made some rough estimates of what interest spreads Puerto Rico can anticipate in FY 1980 under various assumptions. More precisely, we have used the information about Puerto Rican real debt, real income and interest spreads over the past ten years to predict the spread in FY 1980. These predictions are shown in Figure VII-2.

We should note two things. First, "the prediction" is always a range; this is always true, but it is made especially necessary by the uncertainty which attends FY 1975. In general, the optimistic projections at the bottom of the range assume that FY 1975 will turn out to be a temporary aberration; and the top of the range follows the pessimistic view that FY 1975 reflects an enduring adverse shift in Puerto Rico's ability to borrow. And second, our analysis of the data for 1966-75 continually underestimates the *actual* spread for FY 1975. General obligation issues in FY 1975 carried interest spreads in fact of 1.45% and 2.10%, both far above the shaded area of Figure VII-2. We attribute this too to the unusualness of 1975; statistical techniques are weak when the underlying structure is changing and observations are few. But the practical result is that, if our "predictions" are low in fact for FY 1975, the predictions for FY 1980 are also likely to be conservative.

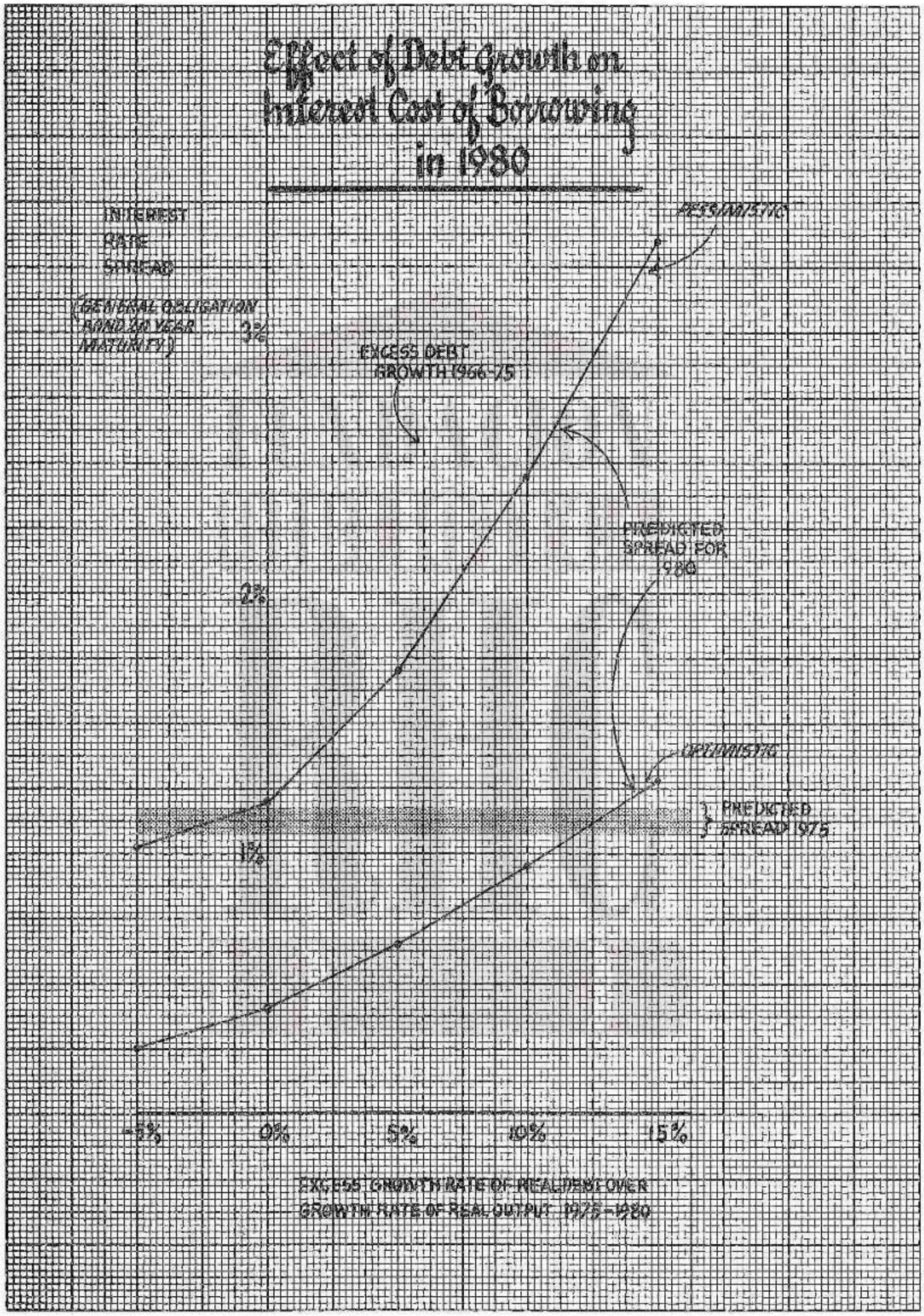
* Both for 20-year issues; the index is that of Salomon Brothers.

FIGURE VII-1



Estimated Relationship Between Puerto Rican Debt to Island Net Income Ratio and Excess Interest Cost of Borrowing
2%
EXCESS YIELD ON PUERTO RICO BONDS ABOVE MARKET INDEX (20 year maturities)
1%
-0.5%
1975
Upward shift of relationship for 1975 bond issues
Statistical estimate of relationship for bond issues 1966-1974
1974
1973
1972
1971
1970
0.2
0.4
0.6
0.8
1.0
DEBT-INCOME RATIO

FIGURE VII-2



Effect of Debt growth on Interest Cost of Borrowing in 1980
INTEREST RATE SPREAD
(GENERAL OBLIGATION BOND 20 YEAR MATURITY)
3%
2%
1%
PESSIMISTIC
EXCESS DEBT GROWTH 1966-75
PREDICTED SPREAD FOR 1980
OPTIMISTIC
PREDICTED SPREAD 1975
-5%
0%
5%
10%
15%
EXCESS GROWTH RATE OF REAL DEBT OVER GROWTH RATE OF REAL OUTPUT 1975-1980

As Figure VII-2 shows, if Puerto Rico were to continue to increase its real debt relative to its real output at the rate of 1966-75, its interest spread might grow by FY 1980 to as high as 1.8%.* This is the extrapolation of statistical relationships. However, a realistic probability is that before interest spreads reached this level the market would close to Puerto Rican issues. And even if Puerto Rico real indebtedness were kept unchanged relative to real output over 1975-80, the interest spread might not fall much and almost certainly would not return to zero, i.e., to its 1970 level (see Figure VII-1). This statistical result reflects some general market skepticism about Puerto Rico which does not show up in debt coverage statistics.

Another way of looking at Figure VII-2 is as follows. Each one percentage point increase over 1975-80 in the per annum growth rate of Puerto Rico real debt, given any growth rate of real output, adds nearly one tenth of one percentage point to the interest rate which the debt must yield to investors.** On a debt at the *current* size of Puerto Rico's, this means that each percentage point increase in the growth rate of the debt will eventually carry with it a higher interest cost (on the *existing* debt) of around $4 million per year.

In summary, unless Puerto Rico debt grows more slowly relative to real output—as compared to the last decade's growth rate of real debt, 6% above the growth rate of real output—interest spreads will probably *increase* over their already high FY 1975 levels. (Even zero growth of Puerto Rico debt will probably not return the interest spread to its 1970 level.)

D. *Policy Choices.* Our first conclusion is that, if Puerto Rico is dissatisfied with the high interest costs on its bonds, the Island must rely less on debt financing for public services and rely more on internal financing by taxes and user charges. Either that or restrict the provision of public services. Even more serious is our second conclusion. If Puerto Rico attempts to draw funds from the municipal bond market at the same growth rate as over 1966-75, the interest spread will rise at an accelerating rate. That spread was essentially zero as recently as 1970; it has passed one percentage point by 1975; and it may well double or triple by 1980 if the debt continues to grow unabated, assuming the market will not reject Puerto Rican issues even at high yields.

At the same time, to improve the demand for its securities, Puerto Rico must first improve public confidence in its ability to service its debt obligations on schedule. Such confidence is currently at a low point. Puerto Rico must take timely and vigorous steps to: (1) generate a current surplus in the Commonwealth budget and operating surpluses in the government enterprises; (2) renew full payments on employer contributions to pension and other contributory funds which are now in arrears; (3) toughen the government's stance on wage and fringe negotiations with public employees; and (4) increase future cash flows so that capital expenditure programs can be carried out at the same time that high coverage ratios are being restored.

In conclusion, the principal recommendations of this Report are that to restore investor confidence and reduce interest costs, the Commonwealth should take immediate and effective action to reduce the supply of new debt and to improve credit quality. There is essentially no other path open to Puerto Rico. It cannot borrow outside the United States without foregoing the interest reduction that emanates from its U. S. tax exemption. And the amount of debt that can be placed on the Island itself is severely limited.† In short, the introduction of new marketing tactics would have, at least, only marginal impact on the cost of financing for Puerto Rico. The low-cost external source of funds for Puerto Rican public investment is the Mainland municipal bond market, and to conserve its potential for the future it must be tapped much more sparingly in the next few years than in the recent past.

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* On general obligation issues (of 20-year maturity). The interest spread is somewhat higher on other kinds of issues.

** Assuming the overall market rates are unchanged. Note in Figure VII-2 that this ratio is really curvilinear, hence smaller for small growth rates and larger for large.

† In a gross sense. But even if Puerto Rico could enforce increased local holdings of its bonds, other capital outflows might neutralize even these small gains.

## VIII. Economic and Fiscal Projections

The picture we have painted of the current financial situation of Puerto Rico is not a rosy one. This should come as no surprise. Our view of the seriousness of the road ahead, however, needs to be more fully explained. We will now turn to a framework which looks forward as well as backward, in order to provide a more specific set of policy options. Our procedure in this section will be first to look at the situation in which Puerto Rico found itself, in fiscal year 1974*, and to separate the cyclical and secular components. Then we will look into the future, first by projecting recent trends "naively" and then by applying a slightly more sophisticated analysis. Finally we will consider, within a quantitative framework, the policy options available to the Commonwealth.

A. *FY 1974 in Context:* Although 1974 was not a recession year, the economy was hard hit by international economic events. Real per capita income fell for reasons largely beyond the control of Puerto Rico: the rise of world food and energy prices, and the devaluation of the dollar. Investment in Puerto Rico was depressed owing both to structural and to cyclical problems. The cyclical problems included an excess inventory of completed housing units. Construction in particular was in a slump—one made more acute by the spectacular increase of construction activity in the early 1970s, dominated by petrochemical facilities and public highways.

Income did not suffer as seriously from this slump in investment as one might have expected. The principal reason for the continued growth in GNP was the boom in government current expenditures. As we have discussed, however, this trend was unsustainable, considering the rate of growth of borrowing on which it was based. The temporary stimulation provided by public spending could not cure the ills stemming from shortfalls of saving and investment, compounded by the falling productivity of investment. In fact, because the boom in government current expenditures eroded public saving, it undermined the financial basis for productive publicly financed investments which might contribute to long-run growth.

In 1975, the recession hit hard. In the first half of the year, manufacturing employment fell by 10,000 workers; late in 1975, it was down a further 15,000 (to the level of FY 1968). The unemployment rate for the economy rose sharply, and exports slumped. Puerto Rico for the first time was feeling the full impact of a Mainland recession. Indeed, the entire southeastern United States suffered far more than in any other recession since World War II. The severe depression of Puerto Rico's construction industry is no different from that felt in the construction industry throughout the United States, and particularly in the southeast.

To this external burden on the economy, another has recently been added. The state and municipal bond market—on which Puerto Rico has relied so heavily in recent years—has been thrown into turmoil by the threat of a default by New York City. Puerto Rico is suffering—perhaps more than any other borrower—from the uncertainty in bond markets resulting from New York's fiscal problems.

Because these external blows to Puerto Rico's economy have had such serious impact, it is easy to lose sight of the long-standing and deep problems over which Puerto Rico does have significant control. It would be difficult to generate resources for investment even if the United States were not in a recession and even if the bond market were behaving as it did before 1974.

Sorting the cyclical from the secular components of Puerto Rico's economic situation in 1974 is not easy. Here, however, is our assessment of the principal differences between the 1974 Puerto Rico economy in fact and its longer-run trend:

(1) Real GNP was low due to once-and-for-all increases in crucial import prices and to declining real private investment.

(2) The investment decline in 1974 was partly due to temporary phenomena: excess inventories in housing and uncertainty associated with the international economic situation. But there were also more serious and permanent factors: labor-intensive industries have steadily been finding

* The year ending June 30, 1974. The reader is again reminded that all year references are to fiscal years unless otherwise noted.

Puerto Rico less attractive; the growth sectors of the early 1970s—particularly petrochemicals—were hit hard by the oil price rise.

(3) Net external capital inflows did not decline with the weakening of private investment, but more of them took the form of public borrowing.

(4) Public revenues were considerably below expected levels, largely because tax collections were unusually low for the prevailing income. Reductions in consumer purchases of durable goods were a major reason for the shortfall. Revenue shortfalls were primarily due to the unusual economic situation in 1974, and not to any weakness of the tax system.

Output was below historical trend, because private investment has been falling since 1971. Why was investment down? This is an important question, but a difficult one. We have discussed earlier the likelihood that Puerto Rico's international competitiveness has been declining. The increase of oil prices dealt a sharp blow to Puerto Rican competitiveness in petrochemicals, a leading sector in the late 1960's and early 1970's. The previous decline (10% in current prices) in private investment in 1973, before the oil boycott, is more disturbing and harder to explain. The U.S. economy was booming at that time, and the bulk of petrochemical investment was several years in the past. To put the matter differently, private investment in Puerto Rico never reflected the U.S. recovery of 1971-73. This is one strong reason to suspect that recent declines in private investment in Puerto Rico reflect in part attrition of the Island's competitive advantages.

The decline in physical investment was not matched by declines in external capital inflows. Although direct external investment was about $100 million below its trend values, other external capital inflows were roughly $100 million above trend values.* The fall in real investment is reflected in a sharp fall in the ratio of private fixed investment to direct external investment (see Figure VIII-1). This change reflects changes in bank portfolios rather than in the policies of external companies. Direct external financial investment is being channeled by the banks to the public sector rather than to private construction. Much of the "other" external capital flow over the past two years has also consisted of transfers within the banking system to provide finance for the public sector. Public borrowing has continued to attract external capital even though private investment has weakened.

The reasons for large public sector borrowing have been discussed above at length. Recall, however, that 1974 was not typical of the years since 1969. The sharp deceleration of revenue growth which is responsible for the level of borrowing in 1974 was largely a product of the world economic crisis. Puerto Rico's tax system is basically sound, but depends heavily on excise taxes on consumer durables. Sales of these commodities, particularly automobiles, fell in 1974 in a manner which could not have been foreseen. This is the largest single source of revenue shortfall. At 1974 levels of income, about $150 million in additional revenues could have been expected to have been raised.** Revenues were also depressed because income was somewhat below trend levels. If real investment had retained its momentum in 1973 real income would have been higher in 1974.

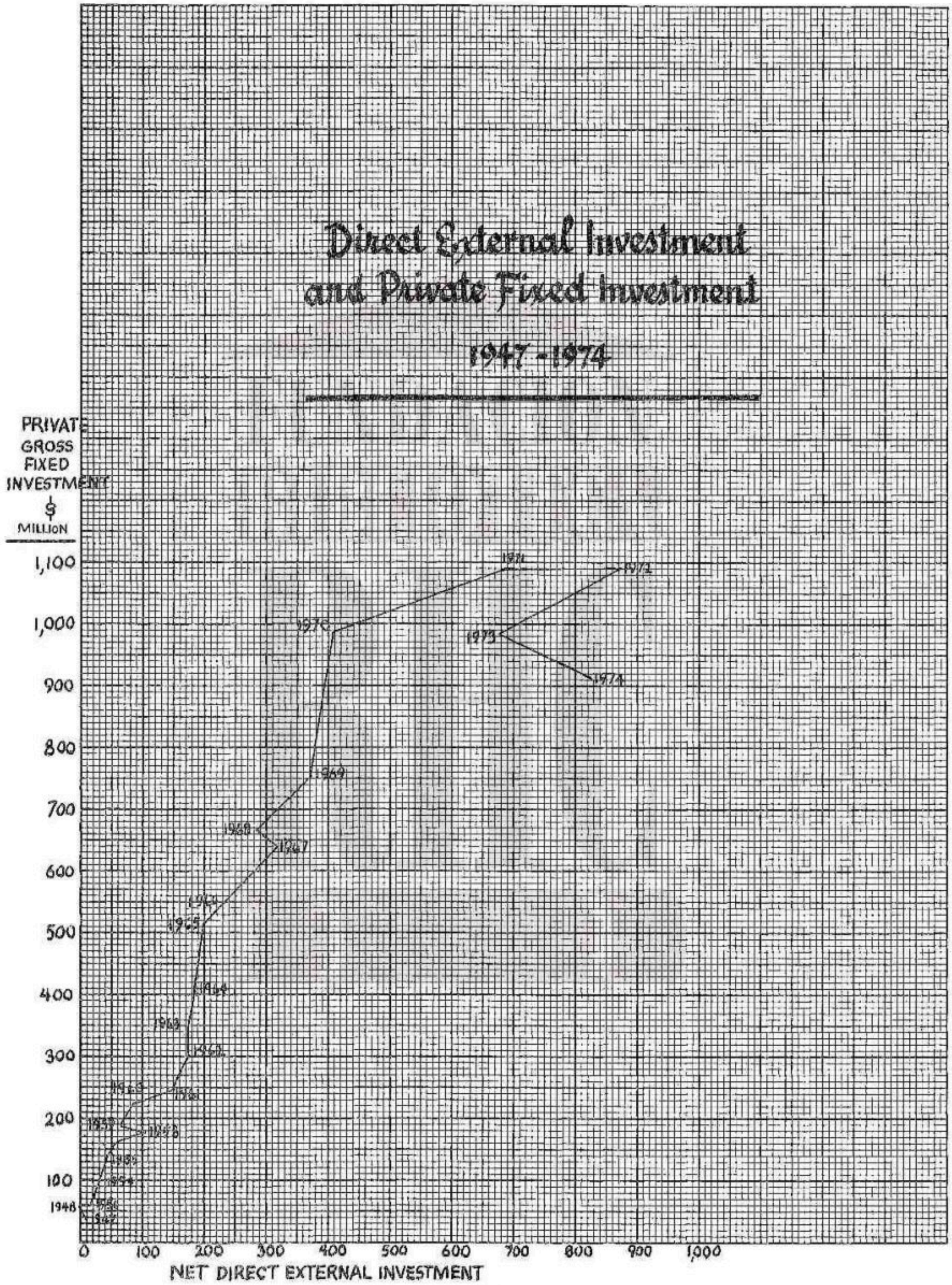
In our subsequent projections, we assume that revenues will increase by $200 million (in 1974 dollars) as a result of a return to long-run performance. This means, in concrete terms, that we expect economic recovery to lead to rapid growth of revenues as postponed purchases are made and incomes and profits recover. We also expect the newly enacted taxes to raise about $100 million (in 1974 dollars), an amount assumed to grow as rapidly as revenues over all. We feel these are optimistic assumptions.

B. *Projections of Recent Trends:* Table VIII-1 presents extrapolations to 1980 of recent trends (1967-74). The concepts behind the table are simple. Investment is necessary for growth. Investment must be paid for. Sources of finance include external resource inflows and the surplus of internal production over consumption. External and internal resources are projected in some detail. Rather than

* It should be noted that other external capital flows are extremely volatile. The trend is overshadowed by year to year variation. However, these flows definitely were very high in 1974.

** Based on the 1963-74 pattern, the revenue shortfall is $95 million. Based on the 1963-72 pattern, the shortfall is $185 million.

FIGURE VIII-1



## TABLE VIII-1

## NET SAVING-INVESTMENT PROJECTIONS: EXTRAPOLATION OF RECENT TRENDS TO 1980

| | | 1974 Value | 1974 Base(1) | Growth Rate(2) | 1980 Value |
|---|---|---|---|---|---|
| A. | External Resource Inflows | 2276 | 2276 | | 4769 |
| | 1. Direct Investment | 821 | 921 | 12.6% | 1877 |
| | 2. Gross Public Long Term Borrowing | 523 | 523 | 12.9% | 1083 |
| | 3. Repayments | 65 | 65 | 2.3% | 75 |
| | 4. Other Capital | 273 | 173 | 0 | 173 |
| | 5. Unilateral Transfers, Private Sector | 267 | 267 | 18.5% | 739 |
| | 6. Unilateral Transfers, Public Sector | 457 | 457 | 13.4% | 972 |
| B. | Internal Surplus | —891 | —591 | | —1760 |
| | 1. Private Internal Surplus | —332 | —332 | | —252 |
| | a. Undistributed Corporate Profits | 186 | 186 | 7.3% | 284 |
| | b. Personal Internal Surplus | —518 | —518 | | —536 |
| | (i) Internal Disposable Income | 5133 | 5133 | 6.8% | 7617 |
| | (ii) Private Consumption | 5651 | 5651 | 6.3% | 8153 |
| | 2. Public Internal Surplus | —559 | —259 | | —1508 |
| | a. Internal Revenues | 1483 | 1783 | 7.0% | 2676 |
| | b. Internal Expenditures | 2042 | 2042 | 12.7% | 4184 |
| C. | Total Net Resources for Investment | 1385 | 1685 | | 3009 |
| | 1. External Capital Finance(3) | 1552 | 1552 | | 3058 |
| | 2. Domestic Saving(3) | —167 | 133 | | —49 |
| D. | Gross Domestic Product | 7864 | 7864 | | 11,605 |
| E. | Incremental Capital-Output Ratio | 3.3 | 3.3 | | 3.9 |
| F. | Investment Requirements(4) | | 1967 | | 3032 |
| G. | Investment Shortfall(5) | | 282 | | 251 |

(1) The 1974 Base contains adjustments which bring actual 1974 figures to their "long-run" levels. The adjustments are the following:

(a) Direct Investment is raised by $100 million; Other Capital lowered by $100 million.

(b) Internal Public Revenues are increased by $300 million reflecting recovery and new taxes. (Optimistic assumption.)

(2) Growth rates are from 1967-74 trends, in all cases. The ICOR is extrapolated from a linear rather than an exponential trend.

(3) Saving is the "Internal Surplus" plus transfer payments.

(4) Investment requirements include $228 million per year for inventory investment.

(5) The gap is the shortfall in finance needed to achieve the GDP growth rate.

using the actual 1974 figures, so strongly influenced by transient events, we have used an "adjusted value" for 1974 as a base. Also, the public revenue base figure includes $100 million in revenue derived from 1975 tax legislation. Our assumptions concerning private capital flows are intentionally optimistic. We assume that direct investment was low for cyclical reasons and will recover, although it may be that this series was down in 1974 for more fundamental reasons.

Table VIII-1 also shows the investment required to reach the projected GDP growth rate (F). These requirements are simply the fixed investment needed for output growth (calculated using the projected incremental capital-output ratio) plus investment needed for net inventory accumulation.*

All the projections are in 1974 dollars (growth rates are in real terms). The projections of Table VIII-1 suggest that a short fall in finance for investment of $282 million in 1974 will be only slightly changed to $251 million in 1980. Relative to GDP the financial gap shrinks. Nevertheless it remains substantial and contains very disturbing implications:

(1) Because public borrowing is projected to continue at the rapid pace of recent years, the public external debt mounts rapidly. It climbs from about 50% of GNP to over 75% of GNP by 1980.

(2) The projection implies little improvement in the private internal surplus and a continued rapid deterioration of the public internal surplus.

In these respects, the current financial problems of the Puerto Rican economy are seriously intensified. A path with these implications cannot in fact be sustained. Borrowing by the public sector has grown at almost 13% per year in real terms, about four times as rapidly as the growth in all tax-exempt state and municipal securities. This obviously will not continue. Transfer payments from the Federal government to the public sector will also grow more slowly in the future than in the past. (Transfer payments to the private sector should grow more rapidly for a while, thanks to food stamps, but these seem unlikely to generate much saving.)

C. *Projections Reflecting Limitations of External Debt Financing.* What are the implications of revising the extrapolative projections to reflect realistic trends in external finance and to incorporate other prospective features of the economy? Here are the modifications:

(1) We assumed that gross external public long-term borrowing would decline to $300 million immediately and stay constant in real terms for three years, thereafter growing in real value at 3% per year. (A year ago this would have seemed much more pessimistic than it does today.) The 3% real growth rate is that of the U.S. municipal bond market over the past decade. We also assumed that for the next four years there would be a net retirement of public short-term debt at the rate of $80 million per year. We assumed that unilateral transfers to the public sector would grow at 10% per year rather than 13.4%. We assumed that external direct private investment would increase by $100 million once and for all and thereafter continue its long-run trend, growing at 12.6% per year.

(2) We estimated a business saving relationship and a consumption function, which permits us to estimate the internal private surplus.

(3) We estimated the returns to external capital inflows into Puerto Rico. This permits us to predict not only GDP (output in Puerto Rico) but GNP (income in Puerto Rico) resulting from any mixture of internal and external financing.

(4) We estimated the relationship between the growth of public sector revenues and the growth of GNP (the elasticity of revenues).

(5) We assumed that the incremental capital-output ratio would stabilize at its current level of 3.3 (for the next ten years). We assumed that this will happen because the productivity of

* These estimates are very sensitive to the value of the incremental capital-output ratio. The productivity of investment is very important.

public investment will be increased and the trend towards greater capital intensity in private investment will be retarded.

With these modifications, we can make projections of the effect on the average GNP growth rate Puerto Rico might expect over the next decade of various assumed changes in public spending and taxation policy. It must be emphasized, however, that this projection system is a rough one. We have included nothing more than crude forecasts of certain key variables, especially public-sector transfers to Puerto Rico, external direct private investment, and the incremental capital-output ratio. These are, in fact, not exogenous variables but are very responsive to public policy choices. We do not suggest the neglect of these choices, but the projections below do not focus on them, but rather on the direct impact of various fiscal choices. The purpose of this model is to delineate the hard policy choices ahead, and to suggest their effects on the economy; it is not intended to provide quantitatively accurate forecasts.

Here are the broad conclusions of this exercise: even with our rather optimistic assumptions about trends, GDP and GNP will grow considerably more slowly in the future than in the past unless the public sector provides substantial investment resources. While GNP grew at 6.0% per year from 1947 to 1974 (and 5.6% from 1967 to 1974), it will take very strict fiscal control to generate a growth rate as high as 5% over the next ten years (even assuming prompt recovery from the cyclical decline). If the incremental capital-output ratio continues to rise, or if unilateral transfers to the public sector fail to grow as projected, or if external borrowing proceeds more slowly than we assume, the growth rate will be lower, perhaps considerably lower. If the incremental capital-output ratio continues to rise as in the recent past, for example, GNP would grow at less than 3%.

There are three principal reasons why these projections generate such unpromising forecasts, despite relatively optimistic assumptions about external private capital inflows and public revenues. First, is the expected constraint on Puerto Rico's borrowing opportunities. We doubt that Puerto Rico will find it advisable to try to increase its share of total bonds outstanding. Moreover, the rapid growth of short-term debt is being abruptly and sharply reversed. Second, the public sector has developed such large financial requirements, so rapidly, that it will be several years before the sector can contribute a significant amount of saving to Puerto Rico's development effort. Third, investment requirements have been moving up steadily for fifteen years. The net effect has been to require very high current investment rates to achieve historical growth rates. It is not easy to achieve such high investment rates. Even under optimistic assumptions, the road back to rapid growth is a rough one. Because personal saving behavior in Puerto Rico is weak, great responsibility is placed on the public sector to generate resources for growth and to channel them effectively.

D. *Public Finance and Future Growth*: We now look in greater detail at the policy options available to the public sector. Because GNP growth will be slow, revenue growth will be slow as well. Since borrowing opportunities will be much more limited in the future than in the past, internal sources must carry a greater load in financing public investment. Thus current expenditures will have to grow even more slowly than public revenue in order to reestablish public saving.

These conclusions need some qualification. First, it bears repeating that accounting definitions of "consumption" and "investment" do not accurately segregate spending with short-lived returns from spending with longer-lived returns. It would certainly be foolish to judge the effectiveness of government spending policy by looking merely at aggregates. No one would consider a policy to be effectively growth-oriented if, for example, it eliminated current expenditures on technical education in order to build more highways. If expenditures are not productive, no manipulation of aggregates can generate satisfactory growth performance. On the other hand, even productive and meritorious expenditure programs must fit into aggregate financial constraints. That is why we estimate the future behavior of the aggregates and the constraints.

In the recent past, the constraints on aggregate public spending were not immediate because the Mainland market was glad to absorb Puerto Rican bonds. Now that the limits of the market are in sight, a dollar spent on public consumption will clearly be a dollar not available for public investment. What is more, the borrowing constraint itself will depend on the internal surplus, as an indication of Puerto Rico's ability to service debt. Thus a dollar saved will be not only a dollar invested. It will also either enlarge the external debt market or diminish the costs of borrowing.

Figure VIII-2 shows the way in which the average GNP growth rate over the next ten years responds to various combinations of taxing and public current spending policy. Each of the three downward-sloping lines in Figure VIII-2 corresponds to a particular set of assumptions about public borrowing and tax policy; again, various external inflows and the capital-output ratio are treated as exogenous, so as to point up the direct impact of these fiscal variables on the Puerto Rican economy. The downward slope of all the lines indicates that the faster the growth of government current expenditures, the slower will be the trend growth of GNP. The reason is simply that the share of GNP devoted to public and private investment will be smaller, other things unchanged, when limited tax revenues and borrowing opportunities are used for public consumption. The figure reflects the five general assumptions, including limits on public borrowing, set forth above in section B. In addition, it incorporates the following assumptions:

(a) Revenues will recover over four years from their depressed 1974 values.* Our central estimate for the total recovery is $300 million. (line BB) This includes the effect of the new taxes passed in 1975. We have also indicated the effect of a recovery of only $100 million (line AA) and a recovery of $500 million (CC) for comparative purposes. Any additional new taxes, passed early in the period would increase achievable growth rates by about ⅓ of a percentage point for every $100 million of taxes. (Note vertical differences of AA, BB, and CC.) We assume that revenue gains from recovery and new taxes are added onto the revenue growth which naturally accompanies income growth.

(b) Public current expenditures are assumed to grow for three years at the rate indicated on the horizontal axis of Figure VIII-2. Thereafter, current expenditures are expected to grow at the same rate as GNP. Since revenues grow faster than GNP, this implies continuing increases in public saving even after initial austerity budgets are relaxed.

(c) We estimate that a wage freeze would correspond to a real rate of decline of public spending of about 4% per year. The precise value depends on the rate of inflation and on labor costs increases due to advancement within the existing wage structure, as well as on the future mix of labor and non-labor purchases.

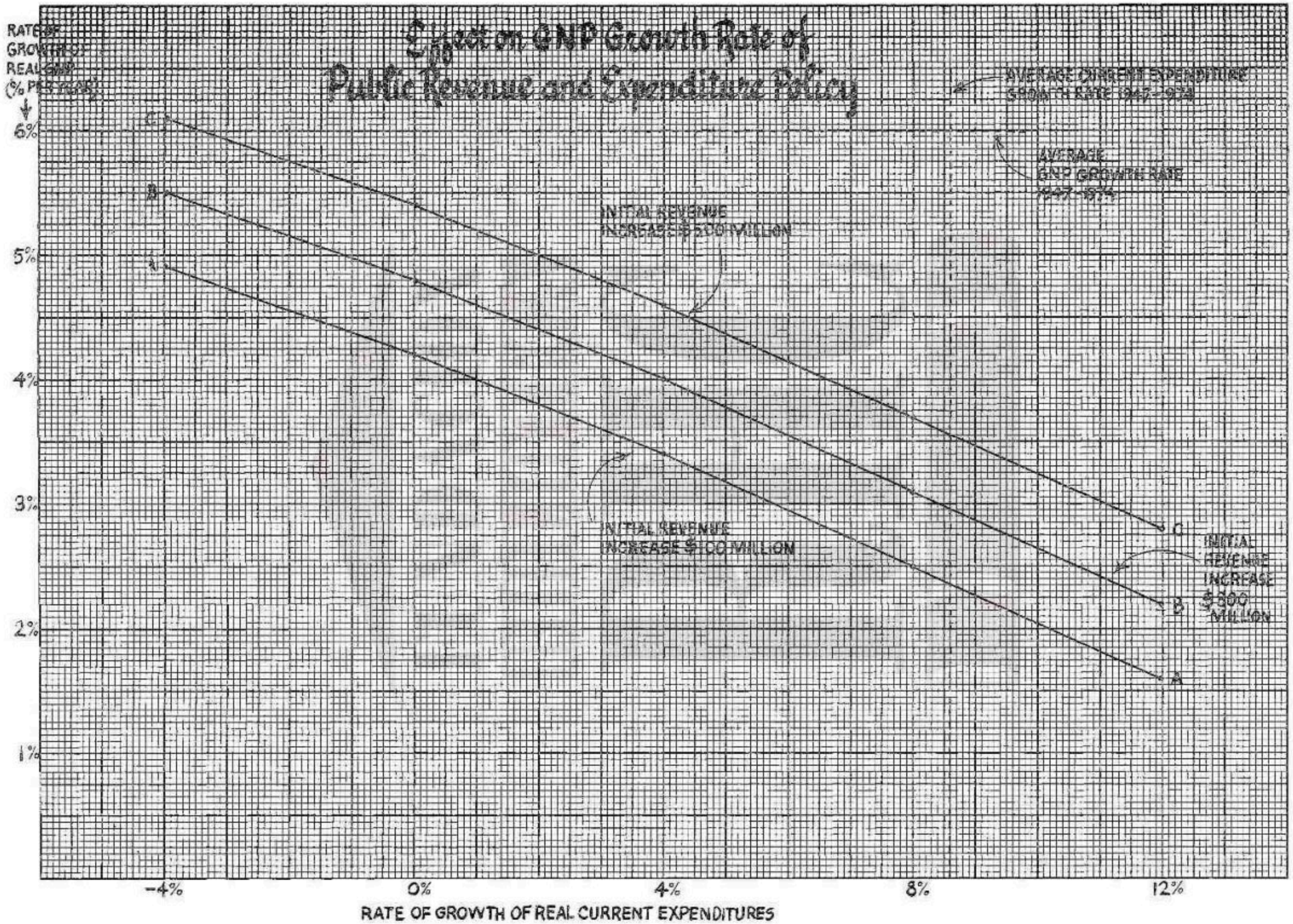
As can be seen in Figure VIII-2, even a three year wage freeze and long run austerity will barely be enough to return the economy to its growth rate since 1967, to say nothing of the long run growth rate. If current expenditures were to grow at the long run rate of about 8.6%, on the other hand, growth would be only about 3% per year. Even with major new taxes—raising an additional $200 million over the next four years—expenditure growth of more than zero percent in real terms would reduce GNP growth substantially below its long run levels.

All these projections are made on the assumption that external public long-term borrowing will start at a level of $300 million and grow at 3% per year in real terms. If borrowing is greater or less, the effect over ten years would be similar to increases in tax revenues. (The external debt grows more slowly and must be serviced, but we assume low real interest rates. The principal repayments on new debt are not important for our time horizon, though they clearly are important to long run policy decisions).

We should note again that many important variables are treated throughout these projections as relentlessly following exogenous growth paths. Accordingly, these resulting projections probably do not

* The further economic decline since 1974 has not been incorporated in the base for our projections because the data were not available. When recovery occurs, it will be from a lower trough and should be more rapid relative to that trough. All our long-run figures are projected from the base for 1974.

FIGURE VIII-2



reflect the full benefits of growth-oriented fiscal policy nor the full costs of avoiding strict austerity. It is likely that the cost of external borrowing and the rate of inflow of external resources will react favorably to disciplined public policy and unfavorably to a policy which aims at maintaining current spending patterns. Thus, ironically, the more Puerto Rico depends on external resources, the more these resources are likely to cost, both economically and politically.

Even these limited projections make clear to us that highest priority must be given to increasing public saving and to channeling it into productive investment in the next several years. Even the pre-1969 levels and growth rates of public saving are not enough. Before 1969 public borrowing was already growing faster than the Mainland bond market. Public spending and taxes must be controlled very carefully not only now, during the recession, but also after the economy begins to recover. Public spending cannot be allowed to resume pre-recession growth patterns of 8% to 9% per year. Growth in current expenditures must be held *below* the rate of inflation for the next three years, and must not be permitted to exceed the growth of GNP for at least another three years thereafter. It is to this end that we recommend a wage scale freeze.

Puerto Rico today cannot simply return to the pattern of the 1960s. Too many things have changed since then. The relative prices of transport and energy have risen permanently, to Puerto Rico's detriment. Puerto Rican debt is now too big for its borrowing to grow even at pre-1969 rates. At the same time, investment requirements have been rising. If Puerto Rico is to approach its earlier rates of growth, a new pattern must be established in which internal resources play a much more important role. The public sector must lead the way not only because of its general responsibility for leadership, but because the public sector is now in a deep fiscal hole. Public finance policy of 1975 and 1976 indicate that the government is prepared to take the necessary difficult steps.

The benefits of such policies will be larger than simply the income and jobs they will generate in the longer run, though these are very important. Through these policies, Puerto Rico will be playing a much greater role in determining its own economic destiny.

### IX. The Financial System and Monetary Policy

Puerto Rico benefits greatly from its position within the common financial and monetary system of the United States. Its ability to tap Mainland credit markets has been important for the Commonwealth's growth and development. The absence of foreign exchange risk and the guaranteed right to transfer funds freely have made Puerto Rico much more attractive to Mainland investors than other overseas economies.

At the same time, membership in the U. S. financial system has limited Puerto Rico's freedom of action. The mobility of funds makes an independent monetary policy impossible. Without a national currency of its own, the Puerto Rican government cannot monetize its debt, but must borrow in the market at competitive rates.

The benefits gained from this situation far exceed the costs. Indeed it is important to avoid arousing fears that barriers to the free flow of funds may be erected, as those might cause an enormous setback to Puerto Rico's development strategy.

A. *The Commercial Banks and the Prospects for an Independent Monetary Policy.* The major banking institutions in Puerto Rico are closely integrated with their counterparts in the financial centers on the Mainland. This is obvious in the case of the two New York banks, but is equally true for the larger Puerto Rican banks as well. Funds move freely between Puerto Rico and the Mainland, seeking the highest return, and these movements tend to mitigate—and often completely eliminate—any interest rate differentials that might arise. The branches of the New York banks have access to the money market through their head offices, of course, and the Puerto Rican banks can accomplish the same thing through their Mainland correspondents. If loans of a given type, security, term, and risk, begin to earn a higher interest rate in Puerto Rico, then funds will move from the Mainland to take advantage of it. And if the rate is higher on the Mainland than San Juan, there will be an outflow of funds from Puerto Rico.

These flows play a critical role. Consider, as a simple example, the appearance of a new investment project in Puerto Rico—one that promises to be profitable, is credit-worthy, and requires a bank loan to finance imports. The dollars flow from a Mainland bank to a bank in San Juan, to its borrower and then back to the Mainland, to pay for imports. This is what is meant, par excellence, by a "regional" monetary system. Money flows freely in response to profit opportunities, and the Island's interest rates are determined by the Mainland economy and Federal economic policies. Outside determination of important economic variables is the price paid for the availability of the immense credit resources of the Mainland.

It is understandable that Puerto Ricans would like lower interest rates. But lower interest rates do not create additional investment unless the funds to purchase the needed resources can be raised from local saving or external borrowing.

It might be possible for Puerto Rico to gain more financial autonomy by controlling directly the flows of Mainland-Island bank funds. But to do so, even marginally, would completely violate the principle of the common currency. By direct control of financial transfers, Puerto Rico would forego the advantages it enjoys, and the attractions it offers to Mainland investors, of complete absence of risk of devaluation or inconvertibilty.

Puerto Rico is a large net importer of capital. The net inflow is considerably larger than the earnings of external firms. (In 1974 the capital inflow was a billion and a half dollars while the net factor income outflow was a billion dollars.) The attraction to the external investor is that he transfer profit whenever and wherever he sees fit.

Should holdings of Mainland or foreign assets by Puerto Rican individuals, banks, or government instrumentalities be restricted? In the highly developed financial market in which Puerto Rico participates, such holdings do not diminish the credit available to Puerto Rican borrowers. Those borrowers essentially have the whole U. S. market at their disposal, provided they can and will pay competitive interest rates. Should, as an example, some Puerto Rican residents shift funds to Federal bonds from Puerto Rican bonds, there will normally be Mainland buyers for the Puerto Rican bonds at prevailing prices.

There are policies which might have a temporary impact on the internal interest rates and capital inflows. The Secretary of the Treasury of Puerto Rico sets reserve requirements on bank liabilities in Puerto Rico. He could reduce the requirements when U. S. interest rates are high. The effective interest yield to the banks can thus be raised, inducing capital inflows until Puerto Rican and Mainland rates are again equal. But the variety of financial instruments that can be used to meet the requirement is very broad; banks can buy at will the reserve assets they need. For this reason, the requirement is virtually never a constraint on bank expansion, and thus liberalizing it will not lead banks to expand. The device could at best have only a minimal effect on the flow of funds.

The general *level* of interest rates in Puerto Rico is determined on the Mainland, but Puerto Rico can *alter* the structure of rates which various Island borrowers pay and the allocation of loans among them. This possibility has been realized in differential reserve requirement ratios or selective Government Development Bank rediscounting. A more straightforward and effective technique would be direct lending by the Government Development Bank wherever the Government feels that the Mainland-Island "market" fixes too high an interest rate and/or makes too few loans to a particular sector or for a particular purpose.

These policies, however, affect the structure of Island credit, not the volume. They are not tools which can be used for counter-cyclical stabilization. As should be clear from the discussion thus far, the scope for an independent Puerto Rican monetary policy is exceedingly limited.

B. *The Funds Accumulated by the "931" Corporations.** Perhaps as much as $2 billion of the assets of "931" corporations in Puerto Rico are in the form of liquid financial investments. While some of this

* Under section 931, income of U.S. corporations derived from sources within certain U.S. possessions (including Puerto Rico) is not subject to Federal income tax if 80% or more of the corporation's gross income is derived from sources within the possession and 50% or more is derived from the active conduct of a trade or business within the possession.

has been invested in a variety of Puerto Rican financial instruments, a large fraction has flowed overseas (to Guam, Europe, Canada, and elsewhere).

Banks in Puerto Rico have recently been enabled to create a special tax-exempt certificate of deposit for 931 corporations, on the condition that the funds thus obtained be put to use in a particular manner. One result of this action is to reduce the effective cost of funds for the banks, but the constraint on the use of the funds may lower the return to be earned as well. Otherwise, if the constraint is not actually binding, the new funds mainly serve to replace those now obtained from the Mainland, providing no net benefit to Puerto Rico.

The benefits to be gained by bringing these funds back to Puerto Rico will be minimal. As described in the previous section, the integration of the Puerto Rican and Mainland banking systems assures that there is no real shortage of credit on the Island. The 931 dollars are like other dollars; if they flow in to Puerto Rico in response to tax exemption they will flow out again in response to rising interest rates elsewhere. And the characteristics of the banking system which enable it to absorb an inflow of such major proportions without disruption will enable it to handle any outflow just as easily.

Instead of attempting to attract the financial assets of 931 corporations, the major effort should be devoted to the encouragement of their direct reinvestment in productive facilities and employment opportunities by the 931 company itself. More precise recommendations on this subject are made elsewhere in this report.

C. *The Local Capital Market.* Little information is available on the exact size and extent of the local market for equity in Puerto Rican firms. It appears to be quite small, however, both in terms of the amount of funds raised in the market and of the numbers of firms and individuals regularly trading there. This fact has been attributed to several causes, including a desire for secrecy on the part of the entrepreneur, a desire for control on the part of the investor, and a series of well-publicized stock issues that have turned sour in the past. Other limitations on the growth of this market are the low saving rate discussed earlier, and the ready access to the Mainland market for those savers who do wish to purchase equities.

In light of all these factors it appears unlikely that a dramatic expansion of this market is to be expected, or could be fostered by any governmental action. Nevertheless this market has some potential for growth, and the government should encourage it. In the long run the equity market will presumably become a significant source of funds for commercial and industrial expansion, and preliminary steps should be taken now to insure the existence of a healthy market as the need for it increases.

The first step is to locate and identify those closely held Puerto Rican firms that could profitably expand if additional equity funds were available. The government should seek the advice and assistance of banks, securities dealers, and other elements of the financial community in conducting this survey.

Once the information gathered in this way has been analyzed, a program should be launched to encourage and induce entrepreneurs to expand by means of equity capital publicly raised. There are several ways in which the entrepreneurs' reluctance might be overcome. The commonly used method of tax incentives is less feasible in Puerto Rico than elsewhere because in many cases the firm will already be tax-exempt. Another method, employed with some success in Korea, is the negative approach. In this case a government agency designates companies that meet its standards for public share ownership and a penalty tax is imposed if the company fails to go public within a reasonable period of time. The economic and political risks of error in designating such companies on the basis of limited information are high, and this approach does not seem appropriate at this time. A third approach, and the one we recommend, is a program of education to encourage the well-managed privately held firm to seek public equity funds for expansion. These educational services would be generally available, but should be directed primarily toward the firms already identified as suitable candidates for such expansion. In the long run this program will have spillover effects, as the success of some firms in their expansion will encourage others to take advantage of this method of expansion.

In order to insure that this program is undertaken effectively, a small agency should be set up in the government (perhaps in the Government Development Bank). This unit would have several functions: (a) it would survey privately held firms to determine those that would benefit from the ability to obtain funds from a public market, (b) it would develop an educational program to explain the advantages of expansion by these means, and (c) it would work with Pridco, Fomento, the Government Development Bank, and other agencies that deal with Puerto Rican entrepreneurs in order to gain these agencies' cooperation in the educational program.

If this program is to be fully successful, investment banking intermediation is essential. Two avenues may be followed: (a) a government agency could serve this purpose, providing the initial financing, and then selling out its position to the public as the opportunity arises, and (b) a government agency could provide encouragement and (where necessary) financing for private securities firms to enable them to serve as underwriters and to make markets in the securities underwritten. We recommend that consideration be given to both of these approaches.

The above recommendations are directed strictly to the supply of new security issues. With respect to the demand for these securities on the part of the public, there is evidence that demand is adequate to support a gradual increase in the supply of securities of well-managed financially sound companies with potential for growth. In order to nurture this source of funds, great care must be exercised in the selection of companies for financing.

As an increasing number of firms come to the equity market for financing, the secondary market will also expand. The new agency described above should be alert to developments in this market, and should respond to them. For example, it may find it desirable from time to time to recommend government financial assistance to small brokers. It may also see the need for regulatory supervision outside the S.E.C., in order to prevent abuses that might develop. Such study and formulation of recommendations for legislation or direct action would be part of the continuing activity of the agency.

D. *The Government Development Bank.* The Government Development Bank was created in 1942 "to aid the Commonwealth Government in the performance of its fiscal duties and more effectively to carry out its governmental responsibility to develop the economy of Puerto Rico, particularly with respect to its industrialization." The thrust of its powers was that it was to play four basic roles, as development bank, as central bank, as fiscal agent to the Government, and as the Government's bank in the sense of depository and manager of the liquid funds of the Government. The Bank does not and cannot—as we explain elsewhere in this report—play much of a role as a central bank. And in fact, the Bank has not played much of a role as a development bank. The reason is that, despite its rapid growth, the GDB has never uncovered the base of secure, long-term and low-cost funds that a development bank needs. Instead, the Bank has become increasingly reliant on the funds it acquires as the Government's money-manager; but these are volatile, short-term and high-cost. As a result, the Bank has found itself trying to be, in essence, a money-manager on the liability side of its balance sheet and a development banker on the asset side.

It is not just the inappropriate structure of its liabilities that has prevented the GDB from becoming a true development bank. The Bank has also (1) received no clear guidance from the Government of Puerto Rico about economic and social priorities, (2) been under pressure, increasingly in recent years, to provide extra-legislative funds to various deficit instrumentalities of the Government, and (3) lacked the Government financial support necessary to give it flexibility with respect to its interest rates and rate of growth.

All of these problems must be overcome if the GDB is to become a development bank. The GDB cannot fill the investment "gaps" until economic and social priorities are specified. The second problem will be corrected automatically once the government regains control of its budget.

The third problem has two aspects. To be a significant force, the GDB must have securely growing funds and be able to lose money on some of its operations. The former can be achieved through the

Commonwealth budget or through the municipal bond market. The latter requires that the GDB's subsidized lending be in turn subsidized from the Commonwealth budget.

There are several advantages in using the Bank as the principal agency for subsidized business financing. The Bank has long experience in making private long-term loans. The Bank should be able efficiently to expand these operations once it is subsidized. The Bank is one step removed from politics. The flexibility the Bank can provide makes it unnecessary to specify all the details and criteria in legislation.

## X. Economic Dependence

The word, "dependence" is often used, and vaguely used, in reference to the relationship of the poor countries of the world to an economic system dominated by rich countries. And the word is not uncommon in discussion of the Puerto Rican economy within that of the United States. Writings for the popular press, for the Ad Hoc Status Committee, or for academic discussion are frequently concerned with the desire to minimize Puerto Rico's "dependence" on the United States.

We wish to avoid the ideological issues of the debate; and we certainly do not feel qualified to comment on social, psychological, and cultural aspects of "dependence." But we do have some things to say about the strictly economic aspects of Puerto Rico's "dependence."

There are several ways to approach the problem of dependence. Puerto Rico is dependent on trade with the United States; it is dependent on financial flows from the U.S.; and it is dependent on the economic policies of Washington for the cyclical behavior of its economy. We will consider each of these points below.

A. *Capital, Trade, and Dependence*. The thrust of our argument draws on the preceding sections. Puerto Rico has chosen a development strategy that places heavy reliance on Mainland resources. To some extent, it would have been difficult to prevent their entry, given that economic union which the two nations maintain with one another provides for free trade and free movement of labor and capital. But Island policy has gone further in two important respects: (1) tax exemption and other subsidies to attract Mainland industry, and (2) dependence on imports of capital from the Mainland rather than internal public or private saving. The result is substantial external ownership of the Island's assets.

From Puerto Rico's annual macroeconomic accounts since 1947, it is possible to construct a balance sheet showing Puerto Rico's tangible, reproducible assets and its liabilities.* A *full* balance sheet would include tangible assets, especially educational and labor-skill capital, and non-reproducible capital, mainly land. But these are much more difficult to estimate, and we have not tried. Of course, we do include Puerto Rico's external financial assets and liabilities.

As Table X-1 shows, the total of tangible, reproducible assets of Puerto Rico (plus its external financial assets) amounts to $22 billion, more than three times the GNP. But more than half these assets are offset by external liabilities. Thus, of the tangible, reproducible capital stock that has been built up in the Island over the past quarter century, Puerto Rican residents own less than half. It is in this sense, more than any other, that the word "dependence" seems appropriate.

This is not, however, the sense in which many people use the term. In popular parlance, dependence has often come to mean a high ratio of imports and/or exports to total production or income. This is a dangerous definition, for it confuses dependence with interdependence. Puerto Rican importers (or exporters) are dependent on Mainland supplies (or markets); Mainland importers (or exporters) are dependent on Island supplies (or markets). This is mutual dependence, and there is much evidence in history and economic theory that it is mutually advantageous to the participants. Moreover, it

* Assumptions about stock magnitudes in 1947 and about rates of depreciation are of course needed.

is especially advantageous to small economies which do not contain the diversity of resources that permit them to be well-off and self-sufficient at the same time.

### TABLE X-1

### PUERTO RICO BALANCE SHEET OF TANGIBLE, REPRODUCIBLE ASSETS AND LIABILITIES

(30 June 1974; 1974 prices)

| ASSETS | | LIABILITIES | |
|---|---|---|---|
| Housing | 5.1 | External Debt | |
| Plant and Equipment | 8.0 | of Commonwealth Government | 1.0 |
| | | of Public Corporations | 2.6 |
| Public Works | 2.2 | of Banks (net) | 0.3 |
| Inventories | 2.9 | on Mortgages | 1.7 |
| | | Other | 0.6 |
| Consumer Durable Goods | 2.9 | Equity of External Direct Investors | 6.1 |
| External Financial Investments (other than of banks) | 0.9 | Net Worth of Puerto Ricans (excluding land and human capital) | 9.7 |
| TOTAL | 22.0 | TOTAL | 22.0 |

The cure for dependence is less reliance on borrowed, repayable Mainland resources. Or, to put it differently, it is a smaller trade deficit; less imports at each level of exports. It is not less trade. It is possible that the tax-exemption policies of the Island have contained an excessive export bias, and that some substitution of Island production for imports is appropriate in certain goods. But these would be marginal adjustments. Import-substitution policies, it must be remembered, require either direct or indirect subsidies, and Puerto Rico is in a very weak position to institute new drains on its public budget. Puerto Rico will be able to increase internal influence over its economic development when it reduces its dependence on external capital. We doubt that economic growth can be significantly fostered, or dependence significantly reduced, by new trade policies.

B. *Scope for Counter-Cyclical Policy.* Like most small advanced economies, Puerto Rico is particularly open and vulnerable to external economic forces. Economic union with the United States makes the vulnerability of Puerto Rico particularly evident. Many of the instruments of policy existing in other economies are absent here: there is no exchange rate to be varied, no currency to be issued, no tariff level to be changed. Since Puerto Rico is a Commonwealth—and has chosen not to integrate itself totally into the United States—many Puerto Ricans miss these instruments which they view as tools for greater economic self-reliance.

Although we sympathize with the desire for greater economic self-determination, we find the emphasis on policy instruments misplaced. Countries such as Canada and the Netherlands, which are far larger than Puerto Rico, find it extremely difficult to pursue independent counter-cyclical policies. Economic interdependence is a feature not only of regional economies but of national economies highly integrated into the international economy. Nor are smaller peripheral economies well sheltered from international economic fluctuations.

Within the existing constraints Puerto Rico can undertake some counter-cyclical measures. In all candor, however, we must state at the outset that the scope for counter-cyclical policy is very limited. The limitations are inherent in the small size and advanced level of the Puerto Rican economy; they are not primarily due to an absence of policy instruments.

As is evident in our discussion of the Puerto Rican financial system (Section IX), we see essentially no scope for counter-cyclical monetary policy. Free mobility of capital precludes it, for all practical purposes; free mobility of capital is a necessary condition for capital to flow into Puerto Rico; and, of course, Puerto Rico is now heavily dependent on these inflows. We believe, however, that there is some scope for counter-cyclical fiscal policy—i.e. counter-cyclical variations in taxes, expenditures, and borrowing.

Before turning to a discussion of fiscal policy for Puerto Rico, we briefly examine the cyclical problems which the Island has faced in the past and is now facing.

C. *Past Recessions.* The real problem with analyzing past Puerto Rican recessions and the impact on the Island of past Mainland recessions is finding evidence on which to base the analysis. The most appropriate counterpart of the current U.S. recession would be the 1930s, but economically Puerto Rico was not the same Island it is today.

The U.S. recessions of the 1950s and 1960s are more relevant but tell us little. They were brief and caused almost no detectable adverse movements in the available economic series for Puerto Rico. The explanation seems to be twofold: (1) there was a strong underlying upward growth trend in Puerto Rico in the 1950s, and (2) the principal Puerto Rican exports to the Mainland were fairly income-inelastic.

It is altogether too early to draw conclusions from the current recession. Nevertheless, some speculations are in order. First, we do *not* believe that the depth of the current Mainland recession is a phenomenon which can be expected to recur regularly. Second, the dramatic restructuring of world food and oil prices are as important an external cause of Puerto Rico's present difficulties as the Mainland recession. And finally, as we have pointed out, Puerto Rico was already undergoing serious secular problems in the early 1970s, and it may turn out that the Mainland recession is less to blame than it now appears for Puerto Rico's current economic problems.

The fact that little can be said at this time about the Puerto Rican recession is itself significant. Many important economic series on the Island are available only on an annual basis. Many of the series are available only after a sizeable time lag, and then they may be revised fundamentally, years later. The econometric work needed to relate the various series to each other and to the exogenous Mainland data, has barely begun. Thus, the issues we discuss below, of the possibility of Puerto Rican counter-cyclical policy, are largely academic. The recognition lag of Island recessions is, except in the sense of informed instinct, still far too long for effective policy reaction. And estimates of the quantitative magnitude of needed policy reactions are totally unavailable. Until much more is known along these lines, active short-run stabilization policy cannot realistically be considered.

D. *Fiscal Policy.* Puerto Rico is a small economy which needs to export a large fraction of its output and import a large fraction of its consumption and investment goods. This fact is critical to any discussion of fiscal policy. Should the Commonwealth government spend a dollar in an effort to stimulate the Island economy, a large fraction of that dollar is likely immediately to leave the Island to pay for imports. That fraction of the dollar may stimulate the Mainland economy, but no more than a later, infinitesimal impact on Puerto Rico can ever be felt.

The Commonwealth government can increase income to Puerto Ricans by choosing to spend its dollar in such a way that fewer imports are involved. Since Puerto Rico imports many of its raw materials and capital goods, this means finding labor-intensive projects—usually called "public works" or "leaf-raking", depending on one's political ideology.

No matter what kind of project the government chooses to spend its money on, it has very limited control over the recipients' spending. The initial expenditure may create a local job and local income. But that new income will be spent to a large extent on imports. And each subsequent link in the "multiplier" chain of income and consumption will involve a further significant "leakage" into imports. Such imports create no further Island income and hence reduce the magnitude of the ultimate total impact of any initial government expenditure. The government could, over a long period, arrange to produce on the Island some of what is currently imported. Such import-substitution might have the effect of increasing the multiplier; any advantage is seriously imperiled by the loss of efficiency which artificially imposed domestic production risks.

Finally there is the question of where the government gets the dollar it initially spends. It could raise taxes, but that would offset much of the stimulus it seeks to achieve. Some increase in tax revenues will occur automatically as a result of the income and consumption generated by the dollar of government expenditure. But most of the dollar will have to be borrowed. If there were a significant private propensity to save, the government could borrow locally. But in fact the government will have to borrow externally. Thus, to be able to exercise fiscal policy, the Commonwealth must maintain a borrowing "reserve" or "margin."

The use of such policy requires public *discipline*. The debt margin must not be squandered when unemployment is "only" 10%, and it must be restored once unemployment rates have returned to 10%. This in itself is not easy. But the problem of discipline is compounded by changes in bond market conditions which alter the demand for Puerto Rican debt. When the Mainland and Puerto Rico are both booming, the amount of debt the Island can incur will be rising. But when Puerto Rico needs to tap its borrowing reserve, the amount of debt that can be marketed without high cost in interest rates or loss of credit rating may be contracting.

These shifts in debt marketability suggests another warning. With secularly high unemployment rates, it is difficult for Puerto Rican governments to resist the temptation to conduct employment-stimulating fiscal policy whenever money is available—either through high tax revenues or through external borrowing. The resulting fiscal policy is pro-cyclical, expansionary in times of relatively low unemployment and contractionary in recessions. It takes political restraint to avoid pro-cyclical, fiscal policy, even more to conduct counter-cyclical policy.

To summarize:

1. Puerto Rico does have scope for fiscal policy. The government can increase its expenditures and/or reduce its taxes, and there will be some employment and output response. The overall impact, even after the multiplier process has worked itself through, is limited by the Island's high marginal propensity to import.

2. The more labor-intensive the government expenditure, the larger will be the impact on employment. However, if these projects are wasteful, or hastily prepared, then any improved employment situation now will be at the expense of sustained growth in output and employment later.

3. Increased government deficits mean increased Mainland and public borrowing. This will be possible only if the government has previously refrained from borrowing to the limit of the state and municipal bond market or is prepared to incur great debt-servicing costs. In either case, the increased employment is at the cost of reduced government investment, earlier or later.

4. Even the modest counter-cyclical fiscal effort which seems possible cannot be effective unless the government achieves a greater ability to predict the onset of a Puerto Rican slump.

## XI. Policy and Policy-Making for the Long Run

Because so many important macroeconomic variables are so dependent in the short run on external forces transmitted from the Mainland, there is little that Puerto Rican economic policy can do to mute their influence. But the lack of short-run policy instruments does not necessarily imply absence of control over the long-run path of the economy. Indeed, it seems to us that the decisions taken on the Island have had, and will continue to have, a paramount influence over the growth, structure and distribution of output. Therefore the simultaneous creation, along with this Committee, of a Puerto Rican group to study the Island's economic goals, strategies and policies is heartening. Our concern for Puerto Rico's finances leads us to offer some suggestions, and to raise some questions, about financial aspects of the Island's long-run development choices.

A. *The Budget.* A revision of budgetary practices must be a keystone of long-run planning. The primary goal must be the generation of investable surplus and its effective disposition. But the government does more through its budget than insure that adequate internal resources are generated for investment and growth. It is also the means by which the citizenry implements collective decisions to alter the results of the marketplace.

The decisions themselves, of course, are for Puerto Rico to make; our concern is with the implementation. A sophisticated tax system is in the process of being made even more sophisticated as a result of a long and careful review. But the extent of the evasion of personal income taxes can make a mockery of the rationale of the system, not to mention the marginal improvements in that rationale proposed by the Tax Commission. It seems to us that Puerto Rico's concern for equity through taxation must begin with collections through taxation. Recent efforts to enforce tax laws more strictly are very commendable and should be continued.

Puerto Rico's extensive, advanced and growing social-insurance system is also implemented through its budget. Puerto Rico has adopted an extensive system of saving for old-age pensions—the Social Security system of the Mainland, supplemented by the pension plans of various Puerto Rican government agencies. The saving done by civil servants in their own pension funds is thwarted, as concerns investable resources, to the extent that the government fails to maintain its contributions to the funds. Not only can this path lead to fiscal and financial disaster—but it means that what is, in effect, a modest intended private saving in Puerto Rico is offset by public dissaving.

Most of the Federal welfare programs were designed for a small proportion of the Mainland population, but—due to Puerto Rican poverty (by U.S. definitions)—they cover many and sometimes most of the Puerto Rican population. The problems of some of these programs—they undermine the dignity and self-respect of the recipient, they distort incentives, they invade privacy—are all more serious problems for poor people than for rich people. So they are more serious problems for Puerto Rico than for most regions on the Mainland.

The food stamp program does not share the objectionable features of some other welfare programs, and it certainly deserves credit for mitigating the human hardships of recent economic reverses to Puerto Rico. It has already become, in its first year on the Island, a major source of income for over two thirds of the families. But the Puerto Rican government might well feel that the program should not be permanently applied to the Island with the same eligibility rules and benefit levels as apply on the Mainland. The effects on work incentives and wages may be quite different. At the same cost to the Federal government, some food stamp monies might do the Island more good if they were channeled into employment and investment projects.

Puerto Rico will, in general, have different goals and needs from the Mainland as long as it is so much poorer, and perhaps in the long run as well. We sympathize with and encourage its efforts to gain greater control over the Federal monies disbursed on the Island. Such control is not simply a political question; it can bring significant economic benefits.

B. *Private investment.* Economic dependence can be diminished in the private sector only by the formation and growth of firms under Puerto Rican ownership, operation, and control. The government, through Fomento, has certainly not neglected Puerto Rican firms, but still greater encouragement of this is required. Subsidies are not enough.

Greater public saving, which we have called for, does not necessarily imply greater public investment dollar for dollar. It is possible to channel public saving to private entreprenuers.

Close, sustained, and flexible supervision is necessary. In our opinion, the best possiblity is an expansion and revision of the role of the Government Development Bank. As we discussed earlier, in Section VIII, the Government Development Bank will only become effective as a development bank when its financial sources are secure and when the government generates clear lending policies. The problem of finances is part of the larger problem of public sector finance; it can be solved together with the larger problem when an investable surplus is generated internally.

C. *Public Investment.* In recent years, an increasing fraction of total Puerto Rican investment has been in the public sector. This trend seems to have stemmed not from deliberate decision, but rather from an effort to compensate for the perceived decline in the quantity and quality of private investment. The allocations of resources between public and private use and the choice between public and private enterprise for various economic activities are issues for Puerto Ricans, not outside committees, to judge. We are concerned with some subsidiary but important financial issues.

The first issue concerns profitability and productivity; it has been treated in Sections III and V and needs only summarizing here. Continued growth in Puerto Rico requires internal saving and productive investment. If the economy is to become more public in its orientation, then greater saving and more productive investment must be demanded of the public enterprises. Deficits for reasons of income distribution should be specified explicitly and appropriated in advance from the Commonwealth budget. Once these subsidies are determined, all enterprises must control their costs and set their prices so as to run surpluses in their current accounts, generating themselves some of the resources for investment. And their investment decisions must be made on the basis of productivity and expected return, not on uncritical criteria of need or on availability of funds to borrow.

The second issue relates to the issue of debt to finance Commonwealth's purchases of enterprises, notably telephone and shipping companies. If bond market investors viewed the transfer of assets from private to public sector as providing the Commonwealth with additional revenue to service the additional debt, capacity to market other bonds would not be impaired. However, both statistical analysis by our expert consultants on the tax-exempt market and direct information from persons close to the market indicate that investors do not distinguish among Puerto Rican bond issues. Perhaps this is irrational; after all the market does not penalize a state of the union for debt issues by private utilities located in the state. Perhaps, however, the market is skeptical, not wholly without reason, that the enterprises will be efficient revenue producers under public ownership. In any case, we must respect the fact that, given the reaction of the bond markets, these transfers of assets are at the expense of creating assets. The social profitability of such a purchase depends on the prospect that social benefits will ultimately be raised and/or that social costs will ultimately be lowered by making the operation public rather than private. The *rise* in social profitability that stems from the transfer of assets must exceed the *level* of social profitability of alternative uses of the public money. Whether recent purchases fulfill this condition only time and experience will tell.

D. *Tax Exemption and Subsidies for Mainland Companies.* Without doubt tax exemptions and other subsidies—for factory rent, electricity, training of labor—are responsible for much of Puerto Rico's past economic and industrial growth. But indiscriminate subsidization is not in Puerto Rico's interest. Subsidies do use Puerto Rican resources, and the costs should be justified by expected benefits. We urge that subsidization of Mainland subsidiaries, beyond the traditional basic tax exemption, be made more selective and be based on analysis in each case of the *direct* benefits and costs to Puerto Rico. Moreover, these subsidies, and the possibility of renewal of tax exemption when its initial period has expired should be restructured so as to encourage labor-intensive industries, using labor-intensive techniques of production, and industries which plow back their profits into physical investment in Puerto Rico, as we have suggested in detail in Section II.

E. *Economic Research.* A large volume of research on the Puerto Rican economy has been done over the past quarter century, but much of it is superficial and repetitive. Puerto Rico has relied too heavily, we think, on outside consultants for its economic research. Hired for short periods, they do not acquire cumulative knowledge of Puerto Rico.

Obviously it would be better if systematic and cumulative economic research were done by Puerto Rican economists. But the universities in Puerto Rico still lack an adequate commitment and capability for economic research. Government economists are, perhaps inevitably, usually tied up in day-to-day problems. Somewhere, in or through the Commonwealth government, a research institute should be organized which draws on the research capacity of the agencies and the universities for the basic research needed to make economic policy.

Modestly, we offer an agenda for this institute, mainly to collect hard information and to undertake hard analysis on subjects where we found the existing knowledge inadequate and yet capable of improvement:

(1) Checking and improving the macroeconomic accounts, especially through strengthening their microeconomic foundations.

(2) Construction of a macroeconomic model, with links to Mainland variables, to improve forecasting of the Puerto Rican economy and the quantification of Puerto Rican policy measures.

(3) Analysis of the tax exemption policies and Puerto Rico's competitive advantage, in order to know more about what industries Puerto Rico *does* attract and *should* attract.

(4) The impact of minimum wages, legislated fringe benefits and public sector bargaining on unemployment.

(5) An *economic* analysis of the pricing and investment policies of public enterprises.