

Economics & Economic Policy

ALEC CAIRNCROSS



Economics and Economic Policy

ALEC CAIRNCROSS

Basil Blackwell

Copyright © Alec Cairncross 1986

First published 1986
First published in USA 1987

Basil Blackwell Ltd
108 Cowley Road, Oxford OX4 1JF, UK

Basil Blackwell Inc.
432 Park Avenue South, Suite 1503
New York, NY 10016, USA

All rights reserved. Except for the quotation of short passages for the purposes of criticism and review, no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher.

Except in the United States of America, this book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

British Library Cataloguing in Publication Data

Cairncross, Sir, Alec
Economics and economic policy.
1. Economic policy
I. Title
330.9 HD87
ISBN 0-631-15233-4

Library of Congress Cataloging in Publication Data

Cairncross, Alec, Sir, 1911-
Economics and economic policy.

Bibliography: p.
Includes index.
1. Economics 2. Economic policy.
3. Macro-economics. I. Title.
HB171.C17 1987 338.9 86-11751
ISBN 0-631-15233-4

Phototypeset in 10/12pt Sabon by Dobbie Typesetting Service, Plymouth, Devon
Printed in Great Britain by T. J. Press Ltd, Padstow, Cornwall

Preface

The papers included in this book were prepared over the last ten years either as occasional lectures to audiences in Britain or abroad or as contributions to a *Festschrift* or similar symposium. They are not intended as a commentary on the changing problems of the day but as a synopsis of one economist's reflections on the abiding issues of economic policy.

The subjects dealt with fall under four headings. The first two papers discuss the role of economists as contributors to economic policy; these are followed by four papers on various aspects of economic planning and three on economic development and growth; the volume then concludes with four papers on the aims and instruments of macro-economic policy. Although some prior familiarity with elementary economics is obviously desirable, even the layman will, I hope, find the level of treatment such as to make the drift of each paper readily intelligible.

Three papers – those on 'Planning and decision-taking under conditions of uncertainty', 'Is there a general theory of economic development?' and 'The rise and fall of employment policy' – have not been published hitherto. The others are either not readily accessible or are scattered over many different types of publication.

I am grateful to Methuen and Co. for permission to reprint 'Academics and policy makers' from *Changing Perceptions of Economic Policy*; to Oxford University Press for permission to include a revised version of 'The market and the state' from the volume with that title; to the Macmillan Press for permission to include 'Keynes and the planned economy' from *Keynes and Laissez-faire* and 'The limitations of shadow rates' from *Employment, Income Distribution and Development Strategy*; to Leeds University Press for permission to include a revised version of 'Reflections on innovation' from *Inflation Development and Integration*; and to Allied Publishers Private Ltd for permission to reprint the paper on 'The role of technology and natural resources in the development process' from

Reflections on Economic Development and Social Change. I have also to thank the American Economic Association for allowing me to reprint my Richard Ely Lecture on 'Economics in theory and practice'. The remaining three papers are published with the agreement of the Open University, the British Academy and the *Three Banks Review*.

My intellectual obligations in the preparation of these papers are far too extensive to be listed here. I must, however, express my indebtedness to Ely Devons even if it is now 20 years since his death, long before any of these papers was written. My ideas on technology and technical change owe much to Michael Fores. I should like also to acknowledge the benefit I derived from chairing a series of meetings some years ago on the relation between monetary and fiscal policy under the auspices of the Institute of Fiscal Studies. Finally, my thanks are due to Walter and Michael Salent and to Professor Thomas Wilson for helpful comments on a draft of 'Economics in theory and practice'.

I am also indebted to Mrs Anne Robinson for converting my hesitant hieroglyphics into beautifully clear typescript.

Alec Cairncross

Contents

Preface	vi
1 Economics in theory and practice	1
2 Academics and policy makers	21
3 The market and the state	37
4 Keynes and the planned economy	58
5 Planning and decision taking under conditions of uncertainty	78
6 The limitations of shadow rates	96
7 Innovation, imitation and growth	108
8 The role of technology and natural resources in the development process	124
9 Is there a general theory of economic development?	136
10 The relationship between monetary and fiscal policy	151
11 The sterling rate of exchange as an instrument of policy	169
12 The rise and fall of employment policy	193
13 Is employment policy a thing of the past?	208
Index	224

1

Economics in theory and practice

Do you not know, my son, with how little wisdom the world is governed?

Oxenstierna

Let's face it. Whatever economics was in the past, it is now virtually an industry. It stretches from the building of new models by the theorists to the supply of advice, forecasts, proposals, and programmes by the practitioners, and caters mainly for a market of policymakers in business and government. In the economics business, market forces work feebly, particularly at the level of theory. The competitive process derives little benefit from price adjustments, and suppliers are often remote from the market and unaware of market pressures. But the usual phenomena of growth and development are all at work: investment, economies of scale, and the interaction between technical innovation and market expansion. Some of our colleagues confine their activities to production while others occupy themselves with the business of packaging and marketing. Division of labour has made rapid progress, both horizontally and vertically. On the one hand, we have specialists in different branches of economics: macro-economics, industrial economics, transport economics, health economics, international economics, mathematical economics, etc., etc. On the other hand, we have a lengthening chain of intermediaries between the priestly who live in clouds of theory and the lay brethren in Washington, Whitehall, and elsewhere, who do battle in the corridors of power. Where so many labour, their efforts merit scrutiny as yet another branch of economics.

I do not propose today to embark on so ambitious a task as an exposition of the economics of economics. Having spent half my working life in a

Richard T. Ely Lecture delivered at the Annual Meeting of the American Economic Association at Dallas, December 1984.

succession of government departments and international bodies, I thought it best to set myself a more modest task and draw on my own experience as an intermediary in the market for economic advice. I propose to limit myself to an examination of the links between theory and practice, between the theorists who seek to trap the inner secrets of the economy in their models and the practitioners who live in a world of action where time is precious, understanding is limited, nothing is certain, and non-economic considerations are always important and often decisive.

Action can take two forms. It may go no further than policy recommendations, or it may consist in taking policy decisions. When I speak of practitioners I shall normally have in mind those who busy themselves with what the policy should be, whether professional economists or not, rather than those who take the final decisions on policy. But I may on occasion feel obliged to refer to the difficulties of the decision-taker in making use of economic advice as opposed to those of his economic advisers in formulating it.

When one looks around, theory and practice are often far apart. In many countries there is even a physical separation: the theorists remain in their universities, the practitioners in their departments of government, with little contact between the two. And since ideas circulate most freely through personal contact, the physical segregation carries with it an intellectual segregation. The thinking of advisers on policy proceeds largely in isolation from the thinking of the academics. Even in countries where there is some circulation between universities and government, and some mixing of one set of economists with the other, there is a strong tendency for the thinking of each to stay within its own orbit, the insiders pursuing lines of thought independently of contributions from outside, and vice versa.

It is hardly surprising that there should be some divorce between theory and practice when their starting points are so different. As in medicine, engineering and other human activities, one can ask either: 'what is the truth of the matter?' or: 'what ought I to do?' according as one's interest is in theory or practice. An economist entering a business concern or a government department, unless consigned to the outer darkness of a research section, finds himself in an atmosphere where action takes precedence over intellectual speculation. The question at issue for the practitioner is always: 'what is to be done?' That is a question which the pure theorist may decline to answer because he feels that he has no special competence to do so. He may share the view of Nassau Senior that 'the conclusions of the economist, whatever their generality and truth, do not authorize him in adding a single syllable of advice'.¹ But it is not a question that can be evaded; and presumably a training in economics is of some help in answering it.

How much help does theory provide? Sometimes the honest answer is 'very little'. It may elucidate, but certainly does not resolve, controversial issues of economic policy. An obvious example is the controversy in Britain in the early 1970s over the desirability of joining the Common Market, with half the academic economists signing a letter in favour, and the other half signing a letter against. Or one can point to the conflict of view between those who put their faith in monetary policy and those who regard it as a broken reed, or between the advocates and opponents of floating rates of exchange, or between those in favour of and those against a statutory incomes policy. Even when the theorists are in agreement, the issue of policy remains undecided. There is widespread agreement that in theory an expenditure tax is preferable to an income tax. But so far as I am aware, the Finance Ministries of the world have remained unmoved. There has been no rush to change over to an expenditure tax and the only countries which did, India and Sri Lanka, gave up the experiment almost at once.

The limitations of economic theory were brought home to me when I was asked to organize a course of instruction for senior administrators who had come to Washington for six months to learn as much as possible about the kind of economic policies their countries ought to pursue. They did not want to study economic theory as such, and had indeed no time in which to master it, but were interested in the practical upshot of economic thinking and speculation about economic development. They asked quite simple questions – some of them with a familiar ring – such as: 'can inflation assist or does it retard economic development? How much can one safely borrow abroad? What tax system is most likely to favour economic development?' I found, as you might expect, that economic theory was indispensable for analysing their problems, but that it very rarely allowed one to arrive at policy conclusions with any confidence.

Later I encountered a similar group who had come to study investment appraisal and had become well versed in the theory of discounted cash flow. But investment appraisal involves a lot more than economic theory. I asked the group what rate of interest they would use on their return home. There was a long pause until one bold spirit suggested 'Bank Rate'. Nobody contradicted him. Nobody had other suggestions to offer.

An earlier occasion on which I asked myself to what use I would be able to put my knowledge of economic theory was when I joined the British War Cabinet Secretariat in 1940. There could be no doubt of the profound influence on policy in wartime of a comparatively small group of professional economists. And yet I never saw much use made of the more refined and esoteric parts of economic theory. I concluded, as my colleague, the late Ely Devons put it, that 'in so far as economic theory is useful in

enabling us to understand the real world and in helping us to take decisions on policy, it is the simple, most elementary and, in some ways, the most obvious propositions that matter.² But, as he was careful to add, before the simple propositions become part of normal processes of thinking and cease to be 'kept in a separate compartment labelled "economic theory",³ familiarity with the subject needs to advance well beyond the elementary level. Lionel Robbins said much the same when he argued that

. . . the most useful economic principles, when stated in their most general form, seem often mere banalities, almost an anti-climax after the formidable controversies amid which they have emerged. Yet experience seems to show that, without systematic training in the application of such platitudes, the most acute minds are liable to go astray.⁴

I found that two or three rather elementary economic concepts, which I had assumed would be familiar to everyone, were often not at all well understood by non-economists but were of particular value in policy formulation. Among these concepts I should include as of first-rate importance the idea of the interaction of supply, demand, and price; the concept of opportunity cost; and the marginal theory of value. Later, I concluded that it was even more important to be able to think of market forces operating within an economic *system*, and to recognize the coordinating function of the price mechanism. Many other elementary concepts, particularly at the macro level, were equally fundamental, but these examples are enough for purposes of illustration.

Non-economists have rarely sorted out in their mind how supply and demand operate on market prices and have no instinctive appreciation of the virtues – indeed the indispensability – of the price mechanism. On the contrary, their bias is almost always towards an organizational or political approach to economic problems. They like fixed prices because they seem to inject an element of stability and predictability. During and after World War II, when something became scarce the immediate reaction of businessmen or bureaucrats was nearly always in favour of control and rationing without any thought for the contribution that *some* rise in price might make to relieving or ending the shortage. The pricing of coal, for example, at the time of the nationalization of the industry in Britain in 1947, paid not the slightest regard to the chronic shortage of fuel and the danger that that shortage would arrest industrial recovery, as in the end it did. The pricing of foreign exchange, in much the same way, was divorced from market pressures and continued to be regarded by ministers as a moral or organizational issue: they believed that planning and control could do all that devaluation of the currency could do.

Of course, economists may fall into the opposite error and think that

market forces, left to themselves, will always do the trick. At the end of World War II, when practically every country except the United States was running a balance of payments deficit, there were those who regarded the dollar shortage as an invention of governments that were determined to prolong the shortage by overvaluing their currencies. How far rates might have to fall and what the consequences of such a fall might be were matters rarely explored. In the early postwar years, with demobilization in progress and production well below capacity, it was not at all self-evident that a general realignment of currencies and a consequential revamping of the price structure would do much to restore balance of payments equilibrium, however necessary it might prove later on. On the contrary, there was good reason to take direct action to limit imports, encourage exports, develop alternative sources of supply and restrict the export of capital, that is, to make use of planning rather than prices.

Similarly, at the outbreak of war the necessary reallocation of manpower cannot easily be brought about by market forces alone. It might be possible in theory to work through variations in the funds at the disposal of different departments and agencies, but if the government means to impose its priorities on the market it will achieve quicker and more predictable results by direct methods. Where a major upheaval is required, market forces operate slowly and blindly.

Opportunity cost is another concept that does not come naturally to the non-economist. Few people have given thought to the inner meaning of 'cost', or habitually decide on a course of action on the basis of the alternatives that might be adopted. Yet in my experience the concept is indispensable in policy analysis and lends itself to very wide applications. This is equally true of the idea of the margin: the average man thinks of averages rather than increments and often goes off on the wrong tack for this reason, particularly in relation to pricing and investment decisions.

Both concepts, however, need careful handling. Marginal theory is usually taught in terms of a single margin when in fact there are a great many. No businessman thinks of output and prices as his only variables, and even when he does, has to consider the repercussions of changing either of them over a whole series of time horizons. With opportunity cost there is a similar danger of neglecting the full range of possibilities. Lord Kaldor has recently used the concept to justify keeping open high-cost coal mines under conditions of heavy unemployment. But the logical conclusion of his line of argument is that so long as there is substantial unemployment, no firm should ever be allowed to close down and no one should ever be sacked, since it is better to have some output than none. The alternatives compared have to have regard to the full consequences, not just the immediate ones.

When I read the literature on shadow prices I have a rather similar reaction that the idea of opportunity cost can be carried too far. The notional prices corresponding to the opportunity cost of capital, labour, or foreign exchange may be enforceable on the limited sector of the economy under the government's control; but that introduces distortions between the controlled and uncontrolled sectors, which may thwart the government's intentions. Besides, the enforcement of shadow prices that diverge widely from market prices is far from easy, even within the controlled sector. Subordinate authorities are apt to take little notice of a hypothetical test rate of discount in deciding on their investment programme and do their sums on the basis of the rate they have to pay on borrowed money, diluted by any subsidies from the central government. To make a shadow rate take effect throughout the public sector, the central government is unlikely to get very far by directives unsupported by offers of capital at the shadow rate.

The biggest single advantage that economists have is their way of thinking. It comes naturally to them to think in terms of alternatives and to trace the implications of alternative lines of action within the logical framework of an economic system. They are alive to the interaction of economic forces within that system and hence to the full economic impact of policy decisions. They are not at a loss, like Prime Minister Attlee, to understand how it is that when activity is so brisk at home there should be so much trouble with the balance of payments. They do not need to be persuaded like Lord Radcliffe – perhaps the most outstanding lawyer of his day – that an enquiry into the working of the monetary system may involve a study of the working of the capital market (though I must admit that there are professional economists who even now seem to share Lord Radcliffe's view).

The importance of an adequate framework of thought was strikingly illustrated in the controversy over central economic planning after World War II. Administrators and politicians alike tended to overlook the role of the price mechanism in their enthusiasm for planning. Two of the most outstanding figures of the period, Sir Oliver Franks and Sir Stafford Cripps – one a top administrator and later Ambassador in Washington, the other a memorable Labour Chancellor of the Exchequer – published expositions of the case for central planning without any hint that there are always powerful forces at work to close any gap between supplies and requirements and that it may be well to pay regard to these forces.⁵ Few administrators or politicians, unless trained in economics, perceive that there can be no question of relying exclusively on government planning, or alternatively on the price mechanism, and that the real problem is always how to combine the two.

It can happen, as in wartime, that the price mechanism plays only a minor part because the government's priorities must take precedence over those of individual consumers; and in the wake of such circumstances the role of prices may be overlooked. It can also happen that economists are so mesmerized by the price mechanism that they limit their vision to the study of market forces when the phenomena of government planning merit equal attention. Just as administrators may fail to understand the workings of the price mechanism, so economists are apt to disregard organizational influences on economic activity. What goes on *inside* the firm, *inside* the government department, *inside* the Cabinet, is often left on one side. Yet it cannot make sense to pursue the study of market failure and undertake no systematic analysis of the weaknesses of alternative agencies of coordination.

To the four elementary economic concepts I have just discussed – supply and demand, opportunity costs, the margin and the economic system – I could add some familiar maxims such as 'Bygones are forever bygones', or 'There is no such thing as a free lunch'. These, too, are very helpful in coping with muddled thinking in high places. They form a small but indispensable part of the economists' stock-in-trade. Where the full range of tools is most likely to be brought into play is in economic forecasting. Here indeed the practitioner has to keep in close touch with current theory. The relationship between theory and practice in economic forecasting raises many interesting questions, since those who prepare the forecasts and are perhaps best equipped to judge the risk of error may have little contact with those who use them and run their risks on the basis of the forecasts. But economic forecasting is much too large a subject for me to do more than touch on.

I turn instead to examine some of the reasons why economists find difficulty in bringing their theoretical apparatus to bear on practical problems. As Jacob Viner, who had plenty of experience, emphasized years ago, 'the list of handicaps of the economic theorist as a participant in public policy . . . is discouragingly long'.⁶ Some of these handicaps arise from the practical difficulties that attend the use of economic theory in trying to work out an appropriate policy; others relate to the presentation of the policy so that it carries conviction and obtains support; others again derive from the need to marry economic with non-economic considerations in making a policy acceptable. Let me take these in turn.

LIMITATIONS OF ECONOMIC THEORY

Economic theory is fundamentally an exploration of models and conceptual relationships couched in hypothetical terms and necessarily

abstracts from many features of the real world. Without abstraction and simplification it would not be possible to begin thinking about economic problems. There is no option but to leave out what may seem to some people highly important. As Wicksell pointed out, it is not to be expected that economic theory should attach significance to the features of the real world according to their prominence in the eyes of the layman since 'it is not the purpose of science to describe the obvious in elaborate terms'.⁷ But abstraction can be carried too far. The theorist may follow paths that lead him further and further from the real world and expose him to the danger of what one economist has called 'theoretic blight'.⁸ He may be tempted to select problems that lend themselves to sophisticated technical analysis rather than on grounds of practical importance; and become lost in admiration of the conceptual schemes he has developed without regard to the unrealistic premises on which they are constructed. He may also make the common mistake of getting things the wrong way round; or leave out what really does matter or can only be left out provisionally. He may then be deceived into thinking that he understands how things work when in fact the model is misconceived. Theory, as someone once put it, can be 'an organized way of going wrong with confidence'. To be a useful guide it has to separate correctly what is adventitious from what is truly significant.

Economic policy, on the other hand, has to deal with practical problems and specific situations. While it is possible to develop a branch of economics bearing on these problems and situations and call it applied economics, such a branch is still part of economic theory. It still consists of a set of logically consistent propositions and abstracts from many of the circumstances that may in practice govern the policy pursued. What is to be done is never a simple corollary of theoretical conclusions.

The need for care in drawing conclusions from theory was brought home to me in Berlin in the winter of 1945-46 when I took part in a discussion between Sir Paul Chambers (later Chairman of ICI) and General William H. Draper (then Economic Adviser to General Clay). Sir Paul, challenged as to the accuracy with which he had been able to forecast budgetary revenue as Director of Statistics and Intelligence in the Inland Revenue, gave us a short exposition of the theory of probability. 'If you toss a penny and it comes down tails ten times in succession,' he said, 'that doesn't affect the probability that it will come down heads next time. The chances remain fifty-fifty.' 'Shall we test that?' said General Draper, producing a penny. 'Will you call?' Ten times Sir Paul called heads and each time the penny came down tails. Before tossing it again, General Draper revealed that the exercise of a little sleight of hand might be affecting the behaviour of the penny. It is always necessary to enquire whether the assumptions

of theory are valid in the case at hand before applying it; and if the facts do not conform to theoretical expectations it may be the facts that need looking into, not the theory.

Whatever the limitations of economic theory, it is very powerful stuff, more powerful the more general it comes. We certainly cannot dispense with it in trying to understand any economic system. If we enter a maze we need a thread to guide us in it and the purpose of theory is to furnish that guide. On the other hand, we cannot hope to get very far with theory alone and there are serious dangers in moving from the world of theory to the real world without regard to the difference between the two. One danger is that the theory may be obsolete. It isn't just the practical man who may become the slave of some defunct economist. Even professional economists, deeply immersed in their everyday duties in some government department, have to live on an intellectual capital that is rapidly depreciating and need an opportunity of rebuilding it in an academic environment. There may also be times when the boot is on the other foot and it is the practitioner who is alive to truths disregarded in current theory. Theory may suffer from a distortion of emphasis or a quirk of intellectual fashion that throws into prominence the wrong variables, the wrong problems or the wrong formulations of them; attention may then be diverted from the things with which theory should be occupying itself. When that happens, economic theory must be accounted not just irrelevant, but bad: for the primary purpose of theory is to assist us in posing questions, and if we are moved to ask the wrong questions theory has failed us.

The most serious problem for the practitioner is that the theorists differ, even on technical economic issues. There is no agreement on how the economy works – on what governs the level of output or employment or prices. Where the disagreements go so deep as they do nowadays it is difficult to speak with authority on technical economic issues. I need not dwell on the problems this creates in advising on policy.

And yet there are times when I wonder whether the disagreements between economic theorists, even now, go so deep as their solidarity when confronted with the heresies which so often shape the policies of governments. To take an extreme case, we may debate whether the money supply is too great or too small: but what of governments – and there have been some – that try to do away with money altogether or come to power, like the Social Credit party, preaching that there is never enough? Or, to come nearer home, what of the comment made to me on the Radcliffe Committee by the President of the National Union of Mineworkers, one of Arthur Scargill's predecessors: 'You fellows seem to worry about what the rate of interest should do. But my members don't see why there should be a rate of interest at all.' Or, still on the subject of interest rates, what

are we to make of Chancellors of the Exchequer who exclaim like Hugh Dalton: 'You can't allow higher interest rates while resisting higher wage rates.' It can sometimes be easier to reach agreement between economists on what should be done than on matters of theory.

A further difficulty facing the practitioner relates not to theory but to economic information. Economic theory has always to be mixed with a large dollop of fact before prescriptions for action can be framed; but the facts are usually obscure, disputed, seen through different eyes against a different experience of life and stretching far beyond the limited economic context within which the economist seeks to analyse them.

The theorist moreover is in control of his starting point, since he is free to make his own assumptions; but the practitioner is never quite sure where he is. As Lord Roberthall, who was Economic Adviser to the British government for fourteen years, used to say: 'it's very hard to forecast where you are now.' Indeed, you don't even know where you *were*. The official statisticians are busy rewriting history from the word 'go'; and they don't stop. When I look back at the British balance of payments deficits in the three years after World War II, for example, I find that the figures for the current account first published added up to £1245 million, were revised by 1953 to show a total of £740 million, and continued to be revised over the next thirty years until they dwindled to £585 million. Instead of working out at exactly the level assumed in the Washington Loan Negotiations in 1945, the cumulative deficit is now put at less than half and British capital exports over the period are consequently estimated at a total higher than was thought at the time by \$2½, that is, by two-thirds of what was borrowed from the United States. Another example is the way in which the UK monthly index of industrial production in 1964 was completely flat in the nine months up to September – a General Election was due in October – but was revised over the next two years so that it was sloping steeply upwards in official publications in 1966 and then was further revised until now it is flat again, as in 1964.

I cite these changes, which could easily be multiplied, to show that if the future is uncertain, so also is the past. I have often been intrigued to see how patiently economists apply themselves to explaining what, if later information is to be trusted, never occurred and how figures of assorted reliability are given equal treatment by those who do not live among them. The practitioner, recognizing the uncertainty of the information at his disposal, can have only a limited grasp of what is going on. He has to make the best of incomplete, inconsistent, and changeable data, relying on human judgement to derive a plausible, self-consistent picture of the existing situation. He is quite likely to find, as I have found, that the best way to reconcile the data is to begin by making a forecast of the future

as a way of deciding on the underlying trends and then work backwards to a consequential interpretation of the present. The judgement he makes – as in the examples I have cited – may be crucial to the choice of policy. If for instance, you think the economy is stuck, you opt for policies very different from those appropriate to a rip-roaring expansion.

A further difficulty is that the economy never works in quite the same way for very long. You may feel confident that you can explain how it worked in the recent past and set your conclusions down in equations with all the coefficients, lags, etc., carefully estimated. But, as Keynes put it, human behaviour is not ‘homogeneous through time.’⁹ Whether you realize it or not, you are always working with relationships that are obsolescent without knowing just how obsolescent they are. One day you can count on people spending more when prices go up; then you find them spending less. One day the unemployment figures go up when the vacancy figures come down; then they both go up together. It is always necessary to be on the look out for some departure from normal patterns and pay attention to straws in the wind. They may reveal, earlier than any statistics, new forces at work or a strengthening of existing forces. Analysis of these forces has to be coupled with a good eye for straws.

Then there is the limitation imposed by the need to be specific: in particular, to deal in specific magnitudes and at specific points in time. Many of the more important generalizations in economics make no reference to magnitudes or time. They may be of assistance to a government that wants to know in which direction it should be operating; but they do not, in their general form, offer much help to a government wanting to know how far to go.

For example, it may be possible on general grounds to indicate that the government should be thinking in terms of increasing taxation. But the question that has operational significance is, how much should the increase be? This requires immersion in a mass of statistical detail and the working out of far more definite views of the functioning of the economy than found their way into the traditional textbooks in economics some years ago.

Then there is the content of the tax package. What *taxes* should be increased? What effect will the increases have? What other action, if any, should accompany the increases in tax or be contemplated for introduction later?

Another set of issues relates to timing. When should the government act? When will it be possible to judge whether the action has been effective? Is it likely to be necessary to take further action later?

It takes time to become aware of changes in the situation, to size up the strength of the forces at work, to prepare the appropriate response. One cannot wait for certainty, but it is also a mistake to act prematurely