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Social Cost-Benefit Analysis
and the Appraisal of Tourism Projects
in a Developing Island Economy

by

W. Angus Laidlaw, B.Sc.

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A thesis submitted to the Faculty of
Graduate Studies and Research in partial
fulfilment of the requirements for the degree of
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The undersigned recommend to the Faculty of Graduate Studies acceptance of the thesis "Social Cost-Benefit Analysis and the Appraisal of Tourism Projects in a Developing Island Economy", submitted by W. Angus Laidlaw, B.Sc. Hons., in partial fulfilment of the requirements for the degree of Master of Arts.

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III

ABSTRACT

Social cost-benefit analysis has commanded some attention as a tool useful for appraising industrial and agricultural projects in less developed countries. To date, the technique has seen only limited application to the evaluation of tourism projects.

This paper focusses on the roots, uses and limitations of cost-benefit analysis, and suggests that it could be employed to determine the social profitability of alternative proposals for investment in tourism in a small island economy. The Turks and Caicos Islands are actively encouraging foreign investment in tourism plant, in anticipation of sharing in the benefits that other Caribbean states enjoy from the travel trade. It is argued that the unique characteristics of the tourism industry, and the special problems associated with its dominant presence in "sunbelt" l.d.c.'s make comprehensive, prior appraisal of proposals vital. It is further suggested that, despite its complexities, cost-benefit analysis in its existing forms and variations could meet this requirement, at the same time providing public authorities with the information necessary to assume sound bargaining positions in negotiations with foreign investors.

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INTRODUCTION

Cost-benefit analysis has been widely employed in some western developed countries for the appraisal of public sector investment alternatives, particularly water resource projects in the United States. Recently, cost-benefit methods have been touted as useful for industrial and agricultural investment planning in less developed countries.

The working principle of cost-benefit analysis is straightforward: as in a private commercial analysis, costs and benefits are estimated in money terms over the life of the project. If the algebraic stream yields a positive result, the investment is acceptable. Where two or more alternative investments are compared, the one with the higher or highest net value is preferable. The objective of public cost-benefit analysis is in keeping with the general economic problem of allocating scarce resources among competing uses - consumption goods, industrial investment, infrastructure investment - to achieve a state of maximum efficiency.

Public, or social cost-benefit analysis differs from private project appraisal in certain important respects. In valuing inputs and outputs, the commercial

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analyst will look to the market to provide price information. The economic analyst will begin in like manner, but may use market prices as a basis for developing "shadow prices" that reflect the true value of resources in terms of their scarcity. Thus, economic distortions which are responsible for the divergence between market price and a price reflecting economic value are taken into account. Too, the economic analyst attempts to place a value, in money terms, on outputs for which no value-indicative price can or does exist.

Because economic appraisal relates closely to national objectives, many of the recent attempts at innovation have been directed toward ensuring that shadow prices adequately reflect these objectives. For example, it was traditionally assumed by the analyst that growth was the chief objective to which society directed its resources in the most efficient manner possible, in the belief that the government could, through fiscal policy distribute incremental benefits in any manner consistent with equity. By the same token, distribution as between consumption and investment was ignored, at least in the selection calculus, on the assumption that the welfare of society was equally served by a unit of project-produced consumption as by a unit of project-produced investment (in future consumption).

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Recent exercises by international agencies - among them the World Bank and the Organization for Economic Co-operation and Development - have attempted to elevate cost-benefit analysis to a level of sophistication which would qualify it as an instrument of fiscal policy in these respects: suboptimal investment and inequitable distribution of income could be redressed by biasing the selection process through the shadow pricing mechanism. A project which would have a favourable impact on investment levels, or on consumption on the part of the poor, might be preferred, and the preference quantitatively justified, over a project which would make an equal contribution to national income, but whose benefit would lead to greater consumption, or to greater consumption by the wealthy. The literature is replete with elegant and complex approaches to implementing such innovations.

This paper examines the cost-benefit analysis method in the context of private sector tourism projects proposed for a small underdeveloped island group in the Caribbean. The Turks and Caicos Islands, presently a Crown colony of the United Kingdom, is in the process of trying to attract relatively large-scale hotel-resort projects in an effort to generate employment and national income and to

diversify a resource-poor economy. It is suggested that cost-benefit analysis at a relatively elementary level would assist the government in its negotiations with foreign investors. The technique could illustrate the relative "social" gains a project would yield under different investment arrangements, (e.g. wholly foreign-financed or joint venture) and different mixes of inputs. At the same time, it is observed that the complexity and disaggregated nature of the tourism industry in general indicates a requirement for thorough investment planning, especially in the case of an economy with no immediate alternative prospects.

Chapter I examines the theoretical foundations of cost-benefit analysis: the discipline of welfare economics which relates "social value judgements" to the criteria employed in the selection of project alternatives most beneficial to society. As additional background, the chapter makes mention of conditions of production and exchange, under which a welfare optimum would exist, and the assumptions required.

The cost-benefit procedure is the subject of Chapter II. The nature and efficacy of three principal selection criteria - net present value, internal rate of

return, and the cost-benefit ratio - are examined. The important concepts of time preference and shadow pricing are introduced, and arguments for and against the extensive use of the latter are presented.

Chapter III is an overview of the tourism industry in general - its performance in, and promise for less developed countries. The a priori argument for developing a tourism sector is presented, and two principal effects - foreign exchange earning and employment generation - are discussed. The chapter includes an examination of the tourist multiplier concept, because multiplier effects have been widely and occasionally improperly cited as justification for public investment in tourism plant per se, or in associated infrastructure. The last part of the chapter is a section entitled "Social Cost-Benefit Analysis and Tourism Projects", describing appraisals of three hypothetical or completed projects. The most detailed of these - from a theoretical point of view - forms the basis of a discussion of how one might evaluate tourism project proposals in the Turks and Caicos.

In Chapter IV the history, geography and economy of the Islands are set forth at some length. A section on

tourism traces its development from the 1960's to the present time, as the government, in keeping with the conclusions of the 1971 "Outline Development Plan", embarks on a path of encouraging foreign investment in tourism on a large scale. One such project proposed - the subject of a draft agreement between the government and a private investor - is examined at some length, as it forms the basis for conclusions in Chapter V on the applicability of cost-benefit analysis to tourism development initiatives in the Islands.

CHAPTER I

WELFARE FOUNDATIONS OF COST-BENEFIT ANALYSIS

INTRODUCTION

In this Chapter, we consider the theoretical foundations of cost-benefit analysis. Welfare economics, as the body of theory developed to steer public policy and expenditure decision, is examined in its several stages - from the classical view that individual "utilities" could be measured and summed to reflect a discernible social utility, to the advent of the Pareto criterion of social welfare change. A relatively recent variation of the Pareto criterion has formed the basis for selection criteria applied, through the procedure of cost-benefit analysis, to public expenditure decisions.

The Chapter ends with a brief note on the optimum conditions of production and exchange, for they held the attention of classical welfare economists who believed that under such conditions, a summit position or social welfare optimum could be achieved.

INDIVIDUAL AND GENERAL WELFARE,
UTILITY AND CONSUMERS' SURPLUS

Cost-benefit analysis is an instrument to assist in choice among alternatives to attain an efficient allocation of resources in the context of certain objectives. It is therefore prescriptive in nature and normative in the sense that objectives are bound in some way to value judgements. Aaron Wildavsky has stated the matter succinctly.

A straightforward description of cost-benefit analysis cannot do justice to the powerful assumptions that underlie it or to the many conditions limiting its usefulness. The assumptions involve value judgements that are not always recognized and, when recognized, are not easily handled in practice.¹

For an idea of what these assumptions are, and how value judgements affect the practice of social cost-benefit analysis, we must turn to the discipline of welfare economics, the theoretical basis of cost-benefit analysis.

Just as cost-benefit analysis is a prescriptive tool dealing with a range of possibilities, welfare economics is a prescriptive discipline:

that branch of study which endeavours to formulate propositions by which we may rank, on a scale of better or worse, alternatives open to society.²

Relating the theory to investment criteria used in evaluating public projects, Eckstein comments that

the theory of welfare economics, which gives us rules for decision-making on the basis of specific assumptions about the nature and objectives of the economy, is particularly well suited ... to reviewing the criteria employed.³

The most basic of these assumptions is that the economy exists to serve the individual, or more properly "... to serve the individual's consistent preferences revealed and rationally pursued in the market place".⁴

The corresponding value judgement, as stated by Mishan, is fundamental, and unremarkable: "... that the individual - and no one else - is the best judge of his own wellbeing."⁵

But if society is composed of individuals, and if "individual sovereignty",⁶ is to be maintained as a principle, then social welfare must be a kind of function of each individual's welfare, as perceived by the individual. Only if everyone's individual welfare were improved could one indisputably claim that social welfare had improved, at least by the tenets of the discipline thus far discussed. Such a change is unlikely to occur as a result of any action by a representative government. The problem then, that has been "central to the field of welfare economics" has been that of "achieving a social maximum derived from individual desires."⁷

Before advancing to a discussion of the conditions under which a social welfare maximum occurs, we will follow briefly the historical line of reasoning used in attempts to measure social welfare.

If individual welfare could be measured, then the sum of individual welfares could be expected to produce a picture of community welfare. Different "social states" and corresponding levels of social welfare would be discernible, and choices could be made by government which would move society toward a discernible maximum.

The so-called Old Welfare Economics held that individual satisfactions - "utilities" - could be measured and summed. The principle of utility was first enunciated by Jeremy Bentham as

that principle which approves or disapproves of every action whatsoever, according to the tendency which it appears to have to augment or diminish the happiness of the party whose interest is in question; or, what is the same thing in other words, to promote or oppose that happiness. I say of every action whatsoever, not only every action of a private individual but of every measure of government.⁸

Thus, utility is "that property in any object, whereby it tends to produce benefit, advantage, pleasure, good, or happiness ... or ... to prevent the happening of mischief, pain or unhappiness to the party whose interest is considered ..."⁹

Alfred Marshall, considered the father of the Cambridge school of economists, adopted a slightly different definition in his attempt to measure social utility. He stated that utility was equivalent to desiredness but that

desires cannot be measured directly but only indirectly by the outward phenomena to which they give rise: ... in those cases with which economics is chiefly concerned the measure is found in the price a person is willing to pay for the fulfillment or satisfaction of his desire.¹⁰

Marshall postulated that a "consumer's surplus" attended the purchase of a good.

The excess of the price which (a purchaser) would be willing to pay rather than go without the thing over that which he actually does pay is the economic measure of his surplus satisfaction ... It may be called consumer's surplus.¹¹

It should be noted that the notion of consumer's surplus was first advanced by the French engineer Jules Dupuit, in an effort to show that bridges were of higher utility without tolls than with.¹²

Marshall's concept of consumer's surplus and the change in consumer's surplus brought about by, say, the completion of a project is illustrated in Figure I.¹³

Under conditions of perfect competition with prices beyond the control of any one producer, the intersection of the supply curve (marginal cost curve, again under conditions of perfect competition) and the demand curve establishes the price. When another producer joins the many in the market, production is adjusted to maximize

Figure 1 The Development of Consumers' Surplus

Source, D. W. Pearce, Cost-Benefit Analysis, (London: MacMillan, 1971), p.19.

each producers' profits, and the supply (marginal cost) curve shifts to MC2. The demand curve, which remains the same before and after, yields coordinates for each point, which show the maximum amount of money some person in society is willing to pay for the corresponding amount of a good.

To digress for a moment, it should be noted that the demand curve represents all demand curves for all individuals in society. Each individual has a demand "curve" for a good, although it would, of course, resemble a bar diagram, showing the willingness to pay a given price for an extra unit of the good.

To return to considerations of society from those of the individual, (and hence the distinction between consumer's and consumers' surpluses) the amount of money paid for the good in question at the market clearing price before the completion of the project is represented by the rectangle OKCJ in Figure 1. The good costs consumers OJ and they will buy quantity OK at this price. OKCB being the amount they would be willing to pay rather than go without, the difference of JCB is the consumers' surplus, the value they received free.

After the project is implemented, and the cost to the consumer is lowered to OH per unit the consumers experience a new consumers' surplus DBH, or the difference between the amount they are willing to pay, OEDB at price OH, and the amount they actually pay, OEDH. The area ΔCD is the change in the consumers' surplus associated with the increased quantity available, for which consumers are willing to pay the additional amount represented by ΔEDC . (ΔEDC is extra payment for more output bought, and: HGCI represents the amount saved by the consumers i.e. price "no longer paid" HJ, times quantity of goods "originally bought" OK).¹⁴ It must be emphasized that consumer's (or consumers') surplus arises from the valuation of a good by the individual (or by society). To the individual, the vertical distance between any point on the abscissa and his demand curve represents the price he is willing to pay for that unit of good. If the actual price of the good is less, he accrues a surplus. Taken collectively, society's individuals display a market demand curve, or in Mishan's words, a "market valuation curve".¹⁵ Each point along the abscissa, representing the amount of the good purchased, has a vertical line to the demand curve, representing a maximum valuation and "the whole area under the demand curve, therefore, corresponds to society's maximum valuation for the quantity in question."¹⁶

Two major assumptions flawed an otherwise impressive attempt to build a theoretical structure to assess welfare: that individuals' welfares were additive, and that an individual's marginal utility of income remained unaltered by a change in price of a good. These are further discussed below, but we digress briefly to illustrate the application of the principle.

Consumers' surplus has been and remains an important theoretical element in some cost-benefit calculations. Dupuit's concept is applied today in France, where for example, consumers' surplus accruing from road improvements is explicitly considered.¹⁷ What has been termed "the most ambitious cost-benefit analysis ever undertaken"¹⁸ - The Roskill Report on the Third London Airport - attempted through surveys to establish individual and aggregate surpluses or loss of surplus for householders who would be displaced from the future site of the development. Thus, the figure provided as an answer to the question "... what price would be just high enough to compensate you for leaving this house and moving to another area?" was subtracted (net of removal expenses) from the

market price to yield an estimate of the loss in consumers or "householders" surplus, were land to be purchased or expropriated at the market price, or if householders moved away to avoid noise nuisance.¹⁹ (Strangely, only depreciation, and not consumers' surplus, was calculated as the loss to those who remained in their homes but suffered higher noise levels. The latter, ~~as~~ will be seen, is a necessary consideration in a true social cost-benefit analysis of the type undertaken by the Commission.)

As a final illustration of the application of consumers' surplus, we may cite Little and Mirlees' example of a non-traded consumer good such as water supply.²⁰ In the absence of any charges to the user, his hypothetical willingness to pay (again, as revealed by a survey) would equal his consumer's surplus -- the value of benefit derived from access to the supply. The difficulties involved in the calculation, especially in the absence of a market price are obvious: the individual water user will not easily be able to provide such a figure, nor is it in his best interests to truthfully reply were he able to do so, since, in the event, he is aware that he does not have to pay what he says he is willing to pay. Little and Mirlees suggest that a consumer's honesty and knowledge of the uses of money, together with an examination of similar past projects would aid the analyst in estimating willingness to pay.²¹

While the idea of consumer surplus remains central to the development of theory for welfare change, Pearce notes that, examples notwithstanding,

... some cost-benefit analyses dispose altogether with the attempt to measure consumers' surplus mainly on grounds of impracticality. The divergence between theory and practice is most marked in this respect.²²

THE NEW WELFARE ECONOMICS

E.J. Mishan affirms that

a reading of Marshall and Pigou suggest that they did believe that increased equality of incomes was in itself a good thing. In that event, recourse to assumptions of innately equal capacities for enjoyment and diminishing marginal utility of real income - necessary to

assure the conclusion that equality of real incomes maximized society's total utility - appears as an innocent attempt to give a scientific gloss to what was surely a strongly-held value judgement.²³

The gloss could not cover the cracks, and the foundations of utilitarianism were attacked in the 1930's. The chief target was the notion of cardinal welfare measurement. Pleasure or satisfaction could not, it was said, be measured in cardinal terms, could not therefore be either additive or collectively measured. Whether the abandonment of the concept of social welfare as the sum of 'individual welfares' was truly a recognition that its assumptions were naive and unscientific or, as Robert Solo implies, a class reaction to the logical correlation of maximum welfare and income equality - is a matter for debate among economic historians.²⁴

In any event, with the advent of indifference curve analysis - which formalized the trade-off between and among utility-conferring goods and established the concept of marginal rate of substitution - and the conclusions of Vilfredo Pareto, an allegedly scientific method for observing changes in welfare was proposed.

The Pareto welfare criterion is best described by J. de V. Graff in his discussion of group welfare as a collective translation of individual welfares.

This (the Paretian concept) hinges on ... the impossibility of making interpersonal comparisons of well-being. If these interpersonal comparisons cannot be made, the welfare of the group is clearly no more than a heterogeneous collection of individual welfares. If some men are made better off and some worse off, group welfare rises; if some are made worse off and some better off, it falls. But if some are made better off and some worse off we just do not know what has happened to the welfare of the group.²⁵

The criterion for change in welfare thus stated is unmuddled, and unexceptionable, but in practical terms applicable only to those changes which are unequivocally beneficial to all who are affected by them. Maximum social

welfare under the concept is achieved when it is no longer possible, through a change in economic organization, to make any one better off without making at least one other person worse off.

The virtue of the Pareto criterion for improvement was that it entrenched a broad value judgement - that it is a "good thing" to make one better off if no one else is made worse off - in a system of analysis which avoided the intrusion of interpersonal comparisons of utility (said to be impossible). Hence "there could only be gainers".²⁶

The aforementioned problem of application is its chief limitation. In particular, as Merewitz and Sosnick point out, public spending decisions, (projects) are the least amenable to the application of the Pareto criterion, expropriation being the most obvious example of a mechanism which moves some people to "positions of less preference."²⁷ The criterion thus began to take on the appearance of an academic exercise.

However, in 1939 several contributions to the literature offered a solution in the form of a variation of the criterion and at the same time began a debate which, in

one author's estimation "is one of the most extensive and perhaps fundamental controversies ever to break out within the Paretian dogma".²⁸

The essence of the controversy was not the Pareto criterion per se; rather, it dealt with the question of whether or not the economist could validly make pronouncements on social welfare improvements if the impossibility of interpersonal comparisons rule was acknowledged.

Professor Harrod, citing the repeal in 1848 of the Corn Laws restricting grain import into Britain, advanced the argument²⁹ that economists of the day could not definitively state that repeal had led to an increase in general welfare without treating as equal - i.e. comparing utility of the losers, in this case the landlords, and the gainers, the much larger group of corn consumers. Robbins³⁰ and Harrod had no doubt as to the increase in general welfare which followed upon the repeal of the Corn Laws; nor did they hold any special brief for attempts to compare utilities. They, and others, questioned the validity of economic prescriptions which addressed situations in which there were losers, but which did not assume equal capacity

for satisfaction. Robbins required that the "arbitrary element" - the interpersonal comparisons - be recognized if pronouncements on increases in welfare were to be made. Harrod challenged the position of the welfare economist as policy adviser if the impossibility of interpersonal comparisons was "strictly pressed".

Nicholas Kaldor's rejoinder³¹ was to suggest that, in the example cited, the losers - the landlords - could be compensated back to the level of income prior to the repeal, the source of compensation perhaps being a tax on other producers whose income had increased as a result of increased spending by corn consumers, (everyone), which was also afforded by the repeal.³²

Thus in a case such as this, where aggregate real income had increased, and money income had been redistributed as a result of lowering corn prices,

it was possible to make everybody better off than before or at any rate make some people better off without making anybody worse off.³³

It was left to Professor Hicks to entrench the concept of "hypothetical compensation". Those gaining from an economic change could compensate, adequately or more than adequately, those who lose. Thus, in an analysis which showed a net gain of productivity worth x , gainers could compensate losers costlessly, so that all affected would be better off in total by x . Along the way he reflected on the poor record of actual compensation: "economic progress has accumulated a roll of victims sufficient to give all such policy a bad name."³⁴

The Pareto criterion, now effectively mutated to a "potential Pareto criterion", provided welfare economists with a reply to the assertions made by Harrod, Robbins and others. "Whether the landlords ... should in fact be given compensation, or not", wrote Kaldor, "is a political question on which the economist, qua economist, could barely pronounce an opinion."³⁵

The Kaldor-Hicks criterion for welfare improvement is something of a watershed in the discipline, for concomitant with the concept of potential improvement admitted by hypothetical compensation, was the effective separation of efficiency and distribution considerations.

Kaldor's argument, in his own words, "lends justification to the procedure adopted by Professor Pigou in "The Economics of Welfare", of dividing welfare economics into two parts: the first relating to production and the second to distribution".³⁶ Upon the first, the economist can deliberate and prescribe, using scientific methods of analysis which will determine how aggregate production can be increased through reallocation of resources, the only necessary assumption being that more is preferred to less. Upon the second, the economist cannot prescribe; he can merely accept the judgement of others (politicians) and determine the most convenient, (efficient) way of bringing about the given distribution, thereby expediting a political end.

It is interesting to note that Hicks addresses the utilitarian conclusion on equal capacities for satisfaction and the equality of income argument which that view would support:

One can certainly not exclude the possibility of everybody being happier when there is some degree of inequality than under a regime of necessary and

complete equality;(here I am not thinking so much of the differences in the capacity for satisfactions between different individuals, but of the satisfaction that are derived from the prospect of improving one's income by one's own efforts - a prospect that is necessarily excluded when a regime of complete equality prevails). And short of complete equality, how can the economist decide precisely how much inequality is desirable i.e. how much secures the maximum total satisfaction?³⁷

One need not perhaps conduct an exhaustive search of the literature of the day for reactions to what might be called a retreat from real political-economic issues relating to social inequities. Suffice it to say that economists in 1939, as now, are no less qualified to counsel politicians on distribution than are other politicians and voters. Indeed, as social scientists who are more conversant with economic history and the sometimes cataclysmic

effect which "bad distribution" has had on political regimes, economists would presumably do a service to their political masters by considering distribution as more than a given.

The relevance of this new development is clear.

The Kaldor-Hicks criterion is important to us because it is almost the same as the criterion used in benefit-cost analysis. If the benefits exceed the costs of a project, a position that is Pareto-better than the initial position could be attained by proceeding with the project and then having the gainers compensate the losers. The change would be desirable according to the Kaldor-Hicks criterion.³⁸

(The distinction between philosophical criteria for welfare change - such as the Kaldor-Hicks criterion - and analytical criteria used in benefit-cost analysis are discussed in Chapter 2.)

The Kaldor-Hicks criterion did not pass unchallenged. Tibor Scitovsky wrote in 1941:

The test suggested (by Kaldor and Hicks): to see whether it is possible after the change to fully compensate the losers at a cost to those favoured that fell short of their total gain ... (is objectionable) because it attributes undue importance to the particular distribution of welfare obtaining before the change.³⁹

That is, that if compensation is not paid to losers in a change - and the Kaldor-Hicks criterion does not require that it be paid - then such a change might be accompanied by a significant change in distribution. If this were the case, the losers from a change might offer compensation to the gainers to reverse the change, (or, put another way, might bribe the potential gainers in order to ensure the change never takes place), and such a reversal would also be sanctioned by the criterion, thus producing a contradiction.⁴⁰

Scitovsky argues that before we can make declarations on such changes,

we must first see whether it is possible in the new (post-change) situation so to redistribute income as to make everyone better off than he was in the initial situation; secondly, we must see whether starting from the initial situation, it is not possible by a mere redistribution of income to reach a position Pareto superior to the new situation, again from everyone's point of view. If the first is possible and the second impossible ... the new situation is better; ... if the first is impossible but the second possible ... the new situation is worse; whereas if both are possible or both impossible, we shall refrain from making a welfare proposition.⁴¹

It is critical to note I.M.D. Little's observation that the Scitovsky paradox will likely arise only when significant distributional effects would accompany a change.

It is evident that the Kaldor-Hicks criterion is quite inadequate for changes that involve large distributional effects. For these some judgement is required as to whether the real income redistribution is good or bad. We might suggest that such a change be recommended if it passes the Kaldor-Hicks criterion, and if any change in distribution is not bad. If it is bad, but compensation would make it good, then compensation should be paid.⁴²

Little's persuasive alternative proposition incorporates Scitovsky's concerns and an explicit application of an ethical judgement.

We can thus say that an economic change is desirable (and increases welfare) if it cause a good redistribution of wealth, and if the potential losers could not profitably bribe the potential gainers to oppose it - always assuming that no still better change is therefore prejudiced.⁴³

Implicit in this criterion is the fact that good distribution is necessary and sufficient to the proposition. As Merewitz and Sosnick view it, the addition of this condition is an important one with which all welfare theorists agree.

The consensus seems to be that, even if the Kaldor-Hicks criterion (like the Pareto criterion) produces answers that in principle are verifiable, the criterion itself (unlike the Pareto criterion) is not ethically appropriate. It is unacceptable to ignore the question of fairness.⁴⁴

Thus the Kaldor-Hicks criterion, when translated into a cost-benefit calculation (when costs include hypothetical compensation to losers) ignores or assumes away the distributional changes resulting from a project.

The theoretical difficulties ~~involved~~ in bringing distribution into consideration in the process of arraying costs and benefits has not been a major issue in developed economies; the effects have been regarded as minor to the point of insignificance.

In less developed countries where project appraisal has been employed, neglect of both distributional effects and more important, distributional objectives, has invited serious criticism and apparently spurred the development of remedial concepts (such as income weighing of benefits in the cost-benefit calculation). Here, the neglect was justified (on a practical basis), not so much by arguments that effects were likely to be incidental and insignificant, but by recourse to priorities. Income disparities and unemployment were better addressed once aggregate national income was significantly raised. To quote Amin,

To many, it seemed almost a wasted effort to discuss how to divide a cake which was too small in the first place, and it seemed too obvious to demonstrate that the primary concern should be to make the cake bigger.⁴⁵

At the theoretical level, development economists resorted to the welfare arguments previously discussed: that interpersonal comparison of utility is unscientific - that is, a value judgement that the economist cannot or should not make - and that, accepting the compensation principle, inequities following upon a beneficial project (a Pareto-positive change) could be addressed through tax and fiscal policies. In addition, and specific to development economics, the equity versus growth conflict actually endorsed the neglect of distributional considerations, since the rich could purportedly be relied upon to reinvest a higher proportion of benefits while the poor would undoubtedly consume most of what otherwise could be investible surplus.⁴⁶

A NOTE ON "THE OPTIMUM CONDITIONS"
OF PRODUCTION AND EXCHANGE

The discussion of welfare criteria and cost-benefit analysis is not complete without at least a parenthetical treatment of optimum conditions - the conditions of production and exchange under which a welfare optimum may exist.

We begin by iterating the relationship of a welfare optimum to "ideal output" ...

a position from which no reshuffling of factors can add to the social value of the total product.⁴⁷

The conditions necessary to attain such an optimum (or "summit") position occupy a large body of literature in themselves. Examining the theoretical development in his "Survey of Welfare Economics", Mishan encapsulates the idea of optimum conditions in the following manner:

The attainment of ideal output is contingent upon the fulfillment of a single rule, which we will designate the allocative rule requiring that the value, at the margin, of any class of factor be the same in all occupations in which it is used.⁴⁸

Mishan rephrases the rule in a way "which encompasses the formulations of several well-known writers":

the rate of substitution between each pair of goods - goods to include now both products and factors - for every individual must be equal to their corresponding rate of transformation.⁴⁹

These conditions obtain in theory in the competitive model, and while their elucidation in terms of "optimum conditions" is relatively recent, the notion of maximum efficiency through perfect competition is old. As Samuelson points out,

... since the time of the physiocrats and Adam Smith, there has never been absent from the main body of economic literature the feeling that in some sense perfect competition represented an optimal position.⁵⁰

It was in fact Léon Walras and later Pareto, who related free trading and free competition to maximizing utility as opposed to particular objectives such as, in Dobb's examples, the accumulation of capital or "greatest improvement in the productive powers of labour".⁵¹

The components of the allocative rule i.e. the optimum conditions, and the assumptions necessary for these conditions to obtain are briefly set forth as follows.

The consumer will use his income to purchase goods in such quantities as his income permits and in such combinations as his tastes dictate. The relevant assumption is that the consumer is rational, acts consistently, and that the rate at which he substitutes goods one for another declines as substitution increases.

The producer will achieve efficiency of output when a product is turned out in such quantity that the cost of the final unit - determined by technical possibilities and factor prices - is equal to its market price. This assumes that the producer is rational (profit-maximizing, cost-minimizing) and that there is no physical interdependence among different firms' production e.g. no external, unattributed costs incurred by one firm as a result of another firm's output.

Factors are employed in combination such that "the contribution to output of the last unit of the factors hired will stand in the same proportion as their prices".⁵² Labour will be supplied by an individual in that proportion to his leisure which reflects his relative valuations of leisure and remuneration. Formally stated, the worker will be in his preferred position

when his marginal valuation of his productive services is equal to the wage rate in the market ... Hours beyond that point are valued higher as leisure than the prevailing wage rate and will

not be undertaken. Hours short of the equality ... produce leisure which does not compensate him for the loss of income.⁵³

The prevailing assumption is that labour is fully employed and mobile.

In addition, the assumptions of the competitive model relating to markets which hold for a welfare optimum to exist are: that no consumer or producer is large enough to affect price, that each has complete information on available goods and prices, and that goods are marketable, as opposed to "collective" non-marketable goods (such as defence).

Thus, in summary, community welfare is maximized under a set of conditions which support a Pareto Optimum - a state where no change can be effected which makes one better off without a corresponding decline in another's welfare. The degree to which prices equate to real costs and benefits depends on the extent to which the assumptions of the competitive model hold. When marked, distortions resulting

in the inequality of prices and costs may justify public authority intervention in the form of enterprise, taxes, or regulations. Benefit-cost analysis is a method of determining the efficiency of such intervention, taking account as it does of these distortions.

ENDNOTES

- 1 Aaron Wildavsky, "The Political Economy of Efficiency: Cost-Benefit Analysis, Systems Analysis and Program Budgeting", Public Administration Review, 26, (December 1966), p. 293.
- 2 E.J. Mishan, "A Survey of Welfare Economics", 1939-59, Economic Journal, 70, (January 1960), p. 199.
- 3 Otto Eckstein, Water Resource Development, (Boston: Harvard, 1958), p. 16.
- 4 Aaron Wildavsky, "Political Economy", p. 294.
- 5 E.J. Mishan, "Survey", p. 199.
- 6 For the purpose of this discussion we take the notion of consumer sovereignty as given. The rationale behind the concept is the underlying belief that "in democratic societies the economy and its institution should serve the needs of its members and the members are themselves best qualified to determine their own needs and desires ..."
(John V. Krutilla and Otto Eckstein, Multiple Purpose River Development, (Baltimore: John Hopkins, 1958), p. 13.)

Although unexceptionable in theory and in ethical application, consumer sovereignty in terms of "preferences revealed" faces formidable challenges. Consider J.K. Galbraith's suggestion in The New Industrial State, (New York: New American Library, 1968), that consumer wants and the prices at which they are satisfied can be managed. And they are. "If an individual's satisfaction is less from an additional expenditure on automobiles than from one on housing, this can as well be corrected by a change in selling strategy of General Motors as by an increased expenditure on his house" (p. 225). The indifference curve concept is likewise jeopardized by the power of persuasion of large corporate entities which, Galbraith asserts, reverse the sequence of instruction from consumer to producer.

For additional comments on Galbraith's hypothesis and the challenge to consumer sovereignty, see Tibor Scitovsky Welfare and Growth, (London: Simson Shand Ltd., 1964), chapters 14, 15.

- 7 Kenneth J. Arrow, Social Choice and Individual Values, (New York: John Wiley & Sons, 1963), p. 3.
- 8 Bhiku Darackyl, (ed.). Bentham Political Thought, (London: Croon Helen, 1973), p. 67.
- 9 Ibid. A good discourse on the development of utility theory can be found in George J. Shyler, Essays in the History of Economics, (Chicago: University of Chicago Press, 1975), Chapter 5.
- 10 Alfred Marshall, Principles of Economics, (London: MacMillan & Co. London, 1925), p. 92. In the relatively short time since "utility" has been added to the lexicon, it has presented some difficulties. Consider Pigou's statement on the subject of bringing "satisfactions into relation with a money measure":

"... the money which a person is prepared to offer for a thing measures directly not the satisfaction he will get from the thing, but the intensity of his desire for it. The distinction, obvious when stated, has been somewhat obscured for English-speaking students by the employment of the term utility - which naturally carries an association with satisfaction - to represent intensity of desire. Thus when one thing is desired by a person more keenly than another, it is said to possess a greater utility to that person. Several writers have have endeavoured to get rid of the confusion which this use of words generates by substituting for 'utility' in the above sense, some other term such, for example, as 'desirability'. The term desiredness seems, however, to be preferable, because, since it cannot be taken to have any ethical implication, it is less ambiguous." The Economics of Welfare, (London: MacMillan & Co., 1929), p. 23.
- 11 Alfred Marshall, Principles, p. 125.
- 12 Jules Dupuit, "On the Measurement of the Utility of Public Works" (1844) reprinted in translation in Kenneth Arrow and Tibor Scitowsky, (eds.). Readings in Welfare Economics, (London: George Allen & Unwin), 1969, Pp. 255- 283.

- 13 As a principle central to both welfare economics and cost-benefit analysis, consumer's surplus is described in many texts and activities. In addition to Marshall's Principles, I have relied on E.J. Mishan, Cost-Benefit Analysis, (London: George Allen & Unwin, 1975), c. 7 and D.W. Pearce, Cost-Benefit Analysis, (London: MacMillan, 1971), p. 19, from which Figure 1 is taken.
- 14 I have avoided the subject of "producers' surplus" of which in Mishan's words, "we used to hear a lot until recently. The concept that is symmetric with consumers' surplus is that which is known as economic rent ...", the difference between what a factor earns in its existing occupation and the minimum required to keep it there. (Cost-Benefit Analysis, p. 64). Although discussed as "producers' surplus" by Marshall, "rent, in the specific sense of a surplus to factor owners, is not so popular in cost-benefit analysis as the concept of consumers' surplus ..." (E.J. Mishan, Cost-Benefit Analysis, p. 430).
- 15 E.J. Mishan, Cost-Benefit Analysis, p. 26.
- 16 Ibid.
- 17 I.M.D. Little and J.A. Mirless, Project Appraisal and Planning for Developing Countries, (New York: Basic Books Inc., 1974), p. 28.
- 18 R. Layard, (ed.), Cost-Benefit Analysis, (Harmondsworth: Penguin Books Ltd., 1972), p. 429.
- 19 E.J. Mishan, "What is wrong with Roskill" in Ibid., p. 462.

The survey conducted in areas similar to that which would be required met with a high response with the results as follows:

% of Respondants	Householder's Surplus as % of market price
10%	0
50%	5
25%	55%
8%	200%

(Householder's surplus is the difference between the market price and the least price at which the householder will sell.) Actually, 8% of those questioned said that no price would induce them to move, so the analysts chose arbitrarily the figure of 200% of market price. See A.D.J. Flowerdew, "Choosing a Site for the Third London Airport: The Roskill Commission's Approach" in R. Layard, Ibid., p. 436.

- 20 I.M.D. Little and J.A. Mirlees, Project Appraisal, p. 189. Not traded in this sense means not traded between nations.

A good may be "non-tradeable" in the sense of it being economically unfeasible to do so. The Little and Mirlees example is electricity which is tradeable (and traded) in North America but not tradeable in a small island nation. (p.155) Some goods, like education and defense, are non-tradeable in the physical sense. (see Pp. 154-155).

- 21 Ibid., p. 190.

- 22 D.W. Pearce Cost-Benefit Analysis, p. 23.

- 23 E.J. Mishan "The Futility of Pareto Efficient Distribution", American Economic Review, 62, (1971), p. 971.

- 24 Robert, A. Solo, "Neoclassical Economics in Perspective" in Warren J. Samuels, (ed.), The Chicago School of Political Economy, (East Lansing, Michigan: Michigan State University Press, 1976), p. 41-58.

- 25 J.V. de Graff, Theoretical Welfare Economics, (Cambridge: Cambridge University Press, 1967), p. 8.

- 26 In the language of preference analysis, the criterion's virtues are translated thus:

- 1) it is "ethically appropriate to endorse a change which moves one or more persons to a more preferred position while moving none to a less preferred position and,
- 2) the outcome of the movements are variable (through preference analysis), thereby according the evaluative method a value-free scientific respectability.

See Leonard Merewitz and Stephen Sosnick, The Budget's New Clothes, (Chicago: Markham, 1973), p. 80.

- 27 Ibid.
- 28 Charles K. Rowley and Alan T. Peacock, Welfare Economics - A Liberal Restatement, (New York: John Wiley and Sons, 1975), p. 47.
- 29 Cited in Nicholas Kaldor, "Welfare Propositions of Economics and Interpersonal Comparisons of Utility", reprinted in T. Scitovsky and K. Arrow (eds.) Readings in Welfare Economics, (London: George Allen and Unwin, 1969), p. 388.
- 30 L. Robbins, "Interpersonal Comparisons of Utility: A Comment", Economic Journal, 48 (December, 1938), Pp. 635-91.
- 31 Nicholas Kaldor, "Welfare Propositions", p. 387.
- 32 Ibid., p. 389. "The important fact is that, in the argument in favour of free trade, the fate of the landlords is wholly irrelevant, since the benefits of free trade are by no means destroyed even if the landlords are fully reimbursed for their losses".
- 33 Ibid.
- 34 J.R. Hicks, "The Foundations of Welfare Economics", Economic Journal, 49 (December, 1939), p. 260.
- 35 Nicholas Kaldor, "Welfare Propositions", p. 388.
- 36 Ibid., p. 389.
- 37 Ibid.
- 38 Leonard Merewitz and Stephen Sosnick, The Budget's New Clothes, p. 79.
- 39 T. Scitovsky, "A Note on Welfare Propositions in Economics", Review of Economic Studies, 9, (December, 1942), p. 88.

- 40 This is graphically explained in Ibid. and in I.M.D. Little, A Critique of Welfare Economics, (Oxford: Oxford University Press, 1957), Pp. 76-100.
- 41 T. Scitovsky, "A Note", p. 86.
- 42 I.M.D. Little, Critique, p. 100.
- "Better off" and "large" and "small" distributional effects appear to beg quantification but as Little notes in his footnote (p. 100), "the distribution of income is not a precise concept and it is ridiculous to try to be pedantic about it". Distressing distributional effects which accompany large changes would in practice be as abundantly clear as the inequalities of the kind encountered in cursory examination of many developing nations.
- 43 Ibid., p. 109.
- 44 Leonard Merewitz and Stephen Sosnick, The Budgets New Clothes, p. 25.
- 45 Galal A. Amin, "Project Appraisal and Income Distribution World Development, 6:2, (February, 1978), p. 139.
- 46 Ibid., p. 142.
- 47 E.J. Mishan "Survey", p. 199.
- 48 Ibid.
- 49 Ibid.
- 50 Paul A. Samuelson, Foundations of Economic Analysis, (Cambridge: Cambridge University Press, 1947), p. 203.
- 51 Maurice Dobb, Welfare Economics and the Economics of Socialism, (Cambridge: Cambridge University Press, 1969), p. 9.
- 52 Otto Eckstein, Water Resource Development, p. 1.
- 53 John V. Krutilla and Otto Eckstein, Multiple Purpose River Development, p.24.

CHAPTER II

THE NATURE AND APPLICATION OF COST-BENEFIT ANALYSIS

INTRODUCTION

The purpose of this chapter is to set forth in some detail the general procedure involved in performing a cost-benefit analysis. Following a brief recapitulation to place the cba method in the context of its welfare foundations discussed in the previous chapter, cba's "selection criteria" are examined using hypothetical examples as illustrations of their application. Finally the mechanisms of shadow pricing and the social rate of discount - two fundamental concepts of the social cost-benefit analysis technique - are explored.

RECAPITULATION

We may now view the cost-benefit calculation in the context of its welfare foundation.

An objective function which government seeks to maximize is given (consumption): Where a market exists benefit is reflected in willingness to pay. Consumer surplus is the difference between what consumers are willing to pay and what they actually pay. With the introduction of a new product or service or more of each, in a perfectly competitive environment, there will be a change in price paid. A portion of that change will correspond to a gain in consumers (and producers) surplus. (The balance of the change in willingness to pay corresponds to extra costs associated with producing the new product.) It is the gain in surpluses which indicates a welfare change.

Criticisms of consumer surplus as a practical indicator of welfare change have been discussed. It is difficult to measure and such an effort requires the assumption of a linear demand curve, while in practice linearity between price before and price after change is not observable. Where optimal conditions do not exist there

will likely be changes in consumer surplus elsewhere resulting from but not associated directly with the given investment as it spurs price changes in other goods.¹

In a wider sense willingness to pay is a purely efficiency criterion for welfare change. It measures individual and collective valuation of a good either as a benefit (willingness to pay for the good) or as a cost (willingness to pay rather than to forego a good, e.g. clear air). Its fundamental relationship to taste or preference means that it is implicitly tied to existing income distribution.

A desire is counted for nothing unless it is backed with money to translate it into an actual willingness to pay. If the distribution of income were changed, it is highly likely that the relative weights (in a willingness to pay sense) given to the different goods would change also; different people would now have the income to back-up their tastes.²

Apart from recent efforts to incorporate distributional weights into cost-benefit calculations economists have generally relied upon the use of policy recommendations which accompany cost-benefit conclusions to advise on distributional consequences.

D.W. Pearce has summarized the pros and cons of three common justifications for excluding explicit distributional considerations in the cost-benefit calculation.³

1. Change in income distribution is negligible. Obviously however, a very large project may have significant distributional effect. Pearce points out, in addition, that distributional effects may be cumulative i.e. over time each of many small projects may have marginal distributional effects which accumulate.
2. "That investment expenditures should not themselves be the instrument of distributional change". But although the government can alter distribution through fiscal policies, a given project may have distributional consequences which are localized. Peter Self suggests the example of the uncompensated blighting effect on a small village or inner-city area ~~due to~~ construction of

a major roadway. Although cost-benefit analysis might deal with both income effects and major externalities such as congestion or pollution, it would likely skip the

functional disadvantages which accrue to some groups through the growth of motor traffic. Can these disadvantages be labelled as "costs" having the same logical status as, for example, the congestion costs which one motorist imposed upon another? It seems doubtful whether they can be because the burdens under discussion are of a different type. Alternately they can be traced to differences in the structure of opportunities open to individual. Thus a motorist living in a suburban area might be able to trade off the benefits to him of more motorization against the costs to him of worse public transport and/or more environmental disruption. But such

equations have most less or little meaning to individuals who have no alternative to public transport or no ability to move from a blighted inner-cities. The costs and benefits no longer appear as commensurate.⁴

3. Average distributional effects over many projects will be nil. This argument, as Pearce points out, rests solely on an assumption of random effects.

Arguments aside, there remain two schools of thought on the matter. What Self calls the orthodox view maintains that cba should not wander from the efficiency principle and that question of distribution should be resolved with policy recommendations accompanying quantified efficiency conclusions; or alternatively by the more quantitatively attractive and considerably more complex method of assigning welfare co-efficients to groups affected by projects under evaluation.⁵

COST-BENEFIT ANALYSIS: THE GENERAL METHOD AND DECISION RULES

Broadly speaking a cost-benefit analysis can be undertaken to achieve one of three objectives:

1. To evaluate the economic impact of a project which will be undertaken as a result of a policy decision.
2. To evaluate the relative merits of a number of alternative projects, each of which could serve a given purpose, (e.g. in order to establish the project with the largest benefit-cost ratio).
3. To select from a number of projects designed to serve different purposes, one which would produce the largest net benefit to the economy as a whole.⁶

As has been discussed, most social cost-benefit analysis in developed countries has been directed towards the appraisal of public sector projects to satisfy objective (1) or objective (2). Such analysis has generally related to the proposed production of goods which by their nature are non-exclusive, (once produced, benefits can be enjoyed

by all in that no one could feasibly, or without great cost, be excluded from enjoying those benefits) and non-rival (benefits are not diminished through enjoyment).⁷ By virtue of these characteristics the goods are public goods in the sense that the free market could not practicably produce them with an adequate return. The resource cost of a private good is attributable to the individual who is willing to pay for the good and who may appropriate to himself all of the benefits arising from it. An individual could not appropriate all of the benefits arising from a public good (e.g. flood control), so that,

the resource cost cannot be attributable solely to the one purchaser ... The potential purchaser will not take the benefits that his purchase has to others into account in his expenditure decisions. Consequently private markets will tend to under-allocate resources to public goods.⁸

Left to itself, the market would under-allocate resources toward public goods, and "social utility" - benefits to society - would always be sacrificed in favour of private utility.

While in less developed countries the emphasis has been on objective (3), above, appraisal has generally related to projects which would produce marketable output. In this case scba adjusts prices in the analysis to correct for pronounced market distortions common to LDC's and these shadow prices reflect social costs and benefits of the various project alternatives, so that a measure of which project will contribute to social welfare can be taken.

The relationship between commercial and social cost-benefit analysis has already been alluded to. The basis for the following discussion of methods employed for commercial evaluation is twofold: first, the techniques employed to determine private rates of return in a commercial investment are essentially the same as those for a social evaluation - the only difference being in the valuation and nature of inputs and outputs; and secondly, the cost-benefit analyst, in examining the relative social merit of project alternatives, may perform the financial analysis and the economic analysis in order to compare private and social return in an environment in which there are major disparities between financial and economic costs. (These disparities are discussed at greater length in the section on shadow pricing, below.)

Where the financial analysis is concerned, the object of applying analytical techniques to capital investment proposals is essentially to compare net cash flows over the life of the project with the initial investment required. Net cash flows are the incremental cash receipts and expenditures attributable to the project. To be precise, negative net cash flows may be regarded as capital outlay expenditures in the initial period and those associated with the replacement of major capital items, while positive net cash flows are

net cash receipts to which a project gives rise. Formally they comprise profits less taxes when paid, plus depreciation provisions less replacement capital expenditures when actually made, plus net changes in working capital, plus the recovery of any net residual values from assets at the end of the project's life, plus miscellaneous cash receipts which fall into none of the preceding categories.⁹

To establish present value of a project, year-end net cash flows are discounted at a rate equal to the cost of capital to the firm, which reflects the greater value of benefits now and the higher resource costs of expenditures now. Thus, present value of a project is the formula,

$$PV = \sum_{t=1}^{t=n} \frac{A_t}{(1+r)^t}$$

where A = year end cash flow for the t^{th} year

r = rate of discount

t = time period (year)

The net present value, NPV is the difference between the above and the initial capital outlay.¹⁰ Thus, the formula for net worth is:

$$NPV = \sum_{t=0}^{t=n} \frac{A_t}{(1+r)^t}$$

which incorporates initial capital outlay as negative cash flow in year zero, and which is perhaps conceptually more useful in progressing to the second decision rule - internal rate of return or yield.

Yield is the solution for r in the equation,

$$\sum_{t=0}^{t=n} \frac{A_t}{(1+r)^t} = 0$$

Yield or internal rate of return is the rate of interest at which discounted costs equal discounted benefits.

A third criterion employing the discounting technique is cost-benefit ratio. Each of these criteria has its associated decision rule. If evaluation of a project reveals that the difference in discounted benefits and discounted costs - the net present value - is greater than zero, the project is acceptable. If the benefit to cost ratio is greater than unity, the project is acceptable. If the yield or internal rate of return - the discount rate at which costs equal benefits - exceeds the cost of capital, the project is acceptable. Obviously, these rules may be applied in ranking alternative projects by the respective values of a particular criterion.

It should be noted that the employment of investment criteria and their associated decision rules applies equally to economic evaluation of projects, for in

the context of the discussion on welfare foundations, a project which conforms to the decision rule will result in an increase in the value to society of production: the Kaldor-Hicks welfare criterion is met.

While these three selection criteria - the discounting methods - better embrace the different cash characteristics of a project to indicate worth than some other methods commonly employed,¹¹ their use requires caution. In both financial and economic analysis, it is critical to appreciate that employing the different criteria to evaluate a given set of projects may lead to different results. It is true that yield and net present value and benefit-cost ratio, used as "formal accept or reject criteria" on a given project with a two-period investment stream, (one period with negative cash flows followed by a second with positive cash flows) will lead to equivalent results. A project with a positive net present value will have a yield higher than a cost of capital and positive b-c ratio.¹² But in the case, for example, of ranking mutually exclusive projects for relative financial or economic worth, different magnitudes of cash flows affect the values of each criterion.¹³

Consider the example, illustrated in Figure 1, of three projects all of which would meet one objective, the improvement of a highway facility between two points.

A ranking exercise would lead to the following conclusions. Under the NPV criteria the project would be rated in order of desirability, B, A, and C; under the IRR and cost-benefit ratio criteria, C, B, A. A commercial analysis might thus choose project C on the basis of the cost-benefit ratio and IRR. Projects A and B however would lead to a greater absolute net benefit to the firm or to the economy. At the same time benefits of A exceed those of B by an amount less than the difference in costs i.e. by the difference in NPV's, and therefore B is preferred over A. Hence, as Adler points out,

selection of the project on the basis of highest internal rate of return would thus lead to a wrong decision in this example.¹⁴

Equally obvious, the certainty with which a particular discount rate is employed is critical to the efficacy of NPV since, over three ranges between 0% and 18% (i.e. 0 to 8%, 8 to 15%, 15 to 18%) projects A, B and C each show the highest NPV's respectively.

Figure 1 Investment Streams and Associated Criteria for Three Mutually Exclusive Projects

Year	0	1	2	3	4	5	6	7	8	9	10
Project A	-100	2	10	15	20	30	35	38	35	25	15
Project B	-90	5	15	25	30	34	30	22	15	10	5
Project C	-50	2	8	12	15	20	22	18	10	8	5
	Costs	Benefits	NPV @10%	Cost-Benefit Ratio	IRR						
Project A	100	126	26	1.26	15						
Project B	90	119	29	1.32	17						
Project C	50	72	22	1.43	18						

OBJECTIVE: Provide better highway facilities between two points.

ALTERNATIVES: Project A: Build new highway

Project B: Improve alignments of existing highway at various points; rebuild roadway.

Project C: Repair existing roadway; heavy maintenance expenditures.

Source: Hans A. Adler, Economic Appraisal of Transport Projects, (Bloomington: Indiana University Press, 1971)p.43

This latter point is in fact central to the preference by many for the yield method as the acid test. A firm which has difficulty in closely estimating cost of capital would have to calculate NPV's over a range of discount rates making the ranking process doubly difficult.¹⁵ A project with a yield profitable above the maximum estimate for cost of capital could be accepted with reasonable certainty. Likewise the economic analyst might prefer IRR for the same reasons, where a "national" (or "social" or "opportunity") cost of capital is difficult to establish. Indeed Adler tells us that IBRD employs it for evaluation of many projects for which financing has been requested, although it must be noted that a country choosing investments according to a development plan, (i.e. prioritizing investments), would anyway would have to somehow estimate a discount rate, at the very least to establish the figure below which IRR could not fall.¹⁶

Considerations of risk also have a bearing on the preference for the IRR method. Where business is concerned, risk of all kinds (e.g. inflation, product obsolescence) is time-related, and the IRR criterion, unlike NPV, is essentially a measure of rate of return per unit capital

outstanding in the project per unit time".¹⁷ It thus provides a value indicative of rate of return, given the risks involved. In special cases, consideration of risk may obviate the quandary of conflicting criteria. Consider the previous example of mutually exclusive transport projects. Both A and C were most favoured under the NPV and IRR criteria respectively. A consequence of relying solely on the NPV criterion could be that the authority might choose the alternative with unnecessary capital intensity (in return for the higher NPV) as opposed to the other less capital intensive project which is perhaps less risky, (if, for example demand projections are suspect). In such an instance, the incremental cash flows (A over C) might be calculated to establish the return on additional investment included in choosing A over C (Figure 2. The method, suggested by Merrett and Sykes, is applied to Adler's example). We see that the internal rate of return on the incremental investment is 11.1%, or 1.1% higher than the discount rate. If risk is considered low, the incremental IRR is safely in excess of the discount rate. Project A will capture all of the benefits of Project C and provide a reasonable return for the additional investment.

Figure 2 Investment Streams and Criteria for Two Mutually Exclusive Projects and the "Incremental Project"

Year	0	1	2	3	4	5	6	7	8	9	10
Project A	-100	2	10	15	20	30	35	38	35	25	15
Project B	-50	2	8	12	15	20	22	18	10	8	5
A-C	-50	0	2	3	5	10	13	20	25	17	10
	Costs			Benefits			NPV @10%			IRR	
Project A	100			126			26			15	
Project B	50			72			22			17	
A-C	50			54			4			11.1	

A further point must be made about the IRR criterion. Thus far, only "two period" investment streams have been considered. But many projects experience predictable net negative cash flows in the future, a good example being a nuclear power plant which must be decommissioned at considerable cost at the end of its useful life. In all such cases, more than one value for yield will reduce the net present value to zero. In Figure 3, the relationship of NPV and IRR for the three highway project alternatives, each with a unique IRR, is shown. In the hypothetical case of a project with two values for IRR generated by an investment stream with negative, followed by positive, followed by negative cash flows (the values are unimportant), the curve would cut the horizontal axis in two places. Two internal rates of return are algebraically valid. In fact, several (and theoretically any number of) IRR values could arise from investment streams with net cash flow values oscillating between the negative and positive.

Mishan cites this potential for ambiguity as evidence that "the case for preferring the present-value criterion above the internal rate-of-return criterion looks very strong", since the analyst would intuitively choose the higher (or highest) value for IRR for such an investment

Figure 3 Net Present Value vs. Discount Rate for Three Alternative Projects

stream, if obliged to employ the criterion.¹⁸ It seems obvious that in all cases of project selection, the several criteria, with their attendant ambiguities, should at least be tested in the hope of mutual confirmation.

This concludes the overview of criteria and decision rules in the context of both commercial and social cost-benefit analysis. It is clear that the certainty of a conclusion - be it involving acceptance or rejection of one project or ranking of alternatives - is maximized by careful examination of the values which cash flows impart to the criteria. It is equally clear that ambiguities may arise, particularly when criteria are not mutually self-supporting and when factors which influence decision rules such as private or social discount rates are not readily ascertainable.

We turn now to closer examination of the chief components of the social benefit-cost analysis - shadow pricing and the social discount rate.

SHADOW PRICING

Shadow pricing is the process by which market prices of inputs or outputs are corrected, or prices attributed to non-marketed items in the cost-benefit calculation. They are essentially exchange ratios - defining the relative value of commodities - which are "implicit in exchanges made to maximize an objective function or to minimize a cost function",¹⁹ as opposed to the explicit exchange ratios observed as prices in the market. Shadow prices are therefore intended to reflect the real relative scarcity of resources and the value judgements which government makes in setting objectives (as in the decision to weigh future consumption relative to present consumption). The application of shadow (also called accounting) prices is consistent with the use of social cost-benefit analysis techniques under conditions in less developed countries which cause or sustain the disparity between observed prices and social costs and benefits: e.g. rapid inflation, overvaluation of current, non-uniform cost of money, wage rates in the modern sector which are higher than the opportunity cost of labour, and projects which are sufficiently large so as to affect profits elsewhere in the economy.²⁰

We may note Little and Mirlees' ~~statement~~ ^{statement} that

we are concerned with the application of cost-benefit analysis in fields in which it is considered unnecessary in developed countries. The justification for this can only be that it is felt that within such sectors of more advanced economies the price mechanism works in such a way that profits are a reasonable measure of net benefit, but that this is not true of most developing countries.²¹

In developed countries, as we have seen, the technique has largely related to non-marketed goods (e.g. water resource projects, education, defense) or to projects involving substantial external effects. Clearly, shadow pricing is the more difficult here, where observed market prices do not exist, than in developing countries where, distortions notwithstanding, analysis has been confined to marketable goods where observed prices provide a basis for estimation. Thus,

if it is felt that market prices reflect social costs and benefits reasonably well, the same reasons that make cost-benefit analysis relatively easy also make it unnecessary.²²

Although methods of derivation may differ in degree of sophistication, the notion of shadow pricing is not special. An analyst who uses c.i.f. or f.o.b. prices for imports and exports in place of prices which include duties, or who costs a good net of tax, is employing shadow pricing. Shadow pricing, then, is applied to all goods and factors, foreign and domestic, which are involved in an estimate of social income: "the value of increases in supply less the value of increases in demand" or "the income imputed to the project, as a measure of the net increase in the output of the economy which it brings about".²³ (The concepts of economic costs of inputs and benefits of outputs reappear in Chapter III where they are applied to tourism projects specifically.)

The best, and evidently most common example of the need for shadow pricing involves foreign exchange. Overvaluation of the exchange rate by developing countries has the effect of understating the true value of imports to an

economy. That is, the price in domestic currency suggests a value of imported goods which falls short of its true value to the economy, and hence the demand for foreign goods exceeds the amount of foreign currency available to pay for such goods. Likewise an overvalued exchange rate has the effect of understating the value of exports which pay for imports, relative to the value of domestic resources.

It must be borne in mind when classifying project inputs as imported or domestic that the purchase of the latter often contains an import content with attendant foreign exchange cost. The obvious case is the domestic input derived from the intermediate import (e.g. gasoline from oil). In the absence of excess domestic capacity to produce an input required by a project, a later purchaser would need to import that input or scale down production. If production of an exportable is scaled down foreign currency earnings are lost. If a domestic good is involved additional imports must make up the shortfall.²⁴

Similarly of course, foreign exchange savings attend the production of a wholly domestic output, be it a final (import substituting) good, or an intermediate good to be used in the production of domestic final goods or exportables. It is through the shadow pricing mechanism

that all of the costs and benefits to the economy are valued in terms of economic scarcity.

A practical example of shadow pricing foreign exchange is furnished by Adler in his manual of appraisal of transport projects for Pakistan.²⁵ A rate of 1.75 times the official rate of exchange is employed in calculating the costs of foreign expenditures. As must be immediately obvious the value of all such national ratios might be open to debate, and the more prudent approach - the use of a range of shadow prices in several attempts at analyzing a particular project - would determine the effect of the different rates on the quantitative criterion employed.

Shadow pricing extends to the employment of labour, especially unskilled labour drawn to industrial projects from the agricultural sector, a condition common to l.d.c.'s. The shadow wage rate is a measure of opportunity cost of labour, corresponding to the output foregone by labour's employment in a project. It is often the case that an unskilled worker employed in an industrial project will be paid at the minimum wage rate which exceeds his opportunity cost, i.e. which exceeds the fall in agricultural

output which results from his departure. In fact, if there is a large pool of surplus labour, an opportunity cost of zero may obtain, in that agricultural output would not fall at all as a worker left for the industrial sector.²⁶ In addition, as Prest and Turvey point out, initiation of a project in an economy with general unemployment will create new real income through the multiplier effect, and hence "the use of market values to ascertain direct costs and benefits of a project overstates its social costs and understates its social benefits (by the amount of "induced benefits").²⁷ That said however, there are practical arguments against making corrections to the price of labour; primarily, that it is easier to correct for overpriced labour used in the construction and operation of a project per se, than for all of the labour (also overpriced) associated with the production of goods and services used in the project. Hence "if correction is made for project labour costs only, the relative social costs of project labour and of other inputs may be more poorly estimated than if no correction at all is made".²⁸ This leads Prest and Turvey to conclude that analysts would be safer restricting correction of market price of labour to "divergences which are local or which relate to some specialized factor of production."²⁹

In a later paper, Turvey acknowledges that input-output analysis which embraces both a breakdown of material inputs by industry and labour inputs (direct and intermediate) by occupation would, theoretically at least, cope with this difficulty.³⁰ As discussed below, such analysis has indeed been employed in the ex-post appraisal of tourism projects.

Assigning a value to the shadow wage rate for unskilled labour points up other considerations relating to government development objectives. It was earlier stated that the shadow wage rate would measure opportunity cost of labour, say in terms of marginal product foregone in the alternative use - agriculture. The objective function of consumption is advanced by a project employing previously underemployed labour. In other words, increased consumption on the part of a worker employed in a project is a good thing to the extent that pricing labour at the market wage would, in the CBA calculation, not only fail to take account of the true scarcity of labour, it would be inconsistent with the development objective increasing consumption. On the other hand, many L.D.C.'s face chronic shortages of aggregate investment including that derived from private savings, as labour consumes its total wage bill.

Under this condition, a shadow price of labour equal to its opportunity costs reflects true scarcity of labour, but fails to take account of sub-optimal savings.³¹ Project appraisal reflecting a value judgement that savings are more valuable at the time than consumption would price labour higher than the opportunity cost, so that any estimate of the investment criterion would reflect a bias toward growth, and away from current consumption, although a simpler approach to augmenting national savings might be to place a shadow premium on anticipated project surpluses.³²

Conversely, if government places a premium on income redistribution and this is to be effected through investment in projects (rather than fiscal means), project alternatives which employed the rural poor might be appraised using a shadow wage rate adjusted downward from whatever level might otherwise have been appropriate. In all cases of course, the shadow price variations reflect value judgements as to what effects are considered important.

There has been considerable attention directed toward the complexity of deriving shadow prices in developing countries. The "OECD approach" developed by Little and Mirlees endorses the use of world or border

prices as shadow prices "not because it is thought they are in any sense necessarily more "rational" than domestic prices but simply because they represent a set of opportunities open to a country, and the actual terms on which it can trade".³³ Little and Mirlees work out costs and benefits in terms of foreign exchange which they deem the unit of account (or numéraire) in any appraisal. Thus, domestic money values of production factors would be converted into foreign currency equivalents at a shadow exchange rate and traded goods valued at world prices.³⁴ Alternative methods of evaluation employing different units of account and consequently different approaches to shadow pricing have been proposed and compared for their efficiency to the Little-Mirlees design.³⁵

Despite a considerable effort to work out detailed methods of shadow pricing, the most recent UNIDO manual on project appraisal makes some powerful arguments for all but abandoning the attempt.³⁶ For, while shadow prices do in theory reflect economic scarcity,

the application of shadow prices to project evaluation in developing countries, at least at this stage, is

impossible on both conceptual and practical grounds. It is impossible on conceptual grounds because the existing socio-economic complex of a country cannot be described properly; our knowledge of the inter-related socio-economic factors is too limited. From the practical standpoint the complicated interaction of the different socio-economic factors cannot be simulated properly.³⁷

More important, changes in the aforementioned relationships between shadow prices and national objectives and constraints obviously will result from changes in those objectives, so that the system of shadow prices would require adjustment. As the UNIDO manual observes,

the decision-makers usually press the project planners to formulate and submit projects for decision as quickly as possible; no one would think of such an extremely difficult, time-consuming task, as establishing shadow prices with the need for their constant review and readjustment.³⁸

The pressure of time is but one factor which could contribute to an inappropriate definition and application of shadow prices. It is quite possible that as much distortion could arise in the appraisal process where shadow prices are to be applied, as occurs in an environment of manipulated pricing mechanisms. There may be an inherent gap between the nominally "value-free" analyst interpreting socio-economic objectives and priorities in an effort to define and apply shadow prices, and the political authority sensitive to shifting attitudinal patterns among the electorate and interest groups. To assume, as some do,³⁹ that an analyst can glean from the political authority a clear and consistent definition of socio-economic goals of developing policy sufficient to develop a constellation of prices different from reality, but consistent with those goals, would appear insouciant.

Finally, as the latest UNIDO manual argues, the distortions evident in some market prices are themselves a product of socio-economic factors:

social forces, with their particular interests; the socio-economic policy of the government in using price as a tool

for income redistribution ... or for discouraging or promoting the consumption of certain goods (tobacco, spirits vs. bread, sugar) etc. All these considerations are reflected in actual prices usually in a more objective manner than they are in shadow prices. Moreover, employing market prices would eliminate the possibility of quantitatively justifying a project which the government wants, irrespective of whether it is efficient or not, but which is efficient on the basis of manipulated shadow prices.⁴⁰

This is not to say that the concept of shadow prices need be abandoned altogether. An analyst may easily arrive at a net present value figure based on market prices of inputs and outputs, and include observations on the additional positive or negative impact the project would

have with the elimination of certain distortions. Nor does the UNIDO manual deny the need to consider national parameters. These are defined as

a numerical expression of the limits of acceptability from the point of view of society (minimum acceptable social rate of return) or a quantitative measure of the value the society assigns to certain major factors, which has a direct bearing on project evaluation and selection (social rate of discount, shadow rate of foreign exchange).⁴¹

Nevertheless, in an effort to render project evaluation "more operational", the authors take the view that most national parameters (e.g. social value of investment, shadow wage rate) are vulnerable to the same arguments that condemn shadow pricing. Only the social rate of discount and an adjusted rate of foreign exchange survive as ascertainable national parameters in the UNIDO manual.

THE RATE OF DISCOUNT

In precisely the same manner that interest measures the cost of money over time, the discount rate is a measure of the decline in the value of benefits over time. In aggregating costs and benefits over the life of a project using the formulae discussed above, the value of r relates the value of consumption in future years to the value this year. In a trivial case, a discount rate of 5% means that the analyst values consumption of one dollar next year at 95¢ this year, i.e. consumption worth one dollar one year in the future is of equal value to the consumption of 95¢ now. The discount rate is thus "the rate at which present consumption is preferred to future consumption"⁴², and reflects the fact that there is a real cost to committing resources between now and some future date. This cost is in terms of what might in that interval be earned by those resources in the alternate use or the satisfaction the resources could bestow through consumption.

It follows that the value of money which is not currently available, but which will become available (or spent) some

years hence must be discounted of the interest which could be earned in the interim which is why the present value of a dollar to be received in the future is always less than one hundred cents.⁴³

The validity of using a discount rate in alternative project evaluation is thus obvious. Two projects offering benefits of nominally equal value in widely varying time periods could hardly be called equivalent, owing to the existence of "time preference".⁴⁴ The choice of a particular rate is no less important. A net present value calculation is heavily influenced by a choice of the value for r . Mikesell cites a study which re-evaluated a group of public sector water resource projects authorized in 1962 by the American Congress on the basis of their benefit cost ratios exceeding unity at a discount rate of 2.63%. The study concluded that with a 6% rate in effect only 36% of the projects would have conformed to the decision rule; using an 8% rate, only two in ten projects would have passed.⁴⁵

As essentially the rate at which the value of consumption falls over time, the discount rate embraces a trade-off between consumption now and investment or growth. The lower the rate, the greater the number of projects which will pass the decision rule, each at a cost to present consumption. Here in fact is a fundamental difficulty in public project evaluation in developing countries where, as Layard puts it, "the choice between present and future consumption is truly agonizing".⁴⁶ The choice and application of a discount rate in public project evaluation has been a central issue in welfare economics. (A second but no less important concern about low discount rates is their effect on distribution of income immediately, since many projects consuming investible government funds are social projects).⁴⁷

How then can government chose a discount rate deemed appropriate to the realities of market and socio-economic goals? A private firm utilizes market rates of interest in its discounting procedure. Thus,

the usual rate at which future benefits and costs (are discounted by a private firm) is the rate at which (the firm) is doing business both on new borrowings and in the investment of sinking funds or retained earnings.⁴⁸

It is therefore roughly the cost of capital. The rate which government "should use" in the evaluation of public projects has been the subject of some scholarly debate, which probably accounts for some of the confusion and conflict of public resource project spending in the United States particularly.⁴⁹ The issues involved are beyond the scope of this paper. Suffice it to say, the argument is over whether the public discount rate should be a social time preference rate (which reflects society's weighing of future consumption vs. present consumption), or based on the private rate of time preference exhibited by individuals, the usual figure for which is the market rate of interest on riskless securities.⁵⁰ Some authors reject out-of-hand an equivalence between collective or social and private rates of time preference,⁵¹ since for one thing, social goods are probably valued by the individual differently than private goods. A related view suggests

that the individual has his own concept of social rate of discount which embodies a sacrifice of current consumption for investment in social goods, provided he is assured others are willing to make the same sacrifice.⁵² The question, though complicated, is not at all esoteric to the project analyst or the directing government authority, when one realizes that public projects are often financed by government through taxation which involves an economic cost to private sector in terms of investment opportunities foregone and to taxpayers in terms of present consumption. However, this does not obviously apply to situations in which government is appraising private foreign investment which would not be forthcoming in the absence of project approval. Where the issue of a choice of social discount rate does arise however, is in cases where a host government is contemplating participation with a foreign investor in a private project. Everything else being equal, participation in a joint venture would be favoured if the rate of return to the private foreign investor exceeded the chosen social discount rate in the host country, a point to which we return to Chapter 4.

ENDNOTES

- 1 This indirect change, postulated by I.M.D. Little is cited in D.W. Pearce, Cost-Benefit Analysis, (London: MacMillan, 1971), p. 22.
- 2 Lee G. Anderson and Russell F. Settle, Benefit-Cost Analysis - A Practical Guide, (Lexington: D.C. Heath, 1977), p. 11.
- 3 D.W. Pearce, Cost-Benefit Analysis, p. 27.
- 4 Peter Self, Econocrats and the Policy Process: The Politics and Philosophy of Cost-Benefit Analysis, (London: MacMillan, 1975), p. 65.
- 5 Ibid., p. 141.
- 6 W.R.D. Sewell, J. Davis, A.D. Scott and D.W. Ross, Guide to Benefit Cost Analysis, (Ottawa: Queen's Printer, 1965), p. 3.
- 7 An excellent summary of the nature of public goods may be found in Walter Nicholson, Intermediate Micro-economics and its Application (Hinsdale, Ill.: Dryden, 1975), Pp. 499-504.
- 8 Ibid., p. 501.
- 9 A.J. Merrett and Allen Sykes, The Finance and Analysis of Capital Projects, (London: Longman, 1963), Pp. 29-30. The efficacy and shortcomings of the discounting methods are well covered in chapters 1, 2, and 5; E.J. Mishan, Elements of Cost-Benefit Analysis, (London: George Allen & Unwin, 1972), chapters 21, 22, 24, 25; Hans A. Adler, Economic Appraisal of Transport Projects, (Bloomington: Indiana University Press, 1971), chapter 5; Leonard Merewitz and Steven H. Sosnick, The Budget's New Clothes, (Chicago: Markham, 1973), Pp. 92-100. A brief but detailed treatise on the relative merits of the aggregated benefit cost ratio (sum of benefits to sum of costs) vs. the netted benefit cost ratio ((sum of benefits minus sum of costs excluding initial cost outlay) to initial cost outlay) is offered by Bernard Schwab, "Current Limitations and Possible Extension of Some Common Criteria for Investment Evaluation", in M.G. Kendall, (ed.), Cost-Benefit Analysis (Symposium in The Hague, July 1969 under the aegis of the NATO Scientific

Affairs Committee), New York: American Elsevier Publishing Co., 1971), Pp. 305-313. The use of the criteria in the context of water resource project selection is detailed in Roland N. McKean's eminently readable Efficiency In Government Through Systems Analysis, (New York, John Wiley & Sons Inc., 1958), chapter 7.

- 10 A.J. Merrett and Allen Sykes, Finance and Analysis, p. 23.

11 For example, rate of return and payback. The former is the ratio of profit to capital and is easily compared to cost of capital to determine project worth, after allowance for risk. It thus neglects the element of time: cash flows in the distant future are treated the same as nominally equivalent cash flows in the near future. Gestation or "preproduction" periods are similarly unaccounted for. (See Ibid., p. 207) Payback, the time required to earn back initial outlay, conceptually ignores the magnitudes of post-period cash flows. One project might be more lucrative beyond the payback period than another of equal life, but would not receive deserved favour. In addition, obviously, the life of the project is not a factor in this method. Payback is nevertheless quite popular in private profitability analysis, and not only because of ease of application. Short payback is in fact important as pointed out by Hans A. Adler, (Economic Appraisal, p. 40), in cases

"where the future is unusually uncertain, where better investment opportunities are likely to arise, or where funds are not available on a long term basis."

- 12 A.J. Merrett and Allen Sykes, Finance and Analysis, Pp. 123-124.

13 Mutually exclusive in the sense that only one objective must be fulfilled, and only one project - the "most valuable" - will be chosen to fulfill it. A firm might wish to invest a limited supply of funds in the best of several projects, or may wish to evaluate several ways (projects) of turning out a given product. A government wants to determine which of several projects relating, say, to the provision of new or improved highway facilities, will attain the objective with the best value for money. The example used is a real one cited by Hans A. Adler, Economic Appraisal, p. 43.

14 Ibid., p. 44.

15 A.J. Merrett and Allen Sykes, Finance and Analysis, p. 24. The cost of loan capital is of course a given; estimating the cost of equity capital is the responsibility of the firm, and often difficult one to discharge. (See Ibid., Pp. 50-58, 60-79).

16 Hans A. Adler, Economic Appraisal, p. 45. Difficulty in estimating opportunity cost of capital is not the only reason the Bank prefers it.

"... the Bank must assure itself only that the project is justified; it need not be the highest priority project in the country. The Bank thus does not use the internal rate (of return) for deciding between mutually exclusive projects."

17 A.J. Merrett and Allen Sykes, Finance and Analysis, p. 23123. Inflation is best looked upon as a risk so that it may be excluded from the algebraic portion of analysis. That is, most benefit cost analysis of a financial or social nature involves the estimation of future benefits and costs at constant prices, discounted at a rate equal to private, or social, opportunity cost in the absence of inflation. Even when comparisons of several projects are necessary in order to make a selection, the effects of a general rise in prices are likely to be roughly similar in each case, notwithstanding the different inflation characteristics of inputs (especially energy for example). Although, as Anderson and Settle point out, (Benefit Cost Analysis, p. 92) this approach requires an estimate of the portion of perceived return on investment which is the inflation premium (i.e. when investors anticipate inflation) the alternative - current dollar analysis - would be more speculative, since the analysis would be required to predict inflation through the life of the project. Where public sector project analysis is concerned, controversy would inevitably arise, as anyone exposed to government's institutionalized optimism towards "inflation next year" will confirm. (For a hypothetical example which proves the equivalence of both approaches when ideally practised, see Anderson and Settle, Pp. 92-93).

- 18 E.J. Mishan, Elements, p. 133.
- 19 Roland N. McKean, "The Use of Shadow Pricing", in Samuel Chase, (ed.), Problems in Public Expenditure Finance, (Washington, D.C.; Brookings Institution, 1968), p. 1.
- 20 I.M.D. Little and J.A. Mirlees, Project Appraisal and Planning for Developing Countries, (New York: Basic Books Inc., 1974), Pp. 29-35.
- 21 Ibid., p. 29.
- 22 Ibid.
- 23 Ibid., p. 143.
- 24 Ibid., Pp. 141-142.
- 25 Hans A. Adler, Economic Appraisal, Pp. 9-10.
- 26 Partha Dasgupta, "A Comparative Analysis of the UNIDO Guidelines and the OECD Manual", Bulletin of the Oxford Institute of Economics and Statistics, 34:1, (February, 1972), p. 34.
- 27 A.R. Prest and R. Turvey, "Cost-Benefit Analysis - A Survey", Economic Journal, 75:30, (December, 1965), p. 694.
- 28 Ibid.
- 29 Ibid., p. 695
- 30 R. Turvey, "On the Development of Cost-Benefit Analysis", in M.G. Kendall, (ed.), Cost-Benefit Analysis, p. 10.
- 31 Partha Dasgupta, "A Comparative Analysis", Pp. 38, 40.
- 32 Relating to earlier discussions of welfare function and individual performances, we might even consider the "disutility of effort" (leisure foregone) as a private cost borne by the rural worker moving to a job in the modern sector. Adhering strictly to such concepts, the analyst would include this figure, suitable adjusted as "social cost of reduced leisure", in an estimate of the shadow wage rate. As with other elements in welfare

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economics and cost-benefit analyst, the transition from theory to application may prove too much for the pragmatist. Apart from obvious difficulties in valuing "social cost of reduced leisure" many would agree with Squire and Van der Tack that realistically, government "in its desire for development normally interpreted as increased consumption ... may not consider increased effort as a cost ...", Economic Analysis of Projects, (Baltimore: Johns Hopkins University Press, 1975), Pp. 81-82.

This case exemplifies what Self has called a fundamental criticism of economic analysis, namely that it is prone to divide the world into two halves labelled respectively 'costs' and 'benefits' so that work is a cost incurred to realize the benefit of consumption. "But some people at least still value the act of working more than the act of consuming, which led Bernard Shaw to the conclusion that those who enjoy their work should pay for the privilege of doing it!", See Peter Self, Econocrats and the Policy Process: The Politics and Philosophy of Cost-Benefit Analysis, (London: MacMillan, 1975), p. 70.

- 33 I.M.D. Little and J.A. Mirlees, Project Appraisal, p. 161.
- 34 For a numerical example see Deepak Lal, Methods of Project Appraisal, (Washington: IBRD, 1974) Pp. 6-8.
- 35 The most significant alternative is the United Nations Industrial Development Organization approach as developed by P. Dasgupta, A. Sen and S. Marglin, Guidelines for Project Evaluation, (New York: United Nations, 1972). For a detailed comparison of the OECD and UNIDO methods see Partha Dasgupta, "A Comparative Analysis".
- 36 United Nations Industrial Development Organization, Manual on the Evaluation of Industrial Projects, (New York: United Nations, 1980).
- 37 Ibid., p. 21.
- 38 Ibid.
- 39 For example, Lyn Squire and Herman Van der Tack, Economic Analysis, Their assumption, however applies to international agencies conducting appraisals. "If an international agency, such as the World Bank conducts the analysis, it must try to arrive at an understanding with

the government about these goals before the analysis is undertaken. If views diverge - with respect to the desired distribution of the gains from development, for example - the agency should analyze the proposed project relative to both its objectives and those of the government and satisfy itself that the project meets the objectives of both". p. 27.

- 40 UNIDO, Manual, p. 22.
- 41 Ibid., p. 22.
- 42 R. Layard, "Introduction", R. Layard (ed.), Cost-Benefit Analysis, (Harmondsworth: Penguin, 1972), p. 29.
- 43 Robert L. Banks and Arnold Kotz, "The Program Budget and the Interest Rate for Public Investment", Public Administration Review, 26, (December, 1966), p. 285.
- 44 Inflation was discussed previously as a special type of risk worthy of consideration in planning investment. Nevertheless, as R. Turvey states, ("On the Development of Cost-Benefit Analysis"), "It seems to be generally agreed that the expectation of future inflation should not be allowed to bias choice in favour of projects where costs occur early relative to benefits". (p. 8). The ways to avoid this are of course to analyze projects in current dollars with an inflation index added on to the discount rate or to use constant dollar analysis and "real discount rate" corresponding to a real (rather than nominal) rate of return in private project calculus. Constant dollar analysis is obviously simpler, and is advocated in most of the literature as a valid method for comparing projects. We may note Turvey's caveat that allowance would have to be made for changing relative prices as when relative costs of labour can be expected to rise with economic growth at a rate exceeding increases in other factor costs (Pp. 8-9).
- 45 Raymond F. Mikesell, The Rate of Discount in the Evaluation of Public Projects (Washington: American Enterprise Institute for Public Policy Research, 1977), p. 3.
- 46 R. Layard, Introduction, p. 30.
- 47 Raymond Mikesell, The Rate of Discount, p. 6.

- 48 W.R.D. Sewell, et al, Guide, p. 16.
- 49 See Raymond Mikesell, The Rate of Discount, for a discussion of the conflict between President Carter and Congress over the deletion of nineteen water resource projects from the 1978 budget (p. 5) and Robert L. Banks and Arnold Kotz, "Program Budget", Pp. 286-289.
- 50 Raymond Mikesell, The Rate of Discount, p. 6.
- 51 Ibid., p. 8.
- 52 A.R. Prest and R. Turvey, "Cost-Benefit Analysis", p. 698.

CHAPTER III

AN OVERVIEW OF TOURISM

INTRODUCTION

This chapter looks at tourism from a development perspective, and examines some of the reasons why tourism is looked upon with ambivalence by less developed countries, having, or seeking to have a substantial tourist industry. The a priori case for developing tourism in ldc's is presented, and some of the widely accepted development effects explored. The chapter ends with an examination of recent attempts to apply social cost-benefit analysis to tourism planning and of the elements which would be part of such an approach.

THE RETREAT FROM PRESUMPTION

In his study of tourism in Fiji, R.C.G. Varley writes:

It is a fair generalization to say that one of the initial attractions of tourism was to enable countries to shift away from primary product specialization where the long-term trends in terms of trade and unstable world prices hampered the development of a more diversified and integrated economy.¹

The case for tourism development in less developed countries has found support in statistics on the growth of tourism receipts in the context of world trade: between 1950 and 1970 international tourism receipts increased at an annual rate of 11% versus 9% for world exports and 6% for primary commodities.² Except in the period of world recession in 1974-75, the growth trend in travel has been continuous throughout the 1970's.³

The sheer magnitude of the travel trade is impressive. In 1978, international tourist arrivals totalled 263 millions and corresponding expenditures - gross tourism receipts - amounted to \$63.5 billions. Eighteen per cent of these expenditures accrued to less developed countries.⁴

A popular image of tourism is that it is a marketable, highly remunerative and "smokeless" industry providing for a basic need in people. The International Tourism Quarterly, reporting in 1978 on the secular increase in tourist arrivals suggested that:

... this trend goes hand-in-hand with the increasingly important place of tourism as one of the basic needs of people and the constant efforts made by the authorities responsible for tourism development in every country to adapt to new patterns of demand.⁵

To some extent the importance of tourism as a basic need and as a factor in national development has been assumed. But for an industry of some complexity - both structurally and

in terms of economic and social effects on supplying countries - the travel trade did not, until fairly recently, command the kind of scrutiny one would expect. Only six years ago, the International Tourism Quarterly quoted an OECD report as stating that the tourist industry should look upon the world recession, during which fewer foreign tourist arrivals could be expected,

as an opportunity for a more rigorous examination of the costs and benefits of tourist development, not only from the economic standpoint but also from the social and environmental points of view.⁶

4 Why then, in the absence of 'rigorous study' was tourism viewed as having the potential for transforming and modernizing LDC economies? Along with superficially impressive growth statistics there was

... a rather naive view of the industry's supply elasticity in developing countries. Tourism has been pictured as

an economic activity of fairly simple technology using resources such as sunshine, scenery and manpower existing in abundance in these countries.⁷

The propensity for travel among increasingly affluent people of developed nations in search of undepletable resources of L.D.C.s - climate, landscape and culture - could have dramatic effects on national income, unemployment and government revenue. Only in the last decade have serious challenges to the unqualified argument been raised. As Diamond wrote in 1977, "the economic case for tourism has remained virtually unassailed",⁸ and in fact the role in development of tertiary industries generally seems to have suffered neglect in the literature.⁹

Criticism has run toward the sociological implications for L.D.C.s: the demonstration effects of conspicuous consumption; the erosion of local work attitudes; the damaging of national culture as the playground/fantasy idyll as propagated by highly integrated international tourism business; rising local crime, alienation of choice land; and the "nation of waiters" syndrome.¹⁰

Sociologist Roy Buck has characterized tourism scholarship as being organized in two relatively isolated camps.

There is the business enterprise and economic development camp largely devoted to charting growth and business profit. And there is the impact and externalities camp whose work more often than not documents the negative spill-over consequences of tourism enterprise in host nations and communities. It would seem that the times are right for laying theoretical grounding for a synthesis of the two camps.¹¹

Moreover, as English tourism expert Sir George Young sees it, "too high a proportion (of the contributions to a tourism bibliography) are written from entrenched positions with predictable lines of fire".¹² The airline industry complains of hotel bed shortages; hoteliers complain of overcapacity and low occupancy; tourism authorities fear

that cuts in promotional budgets will decrease arrivals; economists argue that levels of arrivals depend more on airfares than advertising dollars; airport expansionists battle environmentalists; and sociologists decry virtually all aspects of mass tourism for its intrusive effects.

An obvious difficulty has been the absence of universally accepted definitions of tourism, and the tourist industry upon which consistent analysis might be based. Leiper, recording the profusion of definitions of tourism and the tourist developed by international agencies such as the UN and the International Union of Official Travel Organizations, identifies three approaches in use.

1. Economic Definitions, which relate to the provision of the components of tourism (transport, accommodation, food, recreation) but which ignore "the tourist, the human element, who is arguably the focal point of the subject" and "the spatial (and) temporal elements, which are equally significant".

2. Technical Definitions, which embrace the three necessary elements: the tourist himself, space (area to be covered), and time (duration of the trip) but which were simply not uniform. For example, in 1963, the UN definition of "tourist" covered visitors staying at least twenty-four hours in the host country for purposes of business or pleasure, while "the public and most employees of firms in the industry do not regard trips for business and some other purposes as constituting tourism."
3. Holistic Definitions, which, drawing from the above two approaches "attempt to embrace 'the whole' essence of a subject". An example quoted by Leiper: tourism is "the sum of phenomena and relationships arising from the travel and stay of non-residents insofar as they do not lead to permanent residence and are not connected to any earning activity."¹³

Only the holistic definitions approach the multifaceted character of tourism - the individual, location and product - but they tend to be vague. Leiper concludes that a systems framework

would facilitate multidisciplinary studies of particular aspects of tourism and, more significantly, would give to interdisciplinary studies of various facets and perspectives a common point of reference; the division between the two camps of academic scholarship could be bridged.¹⁴

Figure 1 illustrates Leiper's systems approach which appears adequately comprehensive, while providing a framework for consistent analyses, (although Leiper's contention that the framework "provides governments with a value-free approach to tourism policy" is arguable.¹⁵

An Overview of Tourism's Two Sides

Despite the dearth of sophisticated analyses of economic costs and benefits associated with tourism development, the significant effects on foreign exchange earnings, income, employment, regional development and infrastructure have been discussed and in a few cases quantified.¹⁶

Figure 1 The tourism system.
A depiction of the components of tourism in
a systems perspective. Shaded area represents
the tourist industry. (After Leiper)

We may address in general terms what Gray calls the "appealing a priori argument for the development of tourism as a growth-generating industry in LDC's."¹⁷ The demand in developed countries for travel of the "wanderlust" or "sunlust" variety is great and growing. The sunlust traveller seeking respite from the North American and northern European winters spends a few weeks in southern latitudes while the affluent western urban dweller looks for "a change-escape from affluence, high technology, overcrowded conurbations and environmental difficulties".¹⁸ As income increases, so the argument goes, "domestic capacity will become progressively smaller relative to total demand and the ratio of foreign to domestic travel must increase."¹⁹ Vacation travel enjoys an apparently high income elasticity of demand variously estimated as 1.5 over all countries²⁰ to an estimated 2.2 for transatlantic air travel by Americans.²¹ In addition, "the purchase and consumption of tourism does not follow the so-called 'law' of diminishing marginal utility" in that consumption whets the appetite for more consumption.²² Less developed nations, afflicted by increasing demand for manufactured imports and by declining terms of trade, offer natural resources with little or no opportunity cost. Foreign currency may be earned, some of

the labour surplus absorbed into an ostensibly labour-intensive industry, and backward linkages to agricultural and local manufacturing sectors established. Government revenues can be augmented, and common infrastructure may be developed by government, or, better yet, by tourism investors. Regional disparities will be alleviated as the industry penetrates the hinterland in search of natural sites for resorts. Local entrepreneurial efforts will be encouraged. Private income can be costlessly created and redistributed by an industry which, incidentally, exhibits less skewedness of income distribution than many.

At first blush the Caribbean island nations would appear to conform to the a priori argument. They are close to the largest travel market in the world. They present the ideal environment for the "heliophilic" traveller, who can be reasonably assured that he can get to his destination quickly and relatively cheaply, can enjoy the sun and sea while not forsaking his creature comforts, and can rely on the security of the "package deal" to minimize the occurrence of "travel troubles". Tourism offers employment opportunities to urban and rural unemployed while on the other hand inter-industry linkages may develop, thus bolstering the agricultural, fishing and craft industries.

The geographical and political proximity of the islands encourage mutual government cooperation and economies of scale in tourism promotion as well as creating a potential for island-hopping and cruise packages.

The statistics appear to hold endless promise.

The magnitude of international travel has already been discussed. Notwithstanding the hazards of relying on isolated statistics, one is impressed by the fact that, in 1977, visitors to the Caribbean spent \$1.02 billion, (out of a world total of \$50 billion), leading the source of these data to conclude that,

the business of developing countries such as the Caribbean is to attract as many people as possible from the developed countries to these shores to spend their disposable incomes here and to achieve a direct transfer of wealth from the developed to the developing world.²³

There are challenges and caveats to the a priori argument. Despite the widespread belief that a great potential for tourism exists in sunbelt areas such as the Caribbean, national promotion of tourism development is often slow. It is argued that in the Caribbean at least, there is a middle class conservatism long rooted in agriculture and commerce based on agriculture.

Tourism is seen as a powerful force for change in the economy and this in itself is feared. There are fears that wage rates will rise ... (necessitating) extensive changes in agricultural practices ... The higher income groups fear that the amenities which they enjoy in each island will have to be shared with foreign visitors ... Fears are expressed ... that it will introduce an alien way of life which will submerge local cultures ...; that large scale development of tourism will destroy the character of the islands ...²⁴

As "tourism density" on small and poor islands increases and as economies become more dependent on the trade, animosity on the part of indigens toward tourists becomes visible, thus damaging the quality of service.²⁵ Such damage is magnified in the mind of the tourist susceptible to the merchandising of idyllic islands, and disposed to "creating a fantasy world, one to which he plans a periodic escape".²⁶ This is part and parcel of what some see as a basic conflict in values attending the promotion of tourism as aid to development: international tourism in poor countries is the province of the rich of industrial countries; less developed countries progress on the strength of purchased leisure and at a rate dependent upon the degree of luxury.²⁷

From the strictly commercial point of view, underutilization of capacity due to seasonality of demand is the major problem facing nations anxious to reap the benefits of tourism. Figures on average hotel occupancy rates in the Caribbean vary according to sources, but probably fall between 50%²⁸ and 68%²⁹, with much lower rates on some smaller islands. As might be expected the peak season for travel to the Caribbean falls between

mid-January and mid-March while May/June and September/October are the "low seasons". Christmas to New Year is a popular time also, and there is a minor peak in July to August when a higher number of West Indians are travelling to take advantage of lower rates. However, evidence indicates that many of these stay in private homes with relatives or in apartments and cottages.³⁰ Many North Americans regard the Caribbean as a winter-only resort area, mistakenly believing that the climate in summer is unbearably hot.³¹ It is the seasonality problem and its effect on occupancy rates which form the major restraint on growth in tourist plant development. As the Tripartite Economic Survey of the Eastern Caribbean notes,

hotel investment is a specialist field ...
Potential investors can afford to be
selective and they will not select an
area where the returns on capital have
been poor ...³²

The other restraint on the growth of supply are secondary, but no less obvious. These include difficulties and uncertainties in obtaining land; inadequate air services with respect to restriction on airport use; lack of direct

flights and poor scheduling; lack of infrastructure and in cases where hotel developers do not contract to provide it, uncertainty as to when and if governments will.

This is one aspect of the problem of a lack of a clear policy by most island governments on tourist development, the priority to be given to it, the zoning of areas for it, the promotional effort to be put into it, the preservation, restoration and development of sights, historic and scenic, of tourist interest and the provision of tourist amenities generally.³³

These restraints on growth can, to a greater or lesser degree, be addressed by host country policy makers through promotion of demand, incentive legislation, and negotiation with prospective investors, after sound economic analysis oriented to long term development objectives.

We now turn to a brief discussion of the principal development effects of tourism: namely income, foreign exchange effects, and employment effects. Income effects will be treated in the section dealing with tourism multipliers.

FOREIGN EXCHANGE EFFECTS

The ability of tourism to earn hard currency appears high on the list of advantages, principally because, as Varley states,

It is the shortage of foreign exchange for the purchase of consumer, intermediate and capital goods which has often been a major constraint in achieving development objectives.³⁴

Although data on foreign exchange earnings may be very incomplete except in those countries with exchange controls, some developing nations use figures on categories of foreign visitors, length of stay and average daily

expenditures to estimate Gross Tourism Receipts.³⁵ Bond and Ladman cite the example of Mexico whose tourism income increased, although unsteadily, as a percentage of a trade balance deficit from 33.9% in 1960 to 74.2% in 1966, (dropping back however to 56.3% the next year).³⁶

The net receipts for foreign exchange - gross receipts minus deductions for tourism-related goods, services and factor imports - may be minimal, particularly in the tourism development phase in small open island economies. According to Erbes, data on standard debits - the import content of consumer goods, capital goods and foreign factor payments - are insufficient to make quantitative conclusions.³⁷ For example, the import content of infrastructure designed specifically for tourism is not generally factored into foreign exchange calculations, a point noted by UNCTAD in its discussion of the common use of goods and services by tourists and nationals.³⁸ Again the problem of sector definition arises. Comparative analyses of net foreign exchange receipts is made difficult by variations in coverage; in the extreme case the tourism sector may be considered the hotel sector alone. Jones and Goldsmith note that the major persistent difficulty in making policy in the industry on a regional basis

is the lack of integration of industry information into general regional accounts ... Given that the industry is the leading export earner in many regions, it is unfortunate that accounts are neither subject to the same controls and checks that are provided for other industries nor subject to the same scrutiny by Balance of Payments, Income and Product and Input/Output Accounts.³⁹

Of high profile is the effect of foreign ownership in the tourism sector of developing nations. As with any other export industry, tourism's foreign exchange earning power may be seriously eroded by the domination of the industry by foreign concerns. Bond and Ladman's data on Mexico's tourist income, discussed above, would be spurious evidence of tourism's positive contribution in this regard without some consideration of foreign ownership. As it happens, they cite evidence at the time of their study that 95% of Mexico's tourist facilities was domestically-owned.⁴⁰ In much of the Caribbean however the North American mass tourism supply organizations have rather

successfully penetrated the tourism market. Often in partnership with large airlines, Holiday Inn, Hilton and Sheraton to name three, have erected large luxury hotels - anywhere from 100 to 500 rooms - in a bid to realize economies of scale and to deliver to the North American travelling public the level of service it has come to expect.⁴¹

The picture is of course incomplete without consideration of all currency outflows arising from construction and operation of tourism facilities and tourism-oriented, publicly constructed infrastructure. In a general comparison of the net to gross foreign exchange earnings for large and small developing countries the World Bank generalized:

Tourism facilities in such major destinations as Mexico and Yugoslavia and Spain are constructed, equipped and supplied from local resources and staffed by local labour. Many of them are locally-owned and operated. The net foreign exchange receipts are in excess

of 85% of the gross foreign exchange earnings of these countries. At the other extreme are some of the islands in the Caribbean and the Pacific and some of the relatively undeveloped countries of Africa. In many of these, operating supplies such as many foods and beverages come from abroad, specialized management, equipment and a major of construction materials have to be imported, and ownership of tourist facilities is often foreign. Even for these countries the net foreign exchange earnings are estimated to be seldom less than 45% of gross receipts. In most other developing countries which are less heavily dependent on imports, net foreign exchange receipts from tourism range from 60% to 80% of gross earnings.⁴²

Thus, for reasons cited above, meaningful data are insufficient to properly compare net foreign exchange contributions to various countries i.e. outflow of tourism-

attributable foreign exchange is not apparent from balance of payment accounts.⁴³ Also, to the extent leakages are calculated, they generally apply to the hotel sector alone.

Erbes, asserting that a tourism operating account would have to replace balance of payments approaches for calculating foreign exchange costs of tourism, classifies the outflows and relates these to the concept of total outflow on tourism account and cost of operating a domestic tourism industry.

- 1) Imports consumed by tourists, including businessmen.
- 2) Payments to foreign factors. These include interest, dividends, amortization of foreign capital invested in the tourism sector, and that portion of wages paid to foreigners working in the sector, which is repatriated.
- 3) Payments in foreign exchange for promotion and advertising abroad.
- 4) Payments for training personnel abroad.

5. Tourism capital goods imported.
6. Investments abroad on tourism account.
7. Expenditure by residents on tourism abroad.⁴⁴

The first five of these represent the foreign exchange cost of the tourism sector's operation and maintenance, while the items together represent the total foreign exchange outflow on tourism account.

The World Bank's generalization on net to gross foreign exchange receipts has been quoted. Erbes indicates that breakdowns of import content across the tourism sector are rare and those that are available are approximate, owing again to the lack of accounting data available.⁴⁵ But by way of example he offers UNCTAD's estimate of import content of sales to tourists in Kenya, averaged over 1966-67 as a percentage of gross receipts. The figures range from 18% for hotels, (the activity for which estimates can be made with some confidence) to 27% for "shops selling tourist goods" and other private establishments in the tourism sector.⁴⁶

Clearly the estimates cover neither indirect imports required by domestic industries engaged in manufacturing for the tourism market nor of course capital goods involved in the development of the tourism sector as a whole (although data on capital imports for the hotels sector are available in many countries). Finally there is a tangible foreign exchange cost associated with imports attributed to the well-known demonstration effect - i.e. the increased propensity of indigens to consume more imported products. (We may include in this category of costs the induced consumption and higher income elasticity of demand for imports among workers in the industry paid at higher wage levels than those in other sectors).⁴⁷ Varley observes that, in this area "... it is very difficult ... to isolate the effect of tourism from other secular forces which are changing the domestic preferences".⁴⁸

As implied, small open island economies are more vulnerable to such leakages and the concomitant weakness of inter-sectoral linkages. One study of Antigua showed that 42¢ of every dollar of tourism expenditure left the island to service debt or pay for imports.⁴⁹ Timothy Prime cites

import coefficients on a dollar of tourism expenditure as 42¢, 34¢ and 50¢ of each dollar spent in Barbados, Jamaica and St. Vincent respectively and asserts that in other Islands it is certainly in the range of 50¢.⁵⁰

We return to the discussion of linkages in the section on multiplier analysis, below. Suffice it to say that the magnitude of foreign exchange costs as a proportion of gross receipts will depend on several characteristics of the industry. These include the structure and operation of the hotel sector (e.g. degree of integration and simulation of the "metropolitan environment") and dependence on foreign airlines; the degree to which tourism - attributable infrastructural projects require import capital; the effect of tourism on consumer preference among all indigens; and the structure of those portions of other sectors of the economy servicing the tourist trade.

EMPLOYMENT EFFECTS

Despite the characteristic difficulty in measuring precisely the employment effects - direct and induced - of tourism development, the industry "is customarily regarded

as labour intensive since it is essentially a service industry."⁵¹ UNCTAD III, was less certain of labour intensity, but,

whether or not tourism is relatively labour-intensive, it often brings employment (and supplementary income) to less developed regions of a country. Indeed in some regions, or at least in resort areas within these, it can become the main economic prop on which a large part of the resident population depends directly or indirectly.⁵²

Predictably, figures on the proportions of Caribbean island populations employed in tourism vary widely depending on island size and source. Prime presents figures of 4%, 10%, and 2.5% for Antigua, Barbados and Jamaica respectively.⁵³ An estimated 65% of the Bahamian labour force is employed in the tourism sector.⁵⁴ In 1974, more people were employed in the tourism sector in Barbados (15,800) than in any other (e.g. 14,800 in agriculture and related occupations).⁵⁵

There is some evidence to indicate that the growth and employment in the industry has been levelling off as some Caribbean governments have become sensitized to the problems of overcapacity and seasonal underutilization. Jamaica reported in 1973 that additions to tourist accommodation declined from 1972 "following a rationalization in the industry":⁵⁶ Such a decline would have an obvious effect on hotel employment, but relevant statistics did not accompany that report.

Again, useful comparative statistics on employment creation by the tourism sectors in the various islands are rare as governments, faced with a disaggregated nature of the industry, have directed attention to the construction and accommodation industries where "employment is more identifiable and can thus be monitored more readily".⁵⁷

The popular notion of one employee for one hotel room, even if true is less revealing than measures of cost per workplace. In the Commonwealth Caribbean it has been estimated that \$20,000 to \$30,000 investment is required to create one man-year of work, assuming one employee per room.⁵⁸ Unfortunately data on other sectors in the

Caribbean are not forthcoming from the same source, but Elkan, in a study of tourism and employment in Kenya and Tanzania estimated costs per workplace in Kenya luxury hotels (Kf4,179), game lodges (Kf2,638) and coastal hotels (Kf2,201), all considerably higher than the average cost per workplace in manufacturing and repair sector (Kf1,233).⁵⁹

On the other hand, Bond and Ladman support their conclusion that tourism is labour intensive and capital saving by citing an input/output study in Mexico which showed that \$80,000 invested in tourism created 41 jobs, while the same investment created 16 jobs in petroleum, 15 jobs in metal products, and 8 jobs in electricity generation.⁶⁰ Obviously the structural differences in the economies involved (with respect to ownership of the tourism sector, and the nature of other sectors to which it is being compared) preclude generalizing from country to country. However, several conclusions can be drawn. The more luxurious the hotel the higher cost per workplace (and in many cases in ldc's, the higher the import content in design construction and operation). UNCTAD III cautioned against relying heavily on conclusions about labour intensity in the tourist sector because data relate to the hotel activity

which is "almost certainly the most capital intensive part of the tourist sector ...".⁶¹ Unquestionably, employment is induced by tourism in the supply sectors which may not be capital intensive. Erbes cites studies in Kenya and Tanzania that show that induced employment in the supply sectors to be equivalent to employment in the tourist sector.⁶²

Import content of the tourism sector is crucial to the degree to which employment is induced in supplying sectors. We may note Varley's observation that the generation of employment in one supplying sector - construction - by investment in tourism plant may exceed generation of employment in the hotel sector per se in the "construction phase" but,

... if growth in the construction sector is not maintained, overexpansion in capacity during "hotel booms" leads to serious "structural unemployment" if a decline in hotel investment is not matched by a compensating investment demand from other sector. This is an

especially serious problem in smaller economies where the construction industry is a major employing sector which in turn depends heavily on the demand for hotel construction.⁶³

Another important question relates to the impact on employment creation of different levels of tourism expenditure. That is, as tourism expenditures and occupancy rates increase, so too will employment (as Elkan shows). How this increase compares to the increase in investment costs required to satisfy the higher spending tourist is a question which has so far not been quantitatively addressed in the literature.⁶⁴

Unquestionably, tourism can have a significant impact on providing job opportunities to some of the 20% of unemployed in the Caribbean.⁶⁵ Aside from social issues which may arise when a large proportion of labour force is in "subserviant" occupations, several issues would have to be addressed in an analysis of cost and benefits of proposed tourism projects. Among them: what is opportunity cost of such labour? Is it indeed near zero or are traditional

sectors damaged by an exodus of labour to the tourism sector? To what extent is there disparity between wages in the tourism sector and those in the traditional sectors? What are the economic ramifications of demonstration effect among workers in the tourism sector?

These questions have been the subject of piecemeal analysis in various regions, including the Caribbean. It is fair to say that a successful framework for comprehensive analysis of a given tourism sector has yet to be developed, although considerable attention has been paid to tourism multiplier analysis.

THE TOURIST MULTIPLIER

The tourist income multiplier - essentially the number of times or factor by which final increases in income exceed initial injection of funds by the tourist - has posed problems of a conceptual and methodological nature when used to analyze investment opportunities in the tourist sector.

The basic expenditure multiplier in a closed economy is calculated as $m=1/(1-c)$ where c is the marginal propensity to consume - the proportion of new income arising,

from "autonomous", investment which an individual will spend, as against the proportion he will save. Bringing into consideration imports generally, the equation becomes $m=1/(1-c+m)$ where m is the marginal propensity to import, including the importation of tourism, i.e. travel abroad by the domestic recipient of new income.⁶⁶ The size of the multiplier would vary directly with the proportions of a dollar of new tourist expenditure which leaks out of the economy or into tax coffers, as the dollar progresses through various transactions.

Various types of related multipliers are in use, and although we deal principally with the income multiplier - of greatest concern to developing countries - multipliers generally may be adduced from an example by B.H. Archer. One hundred million dollars in extra tourist expenditure provides direct revenue to the first round of recipients: hoteliers, storekeepers, taxi drivers. As businessmen spend some of the money received on replacing inventory and to government in the form of taxes, some direct revenue leaks out of the region. The balance may be used to hire new employees and to pay local provisioners, who in turn meet the new demand by hiring new employees (or raising the wages of present staff).

As the initial round of spending seeps through the regional economy, the general output level of the area rises, employment opportunities increase, and personal incomes rise. The degree of magnitude of these so-called indirect effects is governed by the extent of the intra-regional linkages, the extent to which firms within regions supply each other with goods and services. In general the smaller the region the fewer the linkages between firms and the greater the likelihood that replacement orders and purchases of new machinery will be given to firms outside the region.⁶⁷

The positive effects of increased local consumption expenditures are called by Archer induced effects, which, together with indirect effects are "secondary" in the sense of arising from second, and succeeding, rounds or transactions. Primary and secondary effects relate to each of three species of multipliers:

1. Output sales or transactions multiplier, relating value of sales to extra tourist expenditure.
2. Employment multiplier, relating the number of new jobs created directly or indirectly to the new expenditure.
3. Income multiplier, relating changes in personal income to the new expenditure.⁶⁸

The calculation of tourism multipliers and the application of results, when favourable to recommendations for greater government support of tourism development have met with controversy in the literature. Bryden lists nine tourist multiplier values, each drawn from a different source,

Pacific and Far East	3.2 to 4.3
New Hampshire	1.6 to 1.7
Hawaii	0.9 to 1.3
Greece	1.2 to 1.4
Pakistan	3.3
Ireland	2.7
Lebanon	1.2
Carribean A	2.3
Carribean B	0.58 to 0.88 ⁶⁹

The values are dissimilar enough to raise serious questions about the methodology employed, for, as Bryden states,

Although some variations between countries is to be expected on a priori grounds, one would expect this variation to be due principally to variations in the structure of the economy and the structure of the tourist industry itself, especially in the case of variations between developing countries. It is hard to believe the structural characteristics of Pakistan, or the Pacific and the Far East are such as to explain the very high estimates made for these areas as compared with the other countries and regions cited.⁷⁰

The Zinder multiplier - the penultimate figure on the list on the previous page - illustrates the concern over relying on multiplier analysis for support of policy recommendations. As part of a study on the tourism potential in the Eastern Caribbean in 1969, H. Zinder

and Associates developed a tourist transaction matrix, based on what was regarded as the dominant tourist spending pattern prevailing in the Eastern Carribean.⁷¹ Thus a given \$1,000 would be spent, according to the model, in four categories: accommodation, \$315; food and beverages, \$385; purchases, \$150; local transportation, \$150. The "movement" of \$315 spent on accommodation is traced through four successive rounds or sets of transactions, each round reducing the previous sum (to \$248.37 from \$315 by round two, to \$151.91 by round three, to \$61 by round four) by an amount which has been leaked out of the economy at each stage, "usually to pay for imported goods and services".⁷² Thus, \$248.37 remaining available for respending after round two is reduced to \$151.91 in round three by virtue of the leakage of \$96.46 in the same round.

The same exercise is performed for the food and beverages category for only three rounds of expenditure. The other two categories, purchases and local transportation, are left untraced on the grounds that their expenditure patterns roughly duplicate those of food/beverages and accommodation respectively.

The sum of the amounts left after leakage in each round ("dollars changing hands") is called "estimated total spending", (\$776 in the accommodation category), and "estimated annual turnover per dollar" is calculated as the quotient of total spending divided by the initial injection, (round one expenditure: \$315 for accommodation). Hence, the accommodation multiplier, and by assumption, the local transportation multiplier are 2.46. Similarly calculating the food/beverages and purchases multipliers at 2.22, Zinder derives a weighted average tourist multiplier of 2.3. Thus "\$1,000 spent by tourist would add, on the average, about \$2,300 to national income (or GDP) before the impact wears off through leakages".⁷³

Armed with assumptions about the components of the total economic impact (wages and tax revenues constitute .22% and 15% of impact respectively), Zinder compares potential impact to tourism budgets in the nine territories under study (via a ratio of taxes generated to tourism budgets) and finds tourism budgets wanting to a greater (82:1 in Antigua) or lesser (12:1 in Trinidad and Tobago) degree.⁷⁴

The Zinder approach raised questions of a conceptual nature. Bryden points out Zinder's and others' failure to consider the implications of using GDP or national income as opposed to income to nationals as criteria in multiplier analysis. Income to nationals, unlike GDP, excludes funds sent abroad as profits, interest charges and income earned by resident non-nationals and subsequently remitted, i.e. monies that have no multiplier effect in the economy.

The exclusion of these elements of GDP from the matrix could have a significant impact on induced income effects, and hence on the size of the multiplier, on different sectors and for the economy as a whole.⁷⁵

Clearly the Income to Nationals multiplier would be less than the GDP multiplier, (and often much less in the tourism sectors of small import-dependent island economies whose accommodation subsector is largely foreign-owned or foreign-managed). In addition, as Bryden argues, the ITN multiplier is of greater policy relevance to developing

countries, while conversely the component of the GDP multiplier in question - incomes paid to non-national residents "is largely a matter of indifference to the government ... (since) such income do not normally form a part of the "welfare function" which the government is seeking to maximize".⁷⁶

Whatever the objective function, the interest from the development perspective is in real cost to society of resources allocated to investment.

The overriding criticism of tourism multipliers and the use to which they have been put concerns the inference that they measure either the benefit or the potential benefit to the economy as a whole over the longer run.⁷⁷

The multiplier concept, used as a measure of income generation either in a closed economy (mpi not considered) or an open economy (mpi constraining income generation) was a short-run analytical instrument, which necessarily assumed underutilization of resources (no opportunity costs). In that event, an autonomous increase

in demand in the tourism sector would generate income to a level indicated by the multiplier. In reality, factors, especially capital but also labour, usually have positive opportunity costs in developing countries so that autonomous increases in demand and the short run will result in rising prices and/or substitution of domestic inputs by imports, at the same time possibly causing shifts in propensity to import brought about by redistribution of income.⁷⁸ Thus, assumptions which relate to the short run multiplier concept would be valid for policy decisions relating to the long run only if resources brought into tourism investment had a zero opportunity cost.

Social cost-benefit analysis, because it explicitly addresses social cost and benefits, including provisions for external effects not captured by multiplier analysis, might be a reasonable alternative by which the policy developer may compare effects of potential investments within the tourist sector as well as determining the relative merit of investment in this sector versus others.

SOCIAL COST-BENEFIT ANALYSIS AND TOURISM PROJECTS

Bryden is among several authors who have attempted to apply social cost-benefit analysis to tourism projects per se. For relating costs and benefits back to first principles however, Terry Powers' "Appraising International Tourism Projects" is instructive.⁷⁹ As mentioned, the primary, or most visible benefits of a tourism project are the additional foreign exchange generated and whatever resources are saved in overall tourism production (e.g. lower marginal costs). The only complexity involved in examining costs and benefits is of an attributive nature. In the usual case of a project which serves both domestic and foreign tourists, benefits attributable to the project include the value of goods and services made available by incremental foreign exchange, a) earned upon the arrival of foreign visitors who, in the project's absence, would not have come to stay in similar facilities elsewhere in the country and b) saved when domestic tourists, who would otherwise have travelled abroad, visit the facility. Benefits conferred upon nationals who do not substitute a trip abroad for a stay at the facility, are measured by their willingness to pay for such a stay, and associated consumer surplus, if any.⁸⁰

Benefits may also accrue in the form of resource savings. That is, if the project were to replace (substitute for) expected additions to capacity of facilities elsewhere, a savings in terms of goods and services necessary to build those additions would count as a project benefit. On the other hand, if the project were to supplement such additions, a benefit in terms of lowered marginal costs of operating all facilities would be realized.

Finally, infrastructure, whether visibly and directly associated with the project or built by the government as a condition of the project, (i.e. not otherwise forthcoming) may confer a benefit to the economy, measured, theoretically at least, by willingness to pay for resulting increased output.

Hence, in estimating benefits for each time period, the analyst must consider demand by foreign and domestic tourists, the supply of facilities in the presence and in the absence of the project, and whether the project will add to or substitute for similar facilities, which defines the nature of the benefit i.e. the mix of new expenditures and savings in domestic resources.

Most of these questions are answered or at least addressed by a market analysis. On the one hand it focusses on current conditions of international demand: price and income elasticities, inflation, travel trends with respect to product appeal. On the other hand, the analysis examines the relationship of the product to the forecast demand to establish the nature of benefits e.g. does the product induce tourists to come to the area or country, or merely to purchase, at higher prices, these particular facilities? Will the project replace expected additional investment in similar tourist facilities (in which case resource savings attributable to the project are the avoided investments in the additional similar facilities), or will those additional facilities materialize (in which case resource savings represent lower operating costs)? The standard practice of surveying prospective visitors to the market area (which survey usually covers current travel patterns, attitudes toward the area and demographic considerations) and the formidable problems associated with forecasting tourist plans (e.g. limited reliability of forecast periods in excess of five years) are well described by Powers.⁸²

Economic costs of inputs are valued as benefits foregone in the best alternative use as these inputs are withdrawn from the rest of the economy. The mechanisms of

valuation for tourism projects are exactly the same as for other industrial projects. The cost of inputs is the value purchasers put on them (willingness to pay for inputs taken up by the project), or by the cost in goods and services of replacing the inputs used by the project.⁸³

Powers' treatment of a hypothetical example - a cost-benefit analysis of a tourism project which has several superstructural and infrastructural components - is conventional in respect of technique, and is structured to point up common requirements of cost-benefit analysis in less developed economies. Investment costs are fully disaggregated by structure (e.g. hotel, airport, electricity, etc.) and activity/works (land acquisition, construction, professional services) are at the same time disaggregated by input source (e.g. foreign exchange, labour skilled and unskilled, etc.), first to observe the relative magnitude of each, and second to apply shadow pricing. Domestic material and skilled labour are assumed to be market valued at opportunity cost while foreign exchange earnings and unskilled labour are shadow priced. Net present value calculations are performed using three social discount rates. In all three cases, discounted outputs of the project (foreign exchange and domestic currency) exceeded discounted inputs (foreign exchange, domestic materials, skilled and unskilled labour).

Of some interest is Powers' rather elaborate sensitivity analysis which suggested that of twenty-seven input variables, (each adjusted to determine effect on NPV) three of the most critical were average number of foreign tourists per room, the shadow price of foreign exchange, and the base year number of tourists, while "seasonality in domestic and foreign tourism is not very influential, at least within the ranges explored".⁸⁴

As an illustration of the potential utility of cost-benefit analysis, Bryden details his attempt (the first, to his knowledge) to employ the technique in an appraisal of three tourism "projects": 1) an imaginary 100-room hotel in a smaller island in the Caribbean. (For costs, benefits, occupancy rates, etc. he uses combined data from his and other investigations of the Commonwealth Caribbean)⁸⁵; 2) the recommendations of the Zinder Report on "The Future of Tourism in the Eastern Caribbean"; 3) the relevant recommendations on the Tripartite economic survey of the Eastern Caribbean. The data from the latter two were statistical projections and recommended expenditures and investments in hotels, infrastructure and promotion.

Allowing for the tentative nature of his conclusions, Bryden found that the "typical" one-hundred room hotel would provide a social rate of return only marginally greater than the minimal accounting rate of interest.⁸⁶ Hence if growth continued unabated, stimulated by expected high rate of private return, resources would continue to be diverted from more socially profitable investments. From the Zinder and Tripartite Reports, Bryden used the aggregate data to project cash flows and concluded that in both cases, the recommendations would produce low rates of social return.⁸⁷

Bryden's efforts came one year after a study which applied the Little-Mirlees method to an evaluation of the Trinidad Hilton, a 441 room government-owned hotel, the original structure having opened in 1962.⁸⁸ The analysis was academically rather successful in that the author managed to derive reasonably reliable shadow prices to arrive at supportable figures for net present value and internal rate of return. ("When the results were analyzed it became evident that the hotel was much more profitable socially, than had previously been thought".)⁸⁹ The success of the exercise was properly attributed, in part at least, to the "open and "well-integrated" nature of the Trinidadian economy,

which is documented by fairly reliable statistical information so that the basic assumptions underlying the straightforward application of the method approximate closely to reality and the divergences between private and social values that the authors (Little and Mirrless) believe exist in most developing countries are indeed to be found.⁹⁰

Of course, by evaluating an established rather than a proposed project, the author was able to construct with some certainty the input-output matrix showing composition of inputs to construction and operation (in a manner similar to the hypothetical exercise performed by Powers), from which, using pre-determined accounting ratios of factor inputs, shadow prices for all input items were calculated. Shadow pricing of benefits was expedited by the availability of data showing past occupancy rates for the hotel and its major competition. Thus the question of the number of visitors who would not have come to Trinidad in the Hilton's absence was addressed in broad and retrospective statistical terms.

One of the areas which escapes attention in the Hilton study is infrastructure. Its treatment is probably omitted because the development of new infrastructure which benefited indigens was apparently minimal. (The hotel was built outside of town and no mention is made of any infrastructure projects e.g. roads, harbours, airports, sewage or waterworks being built in conjunction with it.) Nevertheless, in small island economies, with hitherto unexploited tourist potential and underdeveloped infrastructure, the economic benefits of new, tourism-related, non-exclusive infrastructure may be significant, and bear examining.

None of the aforementioned authors faced the inherent difficulties in applying cost benefit analysis to a small economy proposing to develop a relatively large tourism project or sector. Bevan and Soskice point out the key difficulty that, inasmuch as most growth in ~~ldc~~ tourism is and will be concentrated in small islands or isolated regions of larger countries,

Only rarely would it be possible to assess the decision whether or not to develop a tourist industry as a small

project leaving the main economic aggregates more or less unaffected. Such a decision can only properly be viewed in the context of a plan.⁹¹

It would be more appropriate to evaluate the entire plan with and without the project in question rather than evaluating the project using shadow prices whose derivation depends on the plan. Nevertheless, it is the latter approach which cost-benefit analysis usually takes. If the analysis process is viewed as a twofold exercise - one, the prediction of the consequences of a project and two, the prediction of future price levels at which the consequences may be valued - a fundamental problem arises with the latter. Predictions of future market prices, from which the shadow calculations are made, represent "a forecast of the path of the economy through time".⁹² Such a forecast would obviously exclude considerations of future investment opportunities and the effects (particularly in small economies) that these project choices would have in diverting economic reality from the path forecast. As Bevan and Soskice put it, the twofold exercise is based on the assumption,

that the Government ... should wish to optimize as regards the current project, but that otherwise, it follows arbitrary rules of thumb. If, as seems here plausible, the attempt to optimize is not so confined, then the future path of the economy becomes variable and dependent on present and future project choices; the process is circular.⁹³

This problem by no means condemns as futile the cost-benefit approach, even when the condition is exacerbated by large projects in small economies, or, as in the tourism sectors of small economies, projects with such high degrees of interdependence that they should be considered as a system. Individual project appraisal, in one form or another, provides to government, as to the private entrepreneur, important observations on optimal design, location, scale, and, in the final analysis, contribution to the sector and economy as a whole.

ENDNOTES

- 1 R.C.G. Varley, Tourism in Fiji: Some Economic and Social Problems, (Bangor, Wales: University of Wales Press, 1978), p. 20.
- 2 J. Diamond, "Tourism's Role in Economic Development - The Case Re-examined", Economic Development and Cultural Change, (April 1977), p. 53.
- 3 Tourism's share of world trade declined to 3.5% in 1974 from 4.8% the previous year but rose again to 4% in 1975. World tourism receipts in 1975 were 17% higher than those of the previous year while receipts for world exports generally increased 5% over the same period. See International Tourism Quarterly, Number 1, (1977), p. 1.
- 4 D.V. Tlusty, "Building Tourism in Developing Countries", The Tourism Review, (January-April, 1980), p. 10, The statistics cited are from the International Union of Official Travel Organizations.
- 5 International Tourism Quarterly, Number 1, (1978), p. 1.
- 6 International Tourism Quarterly, Number 3, (1974), p. 2.
- 7 J. Diamond, "Tourism's Role", p. 539.
- 8 Ibid., p. 540.
- 9 Barclay G. Jones and William W. Goldsmith wrote in 1969 "A model assigning a major role to tertiary industries and indicating how they should be influenced by public policies to attain development objectives remains to be built ... a tertiary industry that seems ... of prime importance for development purposes is tourism travel and recreation. Its role in development has largely been ignored". Industrial Sectors as Agents of Social and Economic Change - The Tourism and Travel Industry in Puerto Rico, (Ithaca, N.Y.: Cornell University Press, 1969), p. 6.
- 10 See for example Harry G. Matthews, "Radicals and Third World Tourism - A Caribbean Focus", Annals of Tourism Research (Oct.-Dec. 1977), and by the same author,

International Tourism - A Political and Social Analysis, (Cambridge, Mass.: Schenkman, 1978); An excellent synthesis of the literature can be found in UNESCO, "The Effects of Tourism on Socio-Cultural Values", Annals of Tourism Research, (Nov.-Dec. 1976), Pp. 74-105.

- 11 Roy C. Buck, "Towards a Synthesis of Tourism Theory", Annals of Tourism Research, (Jan.-Mar. 1978), p. 110.
- 12 Sir George Young, Tourism - Blessing or Blight?, (Harmondsworth, Middlesex: Penguin, 1973), p. 4.
- 13 Neil Leiper, "The Framework of Tourism: Towards a Definition of Tourism, Tourists and the Tourist Industry", Annals of Tourism Research (Oct.-Dec. 1979), Pp. 392-394.
- 14 Ibid., p. 395.
- 15 Ibid., p. 405.
- 16 Standard texts include Louis Turner and John Ash, The Golden Hoards, (London: Constable, 1975), especially chapter 7; Donald Lundberg, The Tourism Business, (Boston: Cahiers, 1974), chapter 6; H. Peter Gray, International Travel, International Trade, (Lexington: D.C. Heath & Co., 1970); Sir George Young, Tourism - Blessing or Blight?, chapters 5 and 6. A most comprehensive analysis which includes extensive quantification is John Bryden, Tourism and Development - A Case Study of the Commonwealth Caribbean, (Cambridge: Cambridge University Press, 1974).
- 17 H. Peter Gray, International Travel, p. 131.
- 18 Louis Turner and John Ash, The Golden Hoards, p. 129.
- 19 H. Peter Gray, International Travel, p. 131.
- 20 Estimated by IUOTO, cited in John Bryden, Tourism and Development, p. 58.
- 21 Estimated by Pan Am. The figure is an average over seven ranges of annual income from \$5,000- to \$50,000+. G. Newman "Forecasting at PanAm" in A.J. Burkart and S. Medlik, (eds.), The Management of Tourism, (London: Heinemann, 1975), p. 218.

- 22 Jafar Jafari, "The Components and Nature of Tourism - The Tourism Market Basket of Goods and Services", Annals of Tourism Research, (Jan. 1974), p. 86.
- 23 Jean S. Holder, The Impact of the Energy Crisis, 1973/74 on Tourism and Some Consequences for Caribbean Development (Christchurch, Barbados: CTCR, 1978), p. 2.
- 24 U.K. Ministry of Overseas Development, Report of the Tripartite Economic Survey of the Eastern Caribbean, (London: HMSO, 1966), c.II.2.3.
- 25 H. Peter Gray "Towards an Economic Analysis of Tourism Policy" Social and Economic Studies, 23:3, (September, 1974).
- 26 Graham M.S. Dann, "Anomie Ego-enhancement and Tourism", Annals of Tourism Research, 4:4, (March/April, 1977).
- 27 Denis Goulet, The Uncertain Promise, (New York: IDOC, 1977), Pp. 108-109.
- 28 Timothy S. Prime, Caribbean Tourism: Profits and Performance through 1980, (Christchurch, Barbados: Caribbean Tourism Research Centre, 1976), p. 56.
- 29 Charles A. Bell, "The Problems Facing the Hotel Industry in the Caribbean" in Jean S. Holder (ed.), Caribbean Tourism, Policies and Impacts, (Christchurch, Barbados: Caribbean Tourism Research Centre, 1979), p. 70.
Occupancy rate is the proportion of bed nights available which are used by guests. A room, assumed to have two beds, has an annual capacity of 730 bed nights.
- 30 John Bryden, Tourism and Development, p.106
- 31 United Kingdom Ministry of Overseas Development, Tripartite Survey, c.II.2.11.
- 32 Ibid., c.II.1.22.
- 33 Ibid., c.II.1.25.
- 34 R.C.G. Varley, Tourism in Fiji, p. 6.

- 35 P.G. Sadler and B.H. Archer, "The Economic Impact of Tourism in Developing Countries", Annals of Tourism Research, (Sept.-Oct. 1975), p. 20.
- 36 M.E. Bond and Jerry Ladman, "Tourism: A Strategy for Development" in Charles E. Gearing, William W. Smart and Turgut Var, (eds.), Planning for Tourism Development, (New York: Praegar, 1976), p. 46.
- 37 Robert Erbes, International Tourism and the Economies of Developing Countries (Paris: OECD, 1973), Pp. 57-60.
- 38 "In considering the impact of international tourism on the balance of payments of a country, the relevant question is whether or not there would have been similar inflows and outflows of foreign exchange in the absence" of foreign tourism. Particularly in the case of investment, this question is not easy to answer since hotels and other amenities (including the infrastructure) do not serve foreign visitors exclusively but serve also the resident population" UNCTAD, 3rd session, Volume III, Financing and Invisibles (New York: United Nations, 1973), p. 96.
- 39 Barclay G. Jones and William W. Goldsmith, Industrial Sectors, p. 95.
- 40 M.E. Bond and Jerry Ladman, "Tourism: A Stratgey", p. 61.
- 41 For an inventory of chain hotels in the Caribbean, see Theo L. Hills and Jan Lundgren "The Impact of Tourism in the Caribbean", Annals of Tourism Research, (May-Sept., 1977), Pp. 251-253.
- 42 World Bank, Tourism and Developing Countries, in A.J. Burkart and S. Medlik, The Management of Tourism, p. 218.
- 43 The travel account considers receipts of goods and services sold to visiting non-residents and payments by non-residents travelling abroad. (Robert Erbes, International Tourism, p. 55).
More generally, H. Peter Gray attributes the relative neglect of invisible trade to the "fundamental lack of conformity between invisible transactions and the

conceptual framework of international trade theory. One of the distinctions crucial to differentiability between international and inter-regional trade was the assumed virtual inability of factors of production to move across international boundaries". Integrating into the framework activities which dependent upon movement of factors. - e.g. foreign travel involves the movement of movement of labour as consumers - "were not attractive undertakings", International Trade, p. 84.

- 44 Robert Erbes, International Tourism, p. 56.
- 45 Ibid., p. 57.
- 46 Ibid. Frank Mitchell has analyzed the Kenyan National Accounts for this period, estimating the GNP impact of tourism for each of the activities in the private sector and in the public sector. GNP generated is equivalent to net foreign exchange earnings of tourism i.e. GTR minus f.e.c. The net impact on GNP must be calculated as the difference between GNP generated (net of f.e.c.) and value of alternative outputs of all factors involved in tourism output - i.e. opportunity cost. Where infrastructure is concerned, he notes that allocation of costs (as between tourists and nationals) while "impossible to perform ... in a theoretically valid way ... (must) be done ... since it is clear that government would have spent something less on several of these items were it not for tourism." "The Value of Tourism in East Africa", East African Economic Review (June 1970) p. 3.
- 47 R.C.G. Varley, Tourism in Fiji, p. 8.
- 48 Ibid.
- 49 Louis Turner, "Tourism and the Social Sciences", Annals of Tourism Research (April 1974), p. 185. 47¢ went to local incomes, 11¢ to government.
- 50 Timothy Prime, Caribbean Tourism: Profits and Performance Through 1980 (Christchurch, Barbados: CTRC, 1978), p. 58.
- 51 Andrew Lewis, "The Economic Significance of Tourism in the Barbadian Economy" in Jean S. Holder, Caribbean Tourism, p. 203.

- 52 UNCTAD, Financing and Invisibles, p. 99.
- 53 The figures are for 1973. Timothy S. Prime, Caribbean Tourism, p. 58.
- 54 Louis Turner, John Ash, The Golden Hoarders: International Tourism and the Pleasure Periphery, (London: Constable, 1975), p. 114.
- 55 Anne Crandell, "Tourism and Developing Countries: A Case Study of Barbados" (Unpublished M.A. Research Paper, Ottawa/Carleton University, 1976), p. 59.
- 56 Government of Jamaica, Economic and Social Survey, (Kingston: National Planning Agency, 1974), p. IV.
- 57 R.C.G. Varley, Tourism in Fiji, p. 8
- 58 John Bryden, Tourism and Development, p. 132.
- 59 Walter Elkan, "The Relation between Tourism and Employment in Kenya and Tanzania", Journal of Development Studies (Jan. 1975), p. 129.
- 60 M.E. Bond and Jerry Ladman, "Tourism: A Strategy", p. 54.
- 61 UNCTAD, Financing and Invisibles, p. 99.
- 62 Robert Erbes, International Tourism, p. 80.
- 63 R.C.G. Varley, Tourism in Fiji, p. 8.
- 64 John Bryden, Tourism and Development, (p. 132), has conducted a similar exercise for capital/gross output ratios in the Eastern Caribbean. Predictably C/GO decreases with increased revenue/bed- night and with increased occupancies. Assuming unit investment costs of \$EC25,000, the C/GO ratios range between 4.57:1 for a 30% occupancy rate at \$EC25 revenue/bed-night to 1.24:1 for a 50% occupancy at \$EC55 revenue/bed-night.
- 65 Timothy S. Prime, Caribbean Tourism, p. 62.
- 66 John Bryden, Tourism and Development, p. 73.

- 67 B.H. Archer, "The Uses and Abuses of Multipliers", Charles E. Gearing, William W. Smart, Turgut Var, (eds.), Planning for Tourism Development, (New York: Praeger, 1976), Pp. 115-116.
- 68 Ibid., p. 116.
- 69 John Bryden, Tourism and Development, p. 75.
- 70 Ibid., p. 74.
- 71 The report by H. Zinder and Associates is entitled The Future of Tourism in the Eastern Caribbean, (Washington, D.C.: company report 1969). Attempts to obtain a copy through the company met with failure, but data relevant to this discussion are reproduced in John Bryden and Mike Faber, "Multiplying the Tourist Multiplier", Social and Economic Studies, 20:1, (March, 1971), Pp. 61-82; Karl Levitt and I. Gulati, "Income Effects of Tourist Spending: Mystification Multiplied: A critical Comment on the Zinder Report", Social and Economic Studies, 19:3, (Sept. 1970), Pp. 326-43; and Donald Lundregan, The Tourism Business, Pp. 124-125. The latter reproduces the transaction matrix developed by Zinder in his discussion of multipliers.
- 72 Quoted in John Bryden and Mike Faber, "Multiplying the Tourism Multiplier", p. 63. Note that Zinder developed a national, not a regional, multiplier, purporting to be applicable to each of the islands in the area.
- 73 The Zinder Report, quoted in John Bryden and Mike Faber, "Multiplying the Tourism Multiplier", p. 66.
- 74 data from John Bryden and Mike Faber, "Multiplying the Tourism Multiplier", p. 66.
- 75 John Bryden, Tourism and Development, p. 75.
- 76 Ibid.
- 77 Ibid., p. 77
- 78 Ibid., p. 76
- 79 Terry A. Powers, Appraising International Tourism Projects, (Washington, D.C.: Inter-American Development Bank, 1974).

- 80 Ibid., p. 4.
- 81 Ibid., p. 5.
- 82 Ibid., Pp. 7-8.
- 83 Ibid., p. 10 Readers who refer to the source will observe errors of apparently typographical origin in the graphic and textual description of the costing elements, should consult the errata page included.
- 84 Ibid., p. 34.
- 85 John Bryden, Tourism and Development, Pp. 172-193.
- 86 Ibid., P. 183.
- 87 Ibid., p. 204.
- 88 Anne M. Forbes, "The Trinidad Hilton: A Cost-Benefit Study of a Luxury Hotel", in I.M.D. Little and M.Fg. Scott, (eds.), Using Shadow Prices, (Lóndon: Heinemann, 1976), Pp. 15-42.
- 89 Ibid., p. 32.
- 90 Ibid., p. 35.
- 91 D.L. Bevan and D.W. Soskice, "Appraising Tourist Development in a Small Economy" in I.M.D. Little and M.Fg. Scott, (eds.), Using Shadow Prices, p. 205.
- 92 Ibid., p. 206.
- 93 Ibid., p. 207.

CHAPTER IV

TOURISM AND THE TURKS AND CAICOS ISLANDS

INTRODUCTION

This Chapter sets out the basis for conclusions as to the applicability of, and need for, social cost-benefit analysis with respect to tourism projects in a small open island economy.

First, we will examine at some length various aspects of the Turks and Caicos: the islands' history, geography, resource endowment and current important economic activities and conditions.

Second, the emergence since the 1960's of a rudimentary tourism industry, which the government hopes to significantly augment, will be described.

Then we turn to recent attempts by the government to encourage foreign investment in tourism plant, focussing on one project proposal in particular, which has been the subject of negotiation between government and offshore investors, and which may qualify as the "typical project" in terms of its nature and scale.

Finally, we look at those characteristics of the project, and the environment for which it is proposed, which might indicate that a greater degree of analysis is necessary and that the cost-benefit analysis technique might fill this role.

THE ISLANDS

Some ninety miles north of Hispaniola lies a group of islands which constitutes the southeasternmost link in the Bahamian chain. The Turks and Caicos are eight islands and thirty seven small cays with a surface area of about 166 square miles. The six Caicos islands - South, East, Middle, North and West Caicos and Providenciales - are separated from the Turks group - Grand Turk and Salt Cay - by a deep channel about twenty-two miles wide.

The Islands are composed largely of oolitic limestone, a feature of the low lying limestone plateaux characteristic of the Bahamas and the plains of Cuba.¹ The highest point of elevation, on Providenciales, is 163 feet; the Islands for the most part are flat and featureless. Vegetation is generally low scrubby bush which flourishes in the arid climate and is supported by soil which has accumulated in the interstices of the limestone bedrock.²

To the south of the Caicos Islands lies the Caicos Bank, a large area of shallows which is the habitat of lobster and conch. An almost continuous band of living coral surrounds the Bank and the islands to the north. The

Turks Islands are similarly encircled. The presence of shoals makes navigation difficult, and such natural harbours as do exist can accommodate only vessels of shallow draft.

The climate is decidedly favourable for tourism development, at least from the point of view of the south-bound North American. Average annual precipitation in Grand Turk amounts to 750 millimeters and the average annual temperature is 26.3°. ³ Prevailing easterly winds moderate the heat between April and November ⁴ so that the Islands may boast normal temperatures of between 25°C and 30°C during this period. ⁵

Surface water in the Caribbean is characterized by high temperature with little seasonal variation, and high salinity. Blume reports that in the warmest months the temperature of the upper layer anywhere in the Caribbean is 28.3°C to 28.9°C, dropping to 23.9°C and 25.6°C around the Bahamas and in the Greater Antilles-Leeward Islands respectively in the coldest months. ⁶ The high degree of evaporation keeps the surface layer markedly saline (although less so than in the Mediterranean since the exchange of water between the Atlantic and Caribbean is fifteen times greater than that between the Atlantic and Mediterranean).

This condition made natural the evolution of the solar salt industries on islands such as the Turks and Caicos, which were suitably low and flat.

The population in 1977 totalled 7650 on six islands:

Grand Turk	3,200
Salt Cay	400
South Caicos	1,300
Middle Caicos (also called Grand Caicos) ..	450
North Caicos	1,400
Providenciales	900 ⁷

Pine Cay, located between North Caicos and Providenciales, has a sprinkling of people. East and West Caicos are uninhabited. Most of those native to the Islands are descended from slaves brought from Bermuda and the United States. Among the "belongers" - Island terminology for immigrants who have resided in the territory for twenty-years - are small numbers of Americans, British and Canadians.

HISTORICAL IMPORTANCE OF SALT

It would not be an oversimplification to suggest that the presence of and demand for sea salt have shaped these islands' history. First exploited in the 16th century by Spanish sailors, the natural climate drew Bermudians in ever-increasing numbers in the 1670's.

These mariners with their few slaves would rake the coarse salt crystals of evaporated brine from ponds and load their small vessels for the continental colonies.⁸

After settling the Islands, the Bermudians developed the salt ponds by regulating the tidal inundation using small dams and ditches, so as to maximize the yield of salt left by the evaporation of sea water. Production became significant enough to arouse the envy of the metropolitan powers so that

the little industry was likewise to suffer vicissitudes from the Spaniards and later from the French of Santo Domingo, but so tenacious were the

Bermudians, that until the beginning of the last century, Turks Islands were regarded as the adjunct of their own colony and provided a good share of their living.⁹

The Bermudians were, in one Island historian's estimation,

a versatile, energetic lot, who not only expanded the Spaniards primitive gathering of natural salt, but who also built homes, stores and sailing vessels and fished for turtles, scalefish, conchs and crawfish. These people exploited the dense growths of mahogany, yokewood, Caicos oak, yellow-wood, lignuvitae and other hardwoods and also the pine forests of Middle and North Caicos and Pine Cay. They made charcoal and builders lime and in fact, thoroughly adapted to the somewhat harsh environment...¹⁰

During the American War of Independence, and for some time after, a few of the thousands of Loyalists who went to the Bahamas found their way to the Turks and Caicos. With their slaves, they began cotton and tobacco plantations on the more fertile Caicos soil. A severe hurricane in 1811 made the Loyalists' stay short-lived. Those that did not immediately abandon the ruined plantations eventually quit the Islands after the abolition of slavery in the British territories in 1838. The slaves remained behind

to form the nucleus of the inhabitants (of the islands) today. These ... were joined by many others set free from slaves ships captured by the British Navy and forced to liberate their cargoes. Yet others came from ships which were wrecked in the islands while carrying cargoes of slaves.¹¹

Throughout this period also and until very recently, sea salt from the "salt islands" - Grand Turk, Salt Cay and South Caicos - continued to be the most important industry. Production conditions were as has been mentioned, constant and ideal. The Islands are low and flat, the supply of brine limitless, and rainfall low. The

heat of the tropical sun together with the unremitting Trade Winds sped evaporation.¹² However, two other features - the lack of 'safe harbours' and the shallow draft in the salt islands - seem to have been a major factor contributing to the secular decline of the industry, the history of which is discussed briefly in the several yearly reviews of the Islands produced by the British government.¹³ It deserves some mention here.

The salt industry was already ailing in 1951 when the British government financed the development of the Turks Island Salt Company in agreement with the long standing proprietors of the salinas. In the words of the 1961-62 "Review of the Turks and Caicos",

It was hoped that by forming a company to control the entire industry, funds would be available to nationalize and develop it; in the event, these expectations were not realized: in every year since 1951, the company has operated much below capacity and has been heavily subsidized because, being the major employer and the principal producer of income for those who live in these

islands, there was little alternative except to keep the industry in operation.¹⁴

"Well-below capacity" in 1969 meant something approaching 4% according to one authority who calculated production for that year at 3,000 tons against a capacity of 70,000 tons. (The British government's estimate of tonnage shipped was 3,350 with a value of (Jamaican)\$8,111.)¹⁶ The peak year of production had been 1959 when 30,000 tons was exported, largely due to the abandonment of traditional methods of loading onto ships - by shovels bags and donkey carts - and the purchase of modern equipment with British government aid. The damage to the salt ponds and facilities wrought by Hurricane Donna in 1960, extensive as it was, was insignificant compared to the effect of the dissolution of the West Indies Federation in 1962. The promise of a market in Jamaica shattered, the industry could not compete with the facilities in the Bahamas. Inagua and Long Island were, by 1965 producing 496,000 tons.¹⁸

In 1964, operations were shut down on Grand Turk and South Caicos. Salt Cay sustained for a time a small subsidized operation for lack of alternative employment on that island, but production has long since ceased, although

some of its salinas remain in relatively good condition. These, a government minister has said "may ... soon be back in use in a labour-intensive operation to produce high quality solar salt for the health food market".¹⁹ Such sanguine expectations, although apparently widespread, lack the support of market studies. Where the feasibility of restoring the production facilities is concerned, the government apparently believes that the salinas of Salt Cay, together with evaporation and crystallization ponds off South Caicos, could produce up to two million tons per year.²⁰ It has been reported that representatives of the International Salt Company, visiting South Caicos in 1977 to begin a feasibility study on developing new salt ponds, talked in terms of "a million tons per year in a single harvest" as being "the optimum".²¹ Possibilities of a revival continue to receive government attention.

POLITICAL EVOLUTION

Having noted the importance of sea salt and, to some degree, of plantation agriculture, to the early development of the Islands, we may turn to the subject of political history.

As with other small island groups in the Caribbean, the Turks and Caicos have come under the control of larger island states and metropolitan powers.

The attraction of the salt ponds for peripatetic Bermudian merchantman has been noted. Since that time, the Turks and Caicos have been variously under the control of Britain directly prior to 1799, the Bahamas, from 1799 to 1848, and Jamaica, from 1874 to 1954.

In studying this history, one senses a certain inevitability of ongoing dependency. In discussing "the lesser groups" of the Caribbean, Gordon Lewis writes,

With non-viable economies and grant-aided administrations, they have been too small at any time to stand entirely on their own, so that their position, constitutionally has been that of dependent wards of larger units, a relationship frequently of astonishing complexity and, perhaps inevitably, unsatisfactory lagging behind their parent bodies in general development, and with whom they have had links of

sentiment or economic advantage ...

They have come to constitute aggravating headaches for which so far neither the British nor West Indian leadership has been able to find a suitable cure.²²

In the case of the Turks and Caicos it would appear that at no time between 1799, prior to which Britain ruled the Islands directly, and the very recent past has a state of political affiliation, mutually satisfactory to both parties, existed.

The "Bahamian period" between 1799 and 1848 began with the annexation of the islands in order to facilitate exploitation of the salinas.²³ The Bermudians however, continued to extract and ship the salt during the period and their long-time and benign presence led the Islanders "to deny their connection with the Bahamas and caused their reluctance to send a representative to the House of Assembly at Nassau".²⁴ The affiliation ended in 1848, when the islands were made a separate colony, complete with President and elected Council, with close ties to Jamaica.

But perennial economic ills and widespread damage resulting from a severe hurricane in 1866 forced the Islands to petition for full annexation to Jamaica in 1873. The relationship continued unchanged until 1959 when the Islands were given their own elected legislature, while taking a place as a unit territory in the Federation.

But (the change) did nothing ... to end the unsatisfactory situation in which the Government of Jamaica along with the Chief Secretary was placed in an almost feudal authority over the dependency, exercising various vice regal powers; nor did the promise of consultation with the local Executive Council before Jamaican laws were locally applied meet the difficulties always inherent in the process. The result was that Jamaica, connected thus with the Turks and Caicos peoples, continued to hang their murderers, hear their appeals, provide their lawyers and judges for them, and incarcerate their long term prisoners.²⁵

When Jamaica withdrew from the ill-fated Federation, and subsequently became independent, the Turks and Caicos again became a British crown colony, administered by the Colonial Office.

Inevitably, the question of association again arose.

The obvious need for a link with a larger unit with greater resources of staff and able to provide the technical help and assistance which could not be found (from) within ... 26

led to discussions with the Bahamas in 1964. The following year, the Governor of the Bahamas was charged with like duties for the Islands and the two territories shared a common court of appeal.

Two important changes have occurred since that obviously temporary arrangement. In 1969, a new constitution was introduced to the Islands, setting out a form of government by Administrator-in-Council. The Crown-appointed administrator was bound to act on the advice of a state

council - which sat both in legislative and executive session - on local matters. This development was a consequence of the anticipation of Bahamian independence. According to a report at the time, the Islanders were taking the opportunity of "asking Britain for a little more say in running the colony".²⁷ The notion of a close association with an independent Bahamas was entertained, to be sure, but a "discouraging influence" was "the fear of being ignored as an out Island".

The most recent constitutional change occurred in 1976 when, by Order-in-Council, a ministerial form of government was introduced.²⁸ The Islands now have their own Governor who acts on the advice and consent of the elected Legislative Council. The Executive Council - composed of the Governor, the Chief Minister, three ministers from the ranks of the Legislative Council, the Chief Secretary, Attorney-General and the Financial Secretary - determines the policy of the government except in matters associated with colonial status. The latter, responsibility for which rests with the Governor and, ultimately, the Secretary of State for Commonwealth and Foreign Affairs, include defense, external affairs and internal security.

Consistent with colonial status, the Governor has reserved powers of disallowance and assent of bills "in the interests of public order, public faith, and good government" and "if deemed expedient ... in order to secure control of the finances of the Islands (while they are receiving aid from the U.K.) for the purpose of balancing the annual budget or otherwise".²⁹

One other item of an enabling nature deserves mention: Royal Instructions conveyed to the Governor by the Foreign and Commonwealth Secretary may remove an issue from the competence of the Legislative Council. The Instructions, in the words of the former Governor, "represent long-standing formal direction - a form of administrative law, if you like" through which the U.K. may exert influence on matters fundamental to the Islands' development such as the alienation of Crown land.³⁰

Where the Islands' government is contemplating the alienation of substantial portions of Crown land - over 100 acres is the traditional criterion - and where the alienation is the subject of an agreement which would confer significant advantages to the purchaser (a conditional purchase, long-term lease or tax relief) - the Secretary of State for Foreign and Commonwealth Affairs must be

consulted.³¹ The consultative mechanism is arguably salutary to the development process where tourism projects are contemplated, although the issue has engendered some controversy in the Turks and Caicos, as will be seen below.

Thus, the Islands are what might be loosely termed a semi-autonomous Crown Colony. Matters of local interest are the province of the local government. Ultimate authority is vested in the U.K. government in matters related to defense and external affairs, and in matters involving the disbursement of monies provided by the Crown for budgetary support. The U.K. oversees, rather than rules the Islands. This "anomalous constitutional status", to use Lewis' term,³² will continue until independence or a new association relieves the Crown of its budgetary and political responsibilities.

THE ECONOMY: FARMING AND FISHING

As Figure 1 shows, unemployment runs at 28%. Upwards of two hundred people or over one quarter of the registered labour force, work in the civil service in one capacity or another. Although figures for other sectors were unavailable, several inferences may be made. Only a handful of people are employed in non-government positions

Figure 1 . Employment Figures for December 1976

	Est. No. Employed	Est. No. Unemployed	Actual No. Registered	% Unemployed
Grand Turk	321	142	463	30.7
Salt Cay	45	14	59	23.7
South Caicos	63	32	95	33.7
Middle Caicos	43	10	53	18.9
North Caicos	120	40	160	25.0
Providenciales	<u>60</u>	<u>25</u>	<u>85</u>	<u>29.4</u>
Total	652	263	915	

Source: Labour Office and Employment Exchange
Grand Turk, Turks and Caicos Islands

Figure 1 (cont) Employment Figures for March 1977

	Est. No. Employed	Est. No. Unemployed	Actual No. Registered	% Unemployed
Grand Turk	330	144	474	30.3
Salt Cay	45	14	59	23.7
South Caicos	63	32	95	33.6
Middle Caicos	43	10	53	18.9
North Caicos	120	40	160	25.0
Providenciales	<u>60</u>	<u>25</u>	<u>85</u>	<u>29.4</u>
Total	661	265	926	28.6

Source: Labour Office and Employment Exchange
Grand Turk, Turks and Caicos Islands

Figure 1 (cont) Employment Figures for June 1977

	Est. No. Employed	Est. No. Unemployed	Actual No. Registered	% Unemployed
Grand Turk	331	142	478	30.7
Salt Cay	46	15	61	24.5
South Caicos	63	32	95	33.6
Middle Caicos	43	10	53	18.8
North Caicos	120	40	160	25.0
Providenciales	<u>61</u>	<u>25</u>	<u>86</u>	<u>29.0</u>
Total	664	269	933	28.8

Source: Labour Office and Employment Exchange
Grand Turk, Turks and Caicos Islands

in the tourism industry directly. Farming, although traditional and perhaps of some potential importance in future, is chiefly of a subsistence nature. Fishing provides work for a substantial number of Islanders, and while those who work in the processing plants are accounted for in the figures, fishermen, licensed or unlicensed, are not. Farming and fishing are discussed in turn below.

We have seen that the "salt islands" have little to commend them in terms of natural exploitable resources. Much of the land, cleared of original forests years ago to expedite evaporation in the salt ponds, suffers from erosion. There are no known groundwater sources in the salt islands and agriculture is limited to the keeping of livestock.

The Caicos Islands are somewhat better endowed. Groundwater lenses have been located on Providenciales, Pine Cay and North and Middle Caicos (see Figure 2) and a 1971 report concluded that not only is there "more than enough potable groundwater to serve the future development of the Caicos Islands", but that a surplus would exist which could be sold by the government to resort developments and which might also stimulate greater experimentation in agriculture.³³

Figure 2 Estimated Groundwater Resources on the Caicos Islands

Islands	Drilled Area of lens, in acres	Water potential in gallons/day, (at 200 gal./acre)
Providenciales	750	150,000
Pine Cay	350	50,000
North Caicos	600	120,000
Middle Caicos	500	100,000
	100	20,000
	500	100,000

After Shankland-Cox Partnership, Outline Development Plan,
1971, p.37.

At present, Caicos agriculture is at the subsistence level, the two main crops being corn and beans, although banana trees can be found in a few locations on Providenciales. Sisal was cultivated from 1944, when the government financed the sewing of six hundred acres, until 1969 when the project was abandoned. While it found a protected market in Jamaica, sisal became the main cash crop and an important source of income.³⁴ With the disappearance of that market, periodic hurricane damage, the inherent difficulties of shipping the output, and the poor quality of the sisal itself - it had to be "retted" or softened by soaking in salt water - this endeavour went the way of the salt industry. Early farmers also grew pineapples "although this minor enterprise did not survive owing to the excessive alkalinity of Caicos soils and the lack of technical knowledge needed for corrective procedures".³⁵

Nevertheless, while rainfall is for the most part sparse and unreliable, and soil conditions hardly ideal, there are indications of a potential for growth. The Labour Office, reporting on employment during the period March to June 1977, observed that copious rainfall at the time had given the people of the Caicos Islands "a good opportunity of engaging in local farming". But, the report noted, for those farmers who did take the time to sow a summer crop,

"it is a pity that these people cannot obtain a decent market for the good crops they can grow, and hence they are merely content to prosper only on subsistence farming when the going is good for planting".³⁶

The same report remarks on the fact that at Conch Bar, one of the few places on Middle Caicos reasonably suited to farming, potatoes, carrots, pumpkins, spinach, tomatoes and cabbages can be grown "with ease"; and in Kew, a community in the interior of North Caicos away from the salt-laden onshore winds, the soil is so fertile that, with sufficient water, "nearly any kind of tropical food crop or tropical fruit can be grown....".³⁷

The vicissitudes of farming however renders it a secondary bread-winning activity. On Middle Caicos most of the farmwork is carried on by women, while men who fish for a living turn to the plow during periods of weather too rough for fishing, or in the short off-season, although many spend that time working in government-financed rural programs.³⁸ The situation is slightly different on Providenciales.

"... farming is still an occupational activity for the so-called old timers in the more rural sections ... Planting and working in the field and the plantation is not as common as it used to be and it might well be dropped if the elderly citizens do not perpetuate the practice.³⁹

Although experimentation continues in several of the Caicos Islands, natural conditions and alternative sources of income militate against the prospect of significant developments in farming, at least in the foreseeable future.

At present, fishing must be considered the most important industry in terms of both employment and export earnings. The large Caicos Bank has a depth of one hundred fathoms or less, and is a trove of conch and "crawfish", as the spiny lobster is called by locals. Of the two, the latter has been more lucrative for the fisherman, most of whom come from the Caicos Islands. The marine spiny lobster, Palinuridae, is of a different family than the true lobster, Astacidae. The species caught in the Caicos Bank is called Palinurus Argus, and it is the most abundant and important of the four species found in the West Atlantic.⁴⁰

P. Argus, like other "lobster" species, has commanded a fairly high price in large United States and Canadian markets. Caicos fishermen harvest the crawfish during a seven month season from September to March. Until 1968, most of the fishing took the form of free diving, but increasing demand encouraged the introduction of traps.⁴¹

In 1978, 450,000 crawfish were taken. About 98% of the catch was exported to Florida - after various types and degrees of processing by one or the other of the Islands' plants - where the going price amounted to U.S.\$5.50 per pound. Figure 3 shows quantity and value of crawfish exported in 1976 and 1977. The price paid to the three hundred-odd licenced fishermen was at the time fixed at \$1.35 per pound.⁴²

Pound for pound, conch is less remunerative than crawfish, but trade in the former is perhaps of greater economic significance. Normally found at depths of less than two hundred feet, the queen conch has traditionally been taken "by hand", the fisherman using a long segmented "conch hook" and a "waterglass" or glass-bottomed bucket to find the bottom-dweller. Two men operating in this manner from a small dingy can collect a formidable number of animals. One observer reported that "a good crew is said to be able to collect as many as a thousand in a day".⁴³

Figure 3 Quantity and Value of Lobster
for 1976 and 1977

	1976	1977
Lobster Tails:	123,093	129,273
Value - \$U.S.	\$295,423	\$624,337
Whole Cooked Lobster:	143,120	205,412
Value - \$U.S.	\$146,463	\$919,977
Lobster Meat: Quantity (lbs)	16,069	1,575
Value - \$U.S.	\$ 25,669	\$ 4,635
Live Lobster: Quantity (lbs)	3,198	4,312
Value - \$U.S.	\$ 3,198	\$ 18,240

Source: Fisheries Department, Turks and Caicos Islands,
South Caicos, 1978.

Once caught, the conchs are loaded onto a pickup boat for transportation to shore for processing. Each one is "knocked" - that is, a small hole is gouged in the spine of the shell and the soft body is cut away. It is then cleaned and may be dried and 'bruised' - to tenderize the meat - then frozen, or consumed fresh.

Conch is not unique to the Caribbean, but these waters have the most extensive fishery in the world: seven species of Strombus are found here and the queen conch - S. Gigas. - is the most important commercially.⁴⁴ The meat from the queen conch is rich in protein, an attribute which, as we shall see, has made it quite significant in terms of the food supply of West Indians.

The spiralled shell, which suffers little damage from the extraction process, is familiar to North American visitors to the Bahamas as a decorative curiosity, and many shells have been imported to North America in the flight bags of returning tourists. In the past the shells were pulverized and used as an ingredient in English porcelain. Then, as now, the material made an excellent aggregate for use in construction.⁴⁵

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But although the shell is still of some significance commercially it is the meat which has long been prized. Chronicling the development of conch trade in the Caicos, Doran writes that "there is little doubt that the ubiquitous conch has served man for food throughout the occupation of the West Indies".⁴⁶ Almost all of the 87.8 million conch exported to Haiti between 1900 and 1950 - an annual average of 1.7 million - was dried and therefore "shrivelled and dark brown and odiferous ... not a saleable object to people with a satisfactory food supply".⁴⁷ But the dried conch was a welcome source of protein to Haitians who could obtain a pound for ten cents in 1955. By Doran's reckoning, Caicos Islanders were in that year providing about 0.16 pounds of conch to each Haitian, or an amount nearly equivalent to that of meat imports of 0.2 lbs/capita.

Suffice it to say at this point that several factors favour the expansion of the industry, with or without significant increases in tourism. Conch is relatively easy to catch and requires no sophisticated methods to ensure high volume; its meat is nourishing and when fresh or frozen, is not "an acquired taste"; with minimal processing, it could find a ready market in the United States.

THE ECONOMY: PUBLIC FINANCE

It is useful at this point to examine the structure and process of public finance. Mention was made of the Governor's reserve power "to secure detailed control of the finances of the Islands during such time as the Islands are receiving financial assistance from Her Majesty's Exchequer". In fact, such control as the U.K. government has over budgetary decisions is vested in the mechanism of grant-in-aid.

Grants-in-aid are deficiency payments made by the U.K. government to shore up the recurrent accounts. Except for the period between 1958 and 1962, the U.K. has been making such payments since 1955 in not inconsiderable amounts. In 1977, recurrent revenue for the Islands totalled \$4.36 million, of which \$2.45 million was raised locally. Grants-in-aid made up the difference.⁴⁸

Aid payments to recurrent account are likely to continue for the foreseeable future at least. Locally-raised revenues have increased at a rate which just keeps pace with the increase in services required.⁴⁹ Many of these services - piped water, electricity, roads - have been

developed with capital funding from the U.K., again in the form of "grants-in-aid (capital projects)" or under the old "Colonial Development and Welfare Aid" scheme. The accumulated capital revenue estimate for 1977 was \$1.48 million.

As might be expected, the capital budget aid is tied: it is obtained under a procurement policy whereby goods and services required for capital projects must be imported from Britain if they are not locally obtainable. Recurrent Account grants-in-aid, on the other hand, are applied toward payments on goods and services obtained in the region, including the United States (and thus represent, from the British point of view, a net drain on the U.K. Treasury).

Eighty-five percent of the 1977 Estimates for Capital Expenditures is under the heading of Communications and Works. A total of forty-five projects and purchasers are accounted for in the estimates, representing a cost of \$3,315,408. Potable water projects completed or in progress took 13.7% of this amount; electricity generation amounted to 4.5%; and 29.5% was committed to twelve projects, eight of which were related to airport and airstrip construction.⁵⁰

The Capital Works program was significantly augmented in 1979 by the approval by the British government of \$40 million worth of expenditures through 1981. Figure 4 lists these projects.

TOURISM IN THE TURKS AND CAICOS

Tourism in the Turks and Caicos is in its infancy, relative to virtually all other island groups in the Caribbean. Travel to the Islands is an infrequent subject in the leisure sections of North American newspapers and is usually promoted for the adventurous tourist who seeks undiscovered backwaters.⁵² The absence of large resort hotels and commensurate amenities, the lack of easily available freshwater for bathing - seemingly necessary in super-abundance for most North American tourists - difficulties with local and inter-island transportation and the general dissimilarity to the popular image of Caribbean paradise have kept the islands unspoiled, and undeveloped.

The supply statistics are illustrative. During the halcyon days for tourism - of the early 70's - the Turks and Caicos had only two hotels with a total of 35 rooms. Compare this with Barbados, of comparable geographical size, which had 48 hotels with 2,048 rooms, and with smaller Antigua with 32 hotels and 1104 rooms.⁵³ The market value

Figure 4. British Capital Aid for Infrastructure

<u>GRAND TURK</u>	VALUE (U.S.\$)	START DATE
Tree Nursery	20,000	1979
Factory Shell	170,000	1978
Airport Industrial Park	150,000	1979
Airport Warehouses	70,000	1979
DEVTAC Finance	100,000	1978
DEVTAC Subsidy	50,000	1979
Tourism Promotion	150,000	1979
White Sands Development	60,000	1979
Dredging, etc.		
North Creek	3,500,000	1979
South Creek	500,000	1979
Town Salinas	500,000	1980
Corktree Road	20,000	1978
Mission Folly	10,000	1978
Back Salina drains	50,000	1978
Front Street	20,000	1980
Pond Street	50,000	1980
Airstrip Extension	1,300,000	1979
Salt Wharf	10,000	1980
S. Pier Extension	257,000	1980
AIRTAC Islands	460,000	1979

Figure 4 (cont)

<u>GRAND TURK</u>	VALUE (U.S.\$)	START DATE
Navigation Lights	90,000	1979
Inter-Island Barge	250,000	1979
South Wells W/Shop	80,000	1979
Re-equipping PWD	600,000	1979
Crane/Drum Line	80,000	1979
300 KW Generator	130,000	1979
Electrical Transmission	30,000	1979
New Power Stn. South Wells	500,000	1979
Water Purification	20,000	
Tanks' mains	20,000	1979
Tank N. Wells	160,000	1979
Tank S. Wells	160,000	1979
Pte Tank Oan Scheme	100,000	1979
Sea Defences	67,000	1979
Street Lighting	50,000	1979
Hospital Clinic	525,000	1978/80
N. School Extension	75,000	1980
Community Centre	50,000	1979
Islands Centres	50,000	1979
Scholarships, etc.	150,000	1979

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Figure 4 (cont)

<u>GRAND TURK</u>	VALUE (U.S.\$)	START DATE
Expat Housing	360,000	1979
Low-Cost Housing	500,000	1980
Housing Loans	251,000	1979
Police Station un.	60,000	1978
New Admin Block	220,000	1978
B'costing Studio	266,000	1977
Building Maintenance	200,000	1979
Finance Building	200,000	1980

TOTAL GRAND TURK PROJ. - \$12,713,000

EAST CAICOS

Public Shore Salt & Aragonite	\$7,000,000	1980
Causeway ex - S. Caicos	2,000,000	1980
Sail Rock/Drum Road	500,000	1981
Drum Pt/Bar Road	750,000	1981
Causeway to M. Caicos	1,000,000	1981
Deep Water Entrance	6,000,000	1980
TOTAL E. CAICOS PROJ -	17,250,000	

Figure 4 (cont)

<u>WESTERN CAYS</u>	VALUE (U.S.\$)	START DATE
Parrot Coy Roads	50,000,000	1980

(The above examples outline in detail works approved for these islands. Expenditures on other islands involves similar undertakings, e.g., Water Tanks, Roads, Airport facilities, Prison Farm, Schools, Electrical Utilities, etc.)

SALT CAY	948,000	1978-80
SOUTH CAICOS	2,872,000	1978-80
MIDDLE CAICOS	2,083,000	1979-81
NORTH CAICOS	2,061,000	1978-81
PROVIDENCIALES	988,000	1979-81
WEST CAICOS	250,000	1980

GRAND TOTAL	\$39,215,000
Already financed	\$3,131,000
To be financed	\$36,084,000

Source: N.P. Ewing, "A Canadian Island in the Sun"
(unpublished paper prepared for the National
Defense College, October 1980), Appendix I.

of prime land (beach property) in 1973 varied from \$2,000 (U.S.) per acre on Grand Turk to \$12,000 per acre on North Caicos while in Barbados an acre of beach fetched \$200,000 to \$300,000. Unserviced sites on Antigua, including beach land, was worth an estimated \$20,000 per acre at the time.⁵⁴

Two events marked the beginning of tourism on the 1960's. On South Caicos in 1961, two vacant buildings were converted to guest houses to provide accommodation for the only tourists of the time: island-hopping private pilots who set down to refuel on the way from Miami to Puerto Rico and points south. South Caicos was seen as an alternative to refuelling in Cuba and Hispaniola.⁵⁵ The next year Mr. Liam McGuire, the present Industry and Tourism Minister, formed Caicos Holdings Limited which dealt in groceries, dry goods, imported hardware and real estate. Crown land was acquired under a conditional lease arrangement whereby Caicos Holdings Ltd. assured the government of future productive development by purchaser-clients. The company obtained 400 acres on South Caicos and 2,300 acres on Middle Caicos, and by 1963 prospects seemed bright enough that a development plan recommended the creation of a quasi-government corporation to begin providing infrastructure. The plan failed to receive the necessary support from London however.

up a plan, later approved by the Turks and Caicos Planning and Development Authority, which detailed proposed sites in the prime Turtle Cove subdivision for hotels, one-, two- and three-unit family dwellings, marinas, hangers, roads and commercial zones.⁵⁷

The company proposed to sell lots at market prices on very reasonable terms since domestic financing was unavailable. A lot in what is acknowledged as the best beach in the Islands might be sold for \$20,000 to \$30,000 an acre with one third down, one third due the second year and the balance due the third year with 10% percent discount for cash. An interior lot on Providenciales would sell for \$8,000 to \$15,000 depending on proximity to water.⁵⁸

While sales figures were not available it appears that the development program on Providenciales is moderately successful, perhaps because of its orientation towards selling plots for private dwellings - a characteristically low cash flow operation - rather than creating hotel capacity for a large influx of short-stay tourists. Providenciales still has only two hotels: Provident Ltd.'s Third Turtle Inn, now 20 rooms, and in close proximity the smaller Erebus Inn, which shares restaurant facilities with the Third Turtle.

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The salt islands have not been the targets of such comprehensive development plans. Grand Turk has three hotels, all on the main street of Cockburn Town on the west shore of the Island. The oldest, the Saltraker Inn, is a one hundred year old house which offers 12 rooms. Further "downtown" is the Turks Head Inn, another old house which was converted by the government in 1964 to a five room hotel and has since been sold to a "belonger" - an American expatriate, long resident in the Islands. Although modest in appointments, the Turks Head offers nightly entertainment, a premium in Grand Turk, and in Liam McGuire's words "it attracts a most interesting clientele, combining the function of a businessman's luncheon club, a nightclub and a traditional guest house".⁵⁹ The most recent and modern hotel on Grand Turk is the 23 room Kittina which offers the relative luxuries of air conditioning - in one unit only - and food available at off hours.

Two other hotels are noteworthy because of their relative isolation. The fifteen room Prospect of Whitby offers a pool, marina, tennis, and air conditioned units to those interested in making their way to sparsely-populated North Caicos. Pine Cay, between North Caicos and Providenciales, is a relatively tiny island, but has an

airstrip and spine road and a relatively modern hotel. The Meridian Club, like the Third Turtle Inn, was built by a development company under a conditional lease arrangement renewable in 1982. Open in 1967, the hotel now offers 20 units, boating, scuba and skin diving and fishing.

As in Providenciales the Meridian Club was erected as part of a plan by the developer, Cays Development Company, to build and sell vacation homes. In 1975 four houses were built; in 1977, seven houses, and in 1978, eleven houses. Nineteen houses were planned for 1979.⁶⁰ Pine Cay, unlike the other islands is wholly devoted to tourism development. There are no native residents. Local staff from North and Middle Caicos are boarded free at the hotel on a three week on, one week off basis in season, with shorter shifts in the low season. The local construction crew of 15 to 20 men spends the work week in company quarters and is transported home on weekends by a CDC-leased airplane. The Meridian Club "bears a proportional share of airport, docking, power plant and road expenses, and owns boats (and) electric vehicles for on-island transportation".⁶¹

With something in excess of 135 rooms and 245 beds (small guest houses excluded) the Islands' ten hotels and inns have nevertheless been able to cope with the demand. While statistics on occupancy rates are scarce, especially with respect to small owner-managed hotels, the management of the Meridian Club was able to provide estimates for the three years 1975-76, 1976-77, 1977-78. The rates were 25% to 30%, 35% to 40%, and 50% plus, respectively, and the total number of visitors in the period, while "very difficult to gauge, was probably around 2,500 to 3,000".⁶² About 95% of these were United States citizens, the remainder Canadians. Practically no West Indians visited the hotel in the period. The only Islanders to stay in the hotel were on government or private business or were attending school or college seminars held on Pine Cay.

Discussions with other hoteliers tended to confirm these approximations. In the peak season and including Christmas to New Year, business flourishes and most available hotel rooms are fully booked. At this time the occupancy rates for the Islands generally is probably higher than for any other Caribbean countries with well developed tourism sectors. These gains are offset by quite low

occupancy rates in the off season, a not unexpected condition given the rudimentary nature of tourism here relative to the better developed sectors on other islands which can offer more than climate and beaches to the off-season traveller.

Figures 5 and 6 give an indication of the growth in the tourists visiting the Islands since 1962. The data in Figure 5 show guest-night accommodated by the Admiral's Arms Hotel on South Caicos between 1962 and 1969. Although first quarter and total annual growth is positive throughout the period, fluctuations are marked, a condition attributable more to the type of guest than to seasonality or quality of service. That is, most guests were private pilots laying over for rest and fuel; these data can in fact be correlated to monthly sales of aviation fuel, a substantial source of revenue at the time for the owners of the Admiral's Arms.

The official data in Figure 5 were made available by the Tourist Board. They show quarterly and annual increases in tourist traffic from 1971 to 1974 and the beginnings of a decline in 1975. One point must be noted. The 1975 figures are probably inflated by a considerable amount. Turks and Caicos Islanders coming home from work in the Bahamas in that year were required to fill out an

Figure 5 ~~Guest-nights~~ Accomodated by Admiral's Arms Hotel, South Caicos, From Inception to 1969.

	1962	1963	1964	1965	1966	1967	1968	1969
FIRST QUARTER	N/A	111	355	391	613	620	1387	1532
PER CENT CHG.	N/A	111%	219%	10%	57%	1%	120%	10%
SECOND QUARTER	N/A	208	164	330	372	320	855	958
PER CENT CHG.	N/A	208%	(21%)	101%	13%	(14%)	167%	12%
THIRD QUARTER	118	316	272	347	405	496	894	583
PER CENT CHG.	N/A	168%	(14%)	28%	17%	22%	80%	(35%)
FOURTH QUARTER	130	272	367	298	392	566	711	954
PER CENT CHG.	N/A	109%	35%	(19%)	32%	44%	26%	34%
TOTAL ANNUAL	248	907	1158	1366	1782	2002	3847	4027
PER CENT CHG.	N/A	265%	28%	18%	30%	12%	92%	5%

Source: Mr. C. W. Maguire, Grand Turk., 1978.

Figure 6 Tourism Statistics for the Turks and Caicos,
1971 to 1977.

	1971	1972	1973	1974	1975	1976	1977
FIRST QUARTER	660	1306	1787	2142	2341	1776	3197
PER CENT CHG.	N/A	98%	37%	20%	9%	(24%)	80%
SECOND QUARTER	618	1184	1247	1855	1910	1764	1926
PER CENT CHG.	N/A	92%	5%	49%	3%	(8%)	9%
THIRD QUARTER	952	1064	1242	1841	1703	1590	1055
PER CENT CHG.	N/A	11%	17%	48%	(7%)	(7%)	(34%)
FOURTH QUARTER	512	1116	1605	2129	2227	2436	1365
PER CENT CHG.	N/A	118%	44%	33%	5%	9%	(34%)
TOTAL ANNUAL	2742	4670	5881	7967	8181	7566	7543
PER CENT CHG.	N/A	70%	26%	35%	3%	(8%)	-

Source: Tourist Board of the Turks and Caicos Islands, 1978

immigration form (entry-departure card) ambiguous in its distinction between foreign tourists and returning residents. In fact, figures for all of the years shown are of doubtful validity for this reason. A review and research program undertaken by the Tourist Board in 1976 with the help of a Florida consulting firm included a survey of entry-departure cards for the period January 1976 to June 1977. It was ascertained that, given the information sought and obtained by E/D card as designed, a substantial portion of these had to be discarded as ambiguous.⁶³ The E/D cards were subsequently redesigned to better distinguish between residents and visitors and to record from arriving and departing tourists information useful in future marketing efforts.

Regardless of dubious data, there was undoubtedly a decline in arrivals in 1976 and 1977. There were two major reasons for this. First, three hotels, representing 27% of beds available, were closed for several months in 1977 due to changes in ownership. Secondly, regular air service between Miami and the Islands was interrupted between March and July of that year and resumed at an acceptable level only in November.⁶⁴ The nature and reliability of air service has in fact been a perennial

problem for the Islands. Small regional carriers have heretofore employed propellor-driven aircraft for passenger transport two or three times a week. The introduction of jet service by larger (and more reliable) carriers is not dependent on infrastructure - which could be and is being developed at relatively low cost - but rather on the existence of accommodation of sufficient scale to satisfy airlines that a return could be realized, and that emergency stop-over passengers could be housed.

PRESENT EFFORTS BY GOVERNMENT AT TOURISM DEVELOPMENT

If tourism has been slow in starting, it has not been for lack of trying on the part of virtually all the Islanders. The chief proponent of tourism as a growth sector has been and is the present Minister of Tourism and Development of Industry and Resources. Liam Maguire exhibits boundless enthusiasm for the potential of the Turks and Caicos to attract investment necessary to develop tourism plant that will capture a small share of the fiercely competitive Caribbean market. Support for the incumbent government's efforts appears all but universal. A member of the opposition party acknowledges that "Maguire is

doing a good job in tourism - as much as possible within budgetary limits", and is critical only of the government's lack of skill at negotiating with private foreign investors and its inability to generate enough investor confidence.⁶⁵

Recognition of the primacy of tourism was formalized in 1971, when the Overseas Development Administration of the Foreign and Commonwealth office commissioned Shankland, Cox and Associates - the authors of the World Bank's study on tourism supply in the Caribbean - to construct an Outline Development Plan. Point One in the report's summary reads as follows:

The basic studies showed that the only opportunity which can be clearly seen for improving the economic base of the Islands is to promote growth in tourism. The Outline Development Plan for the Turks and Caicos Islands is therefore mainly a tourism plan.⁶⁶

The Plan, comprehensively addressing the requirements for developing the sector, makes thirty-four other conclusions and projections. The more important are summarized as follows:

- a) The Plan provides for 1,800 resort beds by 1985 of which 1,260 would be hotels and guest houses and 540 would be villas, all to serve the anticipated 55,000 tourists per annum.
- b) Cockburn Harbour, South Caicos, would become the major regional distributive industrial and commercial centre, consistent with the proposal that one third of resort beds be on South Caicos, "grouped in sufficient concentrations to enable a tour operator to bring in plane loads of package tour visitors". Grand Turk, remaining the administrative centre, would have 220 resort beds. On Providenciales, where subdivisions already exist, over half of the proposed villas would be built. South Cay, Middle Caicos and North Caicos/ Pine Cay would have 110, 225 and 200 resort beds respectively by 1985. Settlement populations would grow accordingly in a distribution "more closely related to job opportunities rather than the natural increase of the population on each island".

- c) Tourism would provide half the jobs by 1985 with associated job creation in construction, fishing, government and "other residentiary sectors".
- d) The major international airport and harbour facility would be on South Caicos; inter-island sea and air facilities would be developed or improved as demand grew on Grand Turk, South Cay and North Caicos; roads on all islands would be upgraded and a spine road built to connect South Caicos to North Caicos.
- f) Government would provide water to residents and, at a somewhat higher price, to resorts, although any equitable price structure would not likely cover amortization of capital facilities; shallow wells could be dug to exploit ground water lenses in the Caicos Islands, while catchment facilities, particularly at existing airstrips, could supply the Salt Islands. Each island would have its own central electrical generating plant with lines to each settlement.

g) While the emphasis would be on tourism, growth in other sectors would be encouraged "so that the future economy is not wholly dependent on tourism". While opportunities to establish manufacturing industries are limited and conditions militate against agriculture, fishing has great potential for expansion. While the Islands are well located for the establishment of a freeport, regional competition is great, the Islands' labour force small, and the requirement for associated infrastructure formidable.

h) "The Turks and Caicos Islands in its promotion policy should seek visitors from as many sources as possible. The overall image should be where (sic) one could enjoy at reasonable costs, a quiet beach orientated or specialized activity holiday in a carefree atmosphere of calm and goodwill.

"The promotion of visitors to the Islands must be accompanied by an equally vigorous promotion of development and investment interest.

"While government should take a more positive role in promoting development by providing the engineering infrastructure, it will need to rely on private developers for much of the resort development which is proposed."⁶⁷

The Plan must be viewed in the context of present day government policies. The authors stressed flexibility as "the keynote of an Outline Development Plan".⁶⁸ It "should not be seen as a rigid set of planning proposals into which all planning applications ... must fit neatly into place".⁶⁹ The Plan emphasizes the need to judge each project on its merit.

As it transpires, the detailed parts of the Plan are not particularly revered by the present administration or in interested private circles, although "the broad principles of the report are being adhered to".⁷⁰

About the absolute quantity of hotel capacity there seems no contention. The Shankland, Cox figure of 1,800 beds by 1985 is

consistent with the objectives established for the development of the strategy and (is) related to what appears to be a reasonable share of the future growth of visitors to this part of the Caribbean and to minimizing the need to import immigrant labour to service the tourist industry".⁷¹

Liam Maguire suggests there will be 2,000 rooms but not in the configuration envisaged by Shankland, Cox. Mr. Maguire believes that the government should set its sights on attracting the necessary investment to erect at least three 200-room hotels, one on each of Grand Turk, South Caicos and Providenciales. These hotels could attract the necessary facilities, first and foremost jet air service. The alternative of smaller hotels may be profitable to the owners, may provide good service and jobs and might be more ecologically acceptable in the first analysis, but alone, or even in clusters, the small hotels "will not create the spectrum of jobs which are required for a sophisticated community",⁷² nor would they enable the Islands to significantly penetrate the Caribbean market.

Thus Maguire argues, the Islands need both types: the large resort as an engine of growth and the small more labour intensive and preferably locally-owned hotel or guest house.

Although this view relates strictly to an optimum pattern of plant as perceived by Mr. Maguire, it appears to conform to emerging realities in the Caribbean generally. Bryden concludes that the average hotel size is small - around 30 rooms - but that most investment in capacity in the 1960's was directed towards additions - his inference being that average size is increasing - while new hotels tend to be larger.⁷³

Bryden further suggests that increasing size can be correlated to a secular increase in foreign ownership. Indigenous ownership is generally restricted to small establishments (guest houses and 30-room hotels). The reasons are obvious: lack of expertise on the part of domestic entrepreneurs in running large scale luxury hotels, shortages of domestic savings associated with restricted capital markets, and correspondingly greater ease of foreign investors in obtaining financing,⁷⁴ as well as the previously discussed apprehension of tourism on the part of potential domestic investors.

All of these conditions except perhaps the last - what private domestic investment sources exist on the Islands are actively interested in tourism - apply as well now to the Turks and Caicos Islands as when the Outline Development Plan was published. The need for foreign investors in tourism plant is evidenced by a critical shortage in private domestic capital relative to the amount required for even small resort development. The dependence of government financing on the United Kingdom, in terms of both magnitude and direction, has already been described, and the Islands government is not reluctant to point out that, as a Crown Colony, the Turks and Caicos can receive no foreign aid, a situation curiously cited as one reason for independence.⁷⁵

Incentive legislation reflects the government's commitment to encouraging foreign investment. The Hotels Aid Act, in force from 1969 to 1974, provided for total relief from import duties on building materials and equipment for new hotels of 10 rooms or more.⁷⁶ A more comprehensive piece of legislation was the Encouragement of Development Ordinance passed in 1972. An amendment to this Ordinance, under study in 1978, provided for exemption from all taxes on profits or gains and relief from import duties upon articles and commodities associated with the business

of any developer to whom the Administrator granted a development order. The amendment would increase the period of the import/export duty holiday to 35 years from 10 years permitted by the original Ordinance. The maximum term would be available, however, only for large investment.⁷⁷ At the same time, developers may obtain 25-year leases on land in industrial parks at a yearly cost of \$2,000 per acre. A control mechanism is embodied in the Planning and Development Ordinance - "an Ordinance to make provision in the interest of a common good for the proper planning and development of urban and rural areas in the Turks and Caicos Islands".⁷⁸ The Ordinance requires that anyone contemplating development involving material change in the use of structures or land obtain permission from the Planning and Development Authority. At the same time, the Authority may require land owners and leaseholders to take steps necessary for "abating injury to amenities".

With respect to incentives, the Hotel's Aid Ordinance closely parallels other such Acts elsewhere in the Caribbean. Bryden cites seven examples, all of which involve import duty relief for hotel construction and in some cases income tax holidays.⁷⁹ The one most closely resembling the Turks and Caicos ordinance is The Cayman Islands' "Law 1 of 1955" and its amendments, which solely

related to granting of relief of import duty on construction or extension of hotels of 10 bedrooms or more in an income tax-free environment. It is interesting to note that in the case of Grenada, relief was contingent upon fulfillment of certain requirements: viz, that 75% of employees in the construction, maintenance and operation of the hotel be British subjects and that no hotelier could refuse accommodation to a member of the public without lawful excuse. No similar provision exists in the Turks and Caicos Islands legislation. It should also be noted that the implicit capital bias in tourism development legislation in most Caribbean islands is consistent with industrial incentive legislation generally in the region.⁸⁰

The recent legislation is indicative of the attitude that the government is taking towards investment generally. While tourism has been looked upon as the sector most likely to grow, no investment proposal is discounted. In an interview relating to the tax shelter potential of the Islands, the Minister of Tourism and Development of Industries and Resources responded to the question "What sort of business would the government like to attract to the Islands?"

We want an industrial base. Fisheries and light industries. The solar salt business. All must be mechanized. We do not want industry like Hong Kong has that requires enormous number of people because we simply do not have large numbers here.⁸¹

For example the government believes it is merely a matter of time before a foreign investor will revitalize the solar salt industry which, it is said, has the potential of employing up to 250 people in the production of 2 million tons of salt per year.⁸² Up to 100 people could be employed in dredging aragonite from the shallows off South Caicos. Aragonite is a mineral resembling calcite which may be used as building material. It would essentially be a by-product of the larger effort to construct deep water facilities on South Caicos for use by transshippers, possibly in a freeport or freezone environment. It is fair to say that the government pins much of its hope for attracting foreign investment of all kinds including tourism on legislated incentives and the absence of tax: income, capital gains, corporate, gift, inheritance, property, and sales taxes. Despite the fact that the Islands lack the

financial infrastructure of the Caymans and other well known tax shelters, increases in international demands for such facilities is considered inevitable. The government sees tourism as inexorably linked to other investment opportunities; not only will tourism justify itself economically, it may be "the catalyst necessary to make the Islands a fit place for people to live, stay, and invest".⁸³

Nevertheless, investment analysis, with respect to tourism and other sectors, is at best piecemeal. Aside from the spirit of the Outline Development Plan and nominal adherence to zoning plans developed for each island, the government has contented itself with rudimentary evaluation of the commercial viability of project proposals on a case-by-case basis.

There are now two broad questions to be addressed. First, can the Turks and Caicos usefully employ some form of cost-benefit analysis technique to evaluate the large scale tourism projects the government sees as a development catalyst? Secondly, if application is theoretically possible, would information costs and/or political predilections constrain or prevent such application?

CBA AND THE PROJECT PROFILE

Recalling first principles, we may observe that some form of analytical technique is a necessary component of any development effort. While the Islands' government has refrained from participating directly or jointly in tourism investment up to now, its efforts promoting private foreign investment in tourism have been unremitting. While the design and planning of projects have in the past been, and likely will continue to be left to entrepreneurs, such promotion clearly resembles government selection in the private sector. Little and Mirrles observe that,

such ways of creating plants or industries, usually with little or no analysis of social profitability, can lead, and have led to a pattern of industrial development of little or no advantage to the country - though doubtless of advantage to the promoters.⁸⁴

The authors go on to categorize private sector projects as (1) "those expected to be profitable (to the entrepreneur) without adjustments to the price mechanism or fiscal favours" and which might receive scrutiny if public

money is required on non-concessionary terms or if import licensing is involved, and (2) "those where favours are offered or demanded in order to make the project sufficiently attractive to the private entrepreneur", all of which projects would of course receive prior government attention.⁸⁵

To the extent that projects in category (1) would be scrutinized by government - consistent, say, with a foreign investment policy - it is argued that appraisal is indicated to establish that, in an environment of price distortions, social profitability is in line with private profitability. On the other hand category (2) projects, as Little and Mirrles define them, would always call for public evaluation for the obvious reason that government would hardly wish to grant concessions to a socially unprofitable project so as to induce an entrepreneur to proceed with it, or to unwittingly erode social profitability through similar action. Obversely, prior evaluation which concludes that a project is socially desirable could expedite government action to "doctor" price mechanisms in a manner designed to encourage investment through the use of project or sector oriented taxes and subsidies,⁸⁶ at the same time providing a rationale for the negotiating position taken to the bargaining table.

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All of the projects in the Turks and Caicos have been private sector projects. Recently - built or expanded hotels have taken advantage of the Hotels Aid and Development Ordinances, but they fall into category (1) in all other respects. Apart from the Providenciales project all of these have been small in scope. The larger scale projects which the government is promoting naturally qualify for category (2), by virtue of negotiations the government has conducted with private foreign investors which involve fiscal concessions, significant land transfers on attractive terms, infrastructure investment by government and potentially significant legislation such as a gambling ordinance. Unquestionably, some kind of appraisal by public authority is indicated in such cases.

As has been noted, the government concerns itself with project proposals of sufficient magnitude to render the Islands competitive with other states in the mass tourism tourism; essentially it wants to see the Turks and Caicos develop a tourism production capability which would enable it to take its place in Leiper's "broader tourism environment". This environment includes of course components such as easy access by the purchasers to travel information in the tourism generating region, international transport of a

competitive standard and sufficient social and physical infrastructure, all of which, generally speaking, are seen as more easily attainable if associated, financially or economically, with large scale projects.

Much attention was given to one such project in the fall of 1977, when multi-millionaire Alexis Nihon, formerly of Montréal, proposed the development of a hundred room hotel and gambling complex in a freeport environment on Providenciales. Despite initial enthusiasm among Islanders for the proposal on account of its potential job creation impact, the governments of the Turks and Caicos and Great Britain were concerned about important concessions which Nihon required in return for the hotel and \$1 million in investment in the freeport. For example, Nihon wanted administrative control (excluding police and customs but including a measure of control over immigration) over the ten thousand acre tract, local tax exemptions for individuals doing business (again, under Nihon's control) in the freeport area, and, most important from the political point of view, ownership of significant amounts of beach property to which all Islanders have traditionally had free access. The latter condition was, in the words of a member of the Legislative Council, "a hard thing to agree to".⁸⁷

Nevertheless, the proposal, which one source indicated amounted to a \$5.5 million capital investment,⁸⁸ was at least sufficiently attractive to all parties that negotiations began over a 25 clause "discussion document". In addition to the job creation possibilities - the one hundred room hotel would provide 100 jobs directly, induce 200 more jobs outside the hotel and, assuming each worker had three dependents, "then a hundred room hotel means 300 jobs and twelve hundred people who are fed and housed"⁸⁹ - the project seemed attractive in terms of additional public revenue which could result. Nihon's development corporation would pay \$100,000 a year in rent for the ten thousand acre tract, plus \$1,000 for each acre converted into freehold after improvements (infrastructure). In addition to holding 20 per cent equity in the Development Corporation, the government would receive \$50,000 to \$100,000 per year in licence fees for the exclusive rights to conduct gambling operations on Providenciales, and 15 per cent of business licence fees in the "development area".⁹⁰

Despite the observation by the Islands' newspaper that there was "universal acceptance of the proposal in principle" among the Islanders at this stage of negotiation,⁹¹ Nihon withdrew the offer in October of 1977, allegedly

because of delays associated with the continuing concern that both governments - primarily the British government - had that Nihon's primary objective was to set up a government within a government and create a personal tax haven.⁹²

Less than a year later, another major project was proposed, this time for Grand Turk, by the West Pacific Land Development Corporation of Anchorage, Alaska. Although on a considerably smaller scale than the Nihon proposal, the \$15 million White Sand Beach project involves construction of a luxury 200 room hotel/gambling casino, a 300 boat marina on the site of a disused salina, and a 189 lot subdivision.⁹³

The White Sand Beach proposal is of particular interest for three reasons. First, it is a high profile, large scale project proposed for Grand Turk, the island least endowed with natural tourist attractions, except for the site itself. Secondly, the project is past the stage of preliminary negotiations - public money was allocated for infrastructure in 1980 - and thus qualifies as probable, unlike other development proposals which never got past the speculative stage. Finally, the gambling aspect has a great deal of significance to the project itself and to the whole question of the relationship of gaming to project initiation.

The draft agreement between the government and the developer may be summarized as follows:⁹⁴

- a) Subject to the provisions of the gambling ordinance, the developer's application for a licence conferring exclusive rights for casino operations on Grand Turk for an initial term of 20 years would receive priority consideration.
- b) The government would grant a conditional purchase lease of 63 acres on Grand Turk for \$10,000, the land to be used as a site for an 80 to 100 room hotel/casino as the first phase of the project. Upon completion of Phase 1, title to the land would pass to the developer.
- c) The developer would be granted a conditional purchase option on 40 additional acres at \$2,000 per acre for the second phase of the development; 80 to 100 additional units

including a combination of hotel rooms and cottages as described in the master plan to be drawn up by the developer.

- d) The developer would be permitted to construct a commercial marina in an adjacent disused salina.
- e) The developer would be exempt from all property taxes and stamp duties.
- f) The government would provide a construction road, power and water services during the construction phase, and the developer would pay user charges after operation of the resort commenced. The developer would provide sewage disposal facilities.
- g) The developer would undertake to employ 60 per cent of its "key, skilled or trained employees during the construction phase from belongers

of the Turks and Caicos Islands, providing such people are available". After construction, 60 per cent of employees in the hotel and bar operation, and 40 per cent of the casino/restaurant operation would be Islanders. The company would "exercise its best efforts" to train Islanders in order to meet the required percentages.

- h) While the developer would have the right to operate charter flights into Grand Turk, the government would construct additional runway suitable to accommodate commercial jet aircraft.

Although not a joint venture, the project requires considerable government involvement to the extent, at least, that it ranks as a (Little and Mirlees) category (2) enterprise. The government has and will provide public funds, albeit from the British Treasury, for infrastructure,

funds which unarguably have an opportunity cost. Conditions relating to land purchase, taxes and gambling arrangements all have implications for future government revenue. Nevertheless, negotiations proceeded after the entrepreneur conducted a market survey, established the net positive worth of the project and brought these data to the bargaining table.

In light of this fact - that the government has left the private profitability analysis to the entrepreneur - how could it proceed to analyze the project for social profitability, i.e. the net positive effects it will have on the fundamental objectives of the islands?

In principle, the social appraisal of a private project of this magnitude is no different from that of a public project, except in two significant areas: cost of capital and treatment of profits. The case of the private project which is financed from abroad is quite straightforward; the opportunity cost of the private capital is zero since, if the project is disapproved, the foreign investor will turn elsewhere outside of the economy. If the investment was domestically financed however, the opportunity cost would equal the present social value of a public investment consuming the same resources.⁹⁵

Profits would have to be treated in a significantly different manner. Little and Mirlees summarize the problem:

With a public sector project, the extra private consumption which will result from initiating the project comes about entirely as a result of paying wages and salaries. But profits arising in the private sector induce consumption; moreover, it is extra consumption on the part of the wealthy which is clearly less of a social benefit than extra consumption by poor wage earners. Admittedly, quite a lot of private profit may be paid in taxes, or be saved: nevertheless private profit will not be worth as much as profit accruing to the government.⁹⁶

On this basis, Little and Mirlees developed a method for adjusting nominal after-tax profits (capitalist income), which comprise extra saving and extra consumption by capitalists, to take into account the social cost of

private investment. In other words, the consumption by (wealthy) investors - which is regarded as less valuable than equal consumption by the poor - is treated as a cost associated with inviting private investment, rather than initiating public investment, and as such is deducted in the benefit-cost calculation from the total gross social income.⁹⁷

This is of course the general case of private investment, which obtains only when domestic private capital is an important source of funds. In ~~the Turks and Caicos~~, financing for the two projects heretofore discussed - and for all major projects anticipated - is from foreign sources. As noted, the opportunity cost of such investment funds is nil. Hence the government need not engage in troublesome considerations of alternative uses for (and social cost of) private investment.⁹⁸ However, the fate of profits is a consideration, especially in an environment which is expected to remain tax-free. If all profits are fully remitted abroad, they are a cost to the economy in the benefit-cost calculation. While Little and Mirlees suggest that the portion of project profits which are (usually) reinvested theoretically deserve attention in the project evaluation per se,⁹⁹ estimates such as future social

return on such profits would be, to say the least, speculative. The analyst could circumvent the problem by assuming that all profits would be remitted immediately, so that a positive present value for each project proposed could only be augmented by ploughed-back profits.¹⁰⁰

Despite the reliable assumption that Turks and Caicos tourism projects will be fully financed from abroad, it is worth noting that a cost-benefit analysis of one or several projects could address the question of alternatives such as joint ventures (the Trinidad Hilton case for example), and even fully domestic financing, although in the Islands' case, this would amount to a fully public enterprise. Assuming the country can develop a reliable estimate for its shadow interest rate (or in Little and Mirlees' term, an accounting rate of interest), a project proposal which rewards the foreign investor an after-tax yield in excess of that rate of interest would obviously call for greater government participation, provided costs and profits remained unchanged.¹⁰¹ One might argue that this would apply even more so to the Islands since, again, there are no taxes to reduce the investor's gross return. Nevertheless,

the greater (a government's) investment opportunities and the scarcer are a country's own funds, the less sense it makes to try to participate - and vice versa. An alternative to participation is to try to reduce the return to the foreigner by striking a harder bargain.¹⁰²

Such a course of action would seem obvious, especially in those less developed countries where the so-called negative external effects of foreign investment - political resentment of foreign ownership for example - are acutely felt. In the Turks and Caicos, the development of a sound and strong bargaining position would depend a great deal on the government's ability to project a favourable investment climate as well as on the availability of data.

The agreement under which the government proposes to allow the White Sands Project to proceed, and, more generally, the position it takes on other projects of the same magnitude and nature invite us to consider the relative

social gains of large scale tourism plant. That is to say that as tourism development has become in itself a national objective as opposed to being one of several development alternatives, the need for sound investment analysis is greater. The extent to which the government might usefully employ cost-benefit analysis, project by project, forms the basis for conclusions in the next and final chapter.

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- 28 The Turks and Caicos Islands Constitution: Order 1976 Statutory Instruments, SI 1156, (London: HMSO, 1976).
The Statutory Instrument is a full constitution setting out duties and powers of the three branches of government and the fundamental rights and freedoms of individuals.
- 29 Statutory Instruments, section 43.
- 30 Interview with the Hon. A.C. Watson, Grand Turk, June 28, 1977.
- 31 The intense scrutiny of land deals probably derives from an incident some time ago in the British Virgin Islands. According to Governor Watson, a developer obtained control from the Islands' government of the coralline island of Tortola. When B.V. Islanders got upset over the prospect of 'losing' an entire island to one commercial interest, the U.K. government was obliged to advance the money to buy back the island.

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- 50 Turks and Caicos Islands "Estimates".
- 51 N.P. Ewing, "A Canadian Island in the Sun". (unpublished paper presented for the National Defence College), October 1980, Appendix A.
- 52 Robert Martin, "Turks and Caicos for the daring sort", The Globe and Mail, October 25, 1980.
- 53 The Shankland Cox Partnership, Tourism Supply in the Caribbean Region, (Washington, D.C.: International Bank for Reconstruction and Development, 1974), p. 17.
- 54 Ibid., Pp. 418-419.
- 55 Interview with C.W. Maguire, Grand Turk, June 30, 1977.
- 56 Interview with Richard S. Dupont, Providenciales, July 6, 1977.
- 57 The Plan was approved in December 1969, and called for completion of improvements no later than the end of 1978.
- 58 Interview with Richard S. Dupont, Providenciales, July 6, 1978.
- 59 C.W. Maguire, "Tourism in the Turks and Caicos Islands" (pamphlet of the Tourist Board, Turks and Caicos Islands, Grand Turk), undated.
- 60 W.S. Cowles, Managing Director, Cays Development Company and The Meridian Club, personal communication.
- 61 Ibid.
- 62 Ibid.
- 63 Robinson's Incorporated, "Turks and Caicos Islands - Visitor Historical Survey", (New York, company report, 1978).

- 64 The Ministry of Tourism "The Future of the Tourist Board". (discussion paper, April 1978).
- 65 Interview with a member of the Opposition People's National Party, Providenciales, July 8, 1977.
- 66 The Shankland Cox Partnership, "Outline Development Plan for the Turks and Caicos Islands", p. 10.
- 67 Ibid., Pp. 1-4
- 68 Ibid., p. i.
- 69 Ibid., p. 4.
- 70 Interview with C.W. Maguire.
- 71 Shankland, Cox Partnership, Outline Development Plan, p. 14. The Plan projects a need for just over 1,000 immigrant workers by 1985.
- 72 Interview with C.W. Maguire.
- 73 John Bryden, Tourism and Development: A Case Study of the Commonwealth Caribbean, (Cambridge: Cambridge University Press, 1973), Pp. 121, 126.
- 74 Ibid., Pp. 121-122.
- 75 Interview with C.W. Maguire. To the extent that a movement for independence exists, it is not fired at all by nationalistic fervor, but rather by a perception that the Islands might be in a position to exploit other development options, including the oft-touted association with Canada. Maguire acknowledged however in an interview published in a corporation periodical within someone's sphere of influence because it is simply impossible for a country this size to have its own ambassadors, delegate to the United Nations and warships, etc." Quoted in Micro Business Systems Ltd. "MBS Tax Bulletin", (company journal, 5:12, December, 1977), p. 2.
- 76 Turks and Caicos Islands, "Laws of the Turks and Caicos Islands - Hotels Aid", (London: Eyre and Spottiswoode Ltd., 1970).
- 77 Micro Business Systems Ltd., "MBS Tax Bulletin", p. 1.

- 78 Turks and Caicos Islands, "Laws of the Turks and Caicos Islands - Planning and Development Ordinance", (London: Eyre and Spottiswoode Ltd., 1970).
- 79 John Bryden, Tourism and Development, Pp. 147-148.
- 80 See Jan F. Van Houten, "Assembly Industries in the Caribbean", Finance and Development (10:2, June 1973), p. 21.
- 81 "MBS Tax Bulletin", p. 3.
- 82 Interview with C.W. Maguire.
- 83 Ibid. Mr. Maguire further states that "tourism has already created reasonably sophisticated retailing relative to the period after the salt industry collapsed."
- 84 I.M.D. Little and J.A. Mirlees, Project Appraisal and Planning for Developing Countries. (New York: Basic Books Inc. 1974), p. 114.
- 85 Ibid., Pp. 114-115
- 86 By doctoring, Little and Mirless mean the use of taxes and subsidies to bring actual prices into line with shadow prices, thus reducing distortions. The fiscal mechanisms are described in this context on pages 75 to 79 in Project Appraisal.
- 87 Norman Saunders, quoted in The Gazette, September 10, 1977.
- 88 The Sunday Times, September 4, 1977.
- 89 Andrew Wiberg, (President of the Caribbean Hotel Association) quoted in Conch News, August 31, 1977.
- 90 Conch News, August 31, 1977.
- 91 Ibid.
- 92 The Sunday Times, September 4, 1977.
- 93 The Conch News, May 26, 1978.

- 94 A copy of the draft agreement was provided by the Ministry of Tourism, Industry and Development of National Resources, Grand Turk.
- 95 I.M.D. Little, J.A. Mirless, Project Appraisal, p. 119. Evaluation of a domestically financed private project is considerably more complex in this regard since there are alternatives within the economy open to the investor e.g. lending funds to the government through bond purchase; using the funds for some other investment of greater or less worth in the government's eyes; or merely increasing the investor's consumption. Each of these alternatives obviously has associated with it an opportunity cost. (p. 117).
- 96 Ibid., p. 118. The authors anticipate the objection some may make that private profits are in fact no less valuable socially than profit to the government in an environment of corruption and waste by public authorities. "We do not claim that money in the hands of the government is always in reality worth more than in the hands of private capitalists, let alone salary earners or the higher paid industrial workers. This must depend on the goodness of the government and the uses to which individuals would have put the money we make two claims:
(a) that it would be worth more if the government were rational and benevolent, and
(b) that the government-employed project evaluator may find it difficult to assume otherwise even when he doubts the truth". (Pp. 118-119).
- 97 Ibid., Pp. 194-197, 199-201. The method is complicated and involves (i) estimating increased capitalist income, which is the excess of income from the project over what the invested funds could have earned in another use; (ii) estimating the portion of (i) which will subsequently be consumed and saved; (iii) converting the latter values to accounting prices, assuming one knows what purchases the capitalist will subsequently make (iv) estimating what Little and Mirless call the accounting price of private investment which is a co-efficient of input costs representing "the value of a unit of social income which is devoted to investment by the private sector" (i.e. consistent with the premise that a unit of investment funds held by government is

socially more valuable than if held by the private sector.); (v) calculating social profit by subtracting the figures in (iii) from the project's private profit; (vi) estimating present social value of private project in the usual manner except that capital cost will be adjusted by the accounting price of private investment and the net benefit stream will be adjusted (downward) by "the proportion which the social value of private profit bears to the profit at accounting prices" (social profit divided by private profit).

The authors take the reader through a numerical example (Pp. 199-201). The reader should note that the final present social value calculation in the example (p. 201) erroneously shows the factor described in (vi) - social profit divided by private profit - as a whole number rather than as a decimal fraction.

98 In other words, considerations discussed in footnote 97 do not apply.

99 Ibid., p. 198.

100 Ibid.

101 Ibid., p. 122.

102 Ibid.

CHAPTER V

CONCLUSIONS

APPLICATION OF CBA TO THE "TYPICAL PROJECT"

Were the Turks and Caicos government i) in possession of all the financial and engineering data associated with a project such as White Sands Beach; ii) willing and able to address all of the questions relating to distortions and opportunity costs of disaggregated inputs; and iii) disposed to comparing social value of alternative projects or to comparing social values of wholly foreign financed projects and joint ventures, it could attempt an analysis which would aid either the selection or bargaining process.

Where benefit is concerned, the market analysis, which the government has left to the investor in the White Sands Beach case, should determine the origin of the tourist (foreign or domestic) expenditure patterns and behavioural patterns (e.g. purpose of trip). The type of benefit will depend on whether the project is a net addition to capacity, or a substitute for similar facilities in the Islands. The White Sands Beach proposal and other project of similar

scale, are manifestly additions to capacity, since there are no similar facilities in the sense of luxury accommodation extant. Hence, gross benefits will be the additional tourist expenditure resulting from the project.

The question of resource savings - which accrue when investments in expansion of similar facilities are avoided in the case of a project replacing such expansion, or when marginal costs are lowered as the project supplements similar facilities - does not of course arise. At the same time, benefits in the form of consumer surplus or foreign exchange savings are unlikely to accrue: existing small hotels draw few indigens at present and there is little evidence to support an assumption that Islanders would substitute a stay at White Sands Beach or similar facilities for a trip abroad.

Other types of benefits, not directly related to accommodation, need to be considered. Both the proposed marina and the infrastructure projects which will be built by the investor and by the government respectively yield benefits to the tourist (counted again as incremental expenditures) and to the local population, measured by willingness to pay. In the case of the marina, willingness

to pay by nationals for expanded moorage and associated facilities could be fairly easily calculated and integrated into the cash flow. Infrastructure which would not have been forthcoming without the project is treated in similar fashion, but measurement of course suffers from the imprecision associated with the absence of markets.

Clearly, the infrastructure projects approved for the Turks and Caicos in 1979 were aimed in part at spurring national economic development, while those associated with the White Sands Beach project are a condition of the agreement between the government and the developer. In an analysis, the difficulties of measuring all of the benefits of the latter projects would be obviated somewhat since the infrastructure will yield benefits only to the development itself, in which case the associated costs would be arrayed against the project's overall benefits as described.

The exception is the additional runway suitable to accommodate jet aircraft which the government has undertaken to build, again as a condition of the agreement. As discussed in Chapter 4, a jet class airport has been a major issue in tourism development in the Islands. As Powers has indicated in his case study, benefits resulting from improvements to airports "are whatever airport users

(commercial carriers, passengers, and general aviation) would be willing to pay for them. Operating costs savings in time and material are generally an adequate benefit measure ..."¹ As a condition of the White Sands agreement, the airport improvement proposal is a reflection of the market analysis confirmation that increased tourist influx will occur only if jets can be accommodated. Hence, the benefits justifying the costs of the extension are those arising from the tourist project itself.

However, a point arises which is important to the Islands' case and to cost-benefit analysis generally: the airport will undoubtedly have a positive effect on inducing further tourism (and other) investment on Grand Turk, and because of their proximity, on the other islands. Hence, as social benefit exceeds revenues (assuming for the sake of argument that tourism plant revenues attributable to the airport could be isolated), the airport improvement represent a major external economy. That is to say, production possibilities elsewhere in the economy will be realized. Such possibilities could offset underutilization of airport facilities described by Bryden as common in small Caribbean islands.² In principle, all such economies and diseconomies should be identified, and where possible

valued, since, it will be remembered, externalities are a distortion which contribute toward the divergence of private and social benefits.³

To estimate social costs of this tourism project proposal, and of similar large scale projects, the government would be required to disaggregate costs by input source and to apply such shadow prices as could be developed. While the absence of crucial data precludes making hard and fast pronouncements, we can make certain observations on what cost elements would be necessary for an analysis.

Estimating resource costs in terms of benefit foregone of two types of input - land and materials - would appear straightforward. Land, in fixed supply, costs the equivalent of the (capitalized) value of the benefits in the best alternative use, which may be expressed as the discounted present value of income which would have been generated over the life of the project. Of course the estimate would have to be adjusted to account for distortions: property taxes, differences in the rates at which the land owners and the analyst discount the income, (and, in Little and Mirlees' view at least, the likely effect on income distribution which project-related increases in the price of land might have, assuming much of the land is held by the wealthy.)⁴

The site designated for the White Sands Beach project on Grand Turk is unoccupied Crown land, to which resource flows do not now accrue. The only price in evidence is that described in the agreement. In the absence of a separate market survey covering willingness to pay for land by domestic and foreign investors, little can be said about how the agreed price relates to the highest price the land would bring. However the site includes some of the Islands' best beach property, which has heretofore been freely accessible to the public. A true measure of social benefit foregone would necessarily take account of individuals' willingness to pay rather than be denied future free access. Thus, leaving the land undeveloped is an alternative, but hardly the next best alternative in view of government objectives. Again, the lack of apparent investment alternatives is the prevailing problem in establishing the social worth of the project. Hence, for all practical purposes, the social cost of the site is from the economic analyst's point of view small indeed, an apparent paradox in an island group the size of the Turks and Caicos.

Owing to the lack of domestic supplies, most of the material inputs involved in the construction of the resort will be imported, as will some of the operating inputs to the extent at least that the resort will be run at

international standards. Resource costs of material not in fixed supply is the value of goods and services which would have been available to other domestic users in the absence of the project. In the case of the Turks and Caicos, the foreign investment, which has no opportunity cost, will pay for the material imported for construction of the resort. There is therefore no economic cost associated with this aspect of the project (although, were the proposal being compared to an alternative foreign investment which utilized more domestic materials through different design, secondary benefits in terms of increased backward linkages could accrue).⁵ Materials imported by the government for its part, and those associated with the operation of the resort would be valued at the border prices (net of tariffs).

The influences which supply and demand of labour have on its resource cost have been discussed in the context of developing a shadow price. Unquestionably, the supply of skilled labour for construction, for example, is small relative to the size of the project. To the extent that other activities on the Islands suffer shortages of skilled labour, the cost to the economy is theoretically the amount other employers would have been willing to pay for this fixed factor. Unskilled labour may be trained however, and as Powers points out, when the skilled labour pool is thus

augmented, "labour cost is the value of inputs required to train more workers, plus the net benefits foregone by reducing the availability of lesser-skilled labour elsewhere."⁶

Any attempt to shadow price unskilled labour would meet with complications. True, the unemployment rate is high - upwards of 28% - a condition which might favour shadow pricing labour far below the wage rate. But an undetermined portion of that figure represents voluntarily idle workers: fishermen who are seasonal workers and who earn sufficient funds to support themselves in the off-season. On the other hand, an unusually large proportion of population is employed by the government in make work projects with limited output. An important added consideration, and one of which the government is fully aware, is the large number of Islanders - perhaps 6,000 - who are working on other island nations such as the Bahamas, and who can be expected to return when tourism projects are commenced, or sooner if required by host governments. The elements are undoubtedly responsible for the emphasis the government puts on employment creation, and would in any cba calculation, lower the shadow wage rate to favour, through higher NPV's, labour intensive projects.

Of singular importance is the cost of infrastructure in relation to its benefit. Access roads and services built in order to expedite construction and operation of a resort to which Islanders will not have or desire access will consume precious public funds which could be otherwise directed toward badly needed facilities elsewhere on the Islands. In considering such opportunity costs, an analyst would be drawn to the question of whether a project should be structured or located in a manner which allows attendant infrastructure to benefit Islanders as well as tourists.

NECESSITY AND PRACTICALITY

The foregoing has outlined an approach the analyst might take in appraising a proposal which, by all accounts is typical, or prototypical of projects the government wishes to see elsewhere in the Islands. While there appears to be no reason why the method could not be applied at the level of sophistication presented, the absence of data precludes such application in this paper. Undoubtedly, and at some cost, the government could commission an analytical effort to collect data and to seek from government an enunciation of policy prescriptions and constraints necessary to the context of the analysis. An appraisal effort would involve at minimum a comprehensive market analysis which relates the resources the Islands have to

offer to current and projected demand for tourism by different classes of tourists from different origins. Such an analysis would yield answers, with appropriate ranges, to questions relating to optimal size or scale of tourist resorts, projected number of bednights per tourist, expenditures on accommodation, sustenance, and other goods outside the hotel sector, and drawing power of the gaming facilities proposed relative to similar activity elsewhere in the Caribbean and in the North American market.

The critical relationship between "attractiveness" and successful investment may appear obvious but its importance may only become evident when chronic under-utilization is no longer a fear but a problem. A lack of sophistication in "attractions' analysis" and "tourist time structures" is cited as one of the universal problems of tourist resorts.⁷ In the absence of proximal tourist attractions of the cultural or natural variety, the typical tourist can quickly become sated with beaches, sun and common recreational activities such as tennis and golf. "And so the typical tourist is often left with unstructured time, inadequately filled, inadequately contributing to his impressions of his stay and not contributive to a desire to return".⁸ That gambling, a tax free environment, and a unique area for skin and scuba diving are sufficient to bid

away travellers from already well-developed Caribbean tourism meccas is taken on faith by many in the Turks and Caicos; it requires confirmation via a market survey.

The second element in the appraisal process after a marketing survey, shadow pricing, is altogether a different problem comprising several dimensions. No doubt a case can be made for attempting to address economic distortions and to incorporate national objectives into an analysis by following a Little and Mirlees approach of developing accounting prices for traded and non-traded inputs and outputs. To suggest however, that the Turks and Caicos government commit precious funds to do so would be to court incredulity. The process is a formidable one, even in a small and open economy like the Turks and Caicos, and the effort necessary to achieve useful results should necessarily fall to organizations with the expertise and experience in the field, e.g. UNIDO and, IDRB, or CDB. In any event, as UNIDO pointed out, inter-related socio-economic factors necessary to develop shadow pricing, are generally far too complex and changeable to bear valuation. While tourism as an industry presents a more tempting target than most - owing to its disaggregated nature and the subtle but discernible socio-economic effects it has over the long term - there appear to be no compelling reasons to elevate the appraisal method to this level of sophistication.

This is not to suggest that those elements which are valued in the theoretical treatment of project appraisal by cost-benefit analysis should be excluded from consideration. All the literature on cost-benefit analysis counsels qualification of conclusions on social profitability as the next best alternative to quantification. Here lies a point which seems to escape attention in some of the literature but which is, it is argued, central to the application of cost-benefit analysis in ldc's: as diligent as the analyst is in relating the application of the technique to enunciated national objectives and plans, it by no means follows that decision-makers will accept even unequivocal conclusion relating to efficiency and equity aspects of one or the other alternative. Aside from the obvious political constraints, (interest groups, etc.) the politician brings to the decision process elements, (such as national prestige) that naturally evade the analysts sphere of influence. The solution, for the analyst, is not to try to expand that sphere through meretricious exercises in quantification in the selection process.

In considering a particular investment possibility, the Turks and Caicos analyst could, with some degree of confidence, make observations as to the more tangible project-related effects (e.g. increased demand for

indigenous goods and services), as well as to the more subjective - some would say esoteric - effects such as social alienation of indigens, loss of hitherto free access to beaches, increased consumption of "wrong" goods, and unwelcome redistribution. Indeed, in the Turks and Caicos case, all projects under consideration are non-marginal, underscoring the need for thoughtful approaches to anticipating and ameliorating such effects through policy prescription, if not in the selection process.

But Island authorities need not be so intimidated by the complexities of cba that all efforts to quantify are eschewed. With help from international sources of expertise, the government could rather easily predict the effects of current project proposals on labour. Notionally at least, a shadow wage rate could be developed and employed in appraisal estimates to favour and justify the choice of more labour intensive facilities and techniques.

Because of the emphasis in much of the literature on appraisal of alternatives, some might argue that, in the Turks and Caicos at least, the method in whatever form it is employed would be a less than useful exercise. Such a reaction would be mistaken, since there are alternatives

within each proposal: equity participation, optimal staging of a project's development, and choice of techniques are but three elements which if considered can markedly affect the selection criteria employed. As Deepak Lal put it,

tourism projects are nearly always going to be successful in a Little-Mirlees world ... the project analyst, equipped with the (OECD - Little-Mirlees) Manual, might argue that social rate of return is good enough but forget that with a heterogeneous commodity like tourism, social gains might be higher.⁹

There is another compelling reason for the Turks and Caicos to employ investment analysis in some form: the fact that there is a nil opportunity cost of foreign investment in tourism does not mean that the government need assume a supplicating posture in the bargaining process. The merit of a simplified form of cost-benefit analysis is its demonstration effect. A government which has at its disposal an appraisal which relates in solid quantifiable terms to national objectives and the resources which must be surrendered to attain them, can avoid dealing from an inferior position with highly speculative proposals.

A passing reference to current plans for another development - on Providenciales - is in order. It was recently reported that the British Parliament's Foreign Affairs Committee has severely criticized the Overseas Development Administration's decision to help finance construction of a Club Méditerranée on the Island.¹⁰ A grant of £4.6 million will be used to construct a runway, roads, and electricity and water facilities, while the French multinational company will pay for the 650 bed tourist hotel.

Among the points the Committee's report makes are the following: that the ODA seriously understated recurrent costs of the infrastructure proposed, possibly, it is alleged, to show the entire project to be more viable than is likely; that Club Med has been accorded profit and bed-tax relief to an unconscionable degree, thus eroding long term economic benefit to the Islands; that social and ecological ramifications were not properly considered; and that the project's proposed location - Providenciales - is economically questionable, since that Island suffers significantly less unemployment than others in the colony, so that significant migration, with attendant social problems, will result.

It is tempting to suggest that the costs of comprehensive, prior analysis would ~~indeed~~ be small in comparison with benefits foregone and social difficulties incurred or ill-considered negotiating positions.

The Turks and Caicos are committed to attracting tourism investment as it is the only available development alternative, although the government has made clear its awareness that the industry can be ephemeral; diversification on the strength of an established tourism plant is the ultimate goal. Judging by the Islands' resources and present level of activity on the one hand and by the secular growth of international tourism on the other, that way of thinking would appear to be sound. The projects which the government seeks are of a scale which will have dramatic effects on the Islands' economy and people. The authorities are hopeful the effects will be positively dramatic. There is sufficient reason to advocate ex ante evaluation, which, at the very least, would provide decision-makers with a framework into which myriad questions associated with such projects could be addressed. Individual project appraisals, using a cost-benefit analysis at a level of sophistication appropriate to the size of the economy and to the objectives of the Islands, would be salutary.

A final and more general word about analysis and tourism per se. The pitfalls associated with embarking on a course of development which relies on a tourism industry are many. The economic benefits are highly dependent upon the structure of the industry. The social ramifications such as alienation, demonstration effects, erosion of local culture, have come to be regarded as no less significant to policy considerations than are the economic elements which are perhaps less resistant to prediction. Despite the difficulties involved, judicious prior analysis should be an integral first step to the creation of a tourism sector intended to fulfill development objectives.

ENDNOTES

- 1 Terry A. Powers, Appraising International Tourism Projects, (Washington, D.C.: Inter-American Development Bank, 1974), p. 23.
- 2 John Bryden, Tourism and Development - A Case Study of the Commonwealth Caribbean, (Cambridge: Cambridge University Press, 1974), p. 88. The problem arises when small territories, utilized mainly as stopovers rather than as terminal points, are continually being requested by international carriers to upgrade facilities for stopover aircraft. Thus, given the volume of tourists actually disembarking, there is considerable overcapacity.
- 3 Externalities have not been extensively dealt with in this paper, chiefly because, as conceptually important as they may be, they by nature resist quantification outside of incorporation into shadow pricing. I.M.D. Little and J.A. Mirlees in Project Appraisal and Planning for Developing Countries, (New York: Basic Books, 1974), "feel that, (bearing in mind that we are essentially comparing projects with each other), differences in ... external effects, which are not in any case allowed for in our type of cost-benefit analysis, will seldom make any significant difference" (p. 348). Having said this, the authors suggest quantifying external effects if "project analyzers have a suspicion that (they) may be rather powerful". Failing quantification, such effects could be "mention(ed) in a qualitative or literary manner" (p.349). Bryden essentially agrees, believing that "it is difficult to think of any special case being made for external economies arising from tourist development" (p.89). This is not to suggest that external effects of tourism development - visual pollution, alienation of beach property, etc. - may not be significant; it is likely that they are better addressed in a purely social analysis, or as a qualification to the social profit attributed to a given project. Nevertheless, externalities deserve at least a parenthetical treatment here, since, quantifiable or not, external effects do arise. They are of two main types: technological and pecuniary. Technological externalities are uncompensated effects of a production process on other producers or on satisfaction of consumers. Air and water pollution are industrial outputs which can affect production processes and consumer satisfaction, and thus represent a social cost.

Graphically, such an unpaid external cost would be represented by the area between a private marginal supply curve and a social marginal supply curve, of a given output. All such estimates of external cost and benefit should be included in some manner in a scb analysis.

On the other hand, pecuniary external effects, or shifts in prices of products or factor, are not included in an evaluation, since they represent transfers. Using Prest and Turvey's example, a road improvement project may result in adjacent businesses - garages and restaurants for example - realizing greater profits, employing more labour, paying more rent to landlords. These benefits are not credited to the road project "even if the extra profitability, etc., of the garages on one road is not offset by lower profitability of garages on the other, which are now less used as a result of the traffic diversion. Any net difference in profitability and any net rise in rents and land values is simply a reflection of the benefits of more journeys being undertaken, etc., than before, and it would be double counting if these were included too. ("Cost-Benefit Analysis - A Survey", The Economic Journal, 75:300. (December, 1965), p. 688). The subject is thoroughly covered in R. McKean, Efficiency in Government through Systems Analysis, (New York: John Wiley & Sons, 1958), Chapter 8.

- 4 I.M.D. Little and J.A. Mirlees, Project Appraisal, p. 223.
- 5 Backward and forward linkages are given a somewhat parenthetical treatment by Little and Mirlees, Ibid., Pp. 336-346) in their consideration of external effects (See footnote 3, above). Because it is as tempting to cite the probability of linkage development resulting from tourism projects as it (apparently) is for large scale industrial projects in LDC's, a distinction should be made between, for example, increased income to Caicos fisherman as a result of a rise in tourist demand for conch, and changes to the fishing industry (e.g. developing economies of scale) brought about by the resort development. The former is essentially a pecuniary external economy, the latter a backward linkage. The distinction is important in that a

backward linkage generally implies a reduction in import dependence of the economy. The development effect of a pecuniary externality of this type, while palpable and positive, is nevertheless limited to the immediate beneficiaries, and must be so treated in a project evaluation.

- 6 Terry A. Powers, Appraising International Tourism Projects, p. 13.
- 7 Firthjof M. Lunde, "What Can Be Done for Ailing Tourism Facilities" in Jean S. Holder (ed.), The Caribbean Tourism Product - An Appraisal, (Kingston: Caribbean Tourism Research Centre, 1979), p. 102.
- 8 Ibid.
- 9 Deepak Lal, Appraising Foreign Investment in Developing Countries, (London: Heinemann, 1975), p. 230.
- 10 Rusbridger, Alan. "Cash for holiday island attacked", The Guardian, August 16, 1981.

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