Profit Maximisation: An Outdated Hypothesis?

Alan O'Keane

Introduction

Profit Maximisation must be one of the most elusive, ill-defined concepts in modern economics. It has, as a result, been both totally accepted and utterly rejected as the single goal of the firm by economists working at the same time and studying the same type of companies. In this article I will attempt to formulate a more realistic, relevant idea of profit maximisation. I will also discuss briefly the alternative enterprise objectives as postulated by Baumol, Marris et al and explain why I see these "alternative" objectives as mere vehicles for what must essentially be the long-term goal of the majority of entrepreneurs/administrators; that goal of the highest possible profits given the multitude of constraints within which all firms find themselves. I will discuss the reasons why this is so, and the implications of such aims and I will conclude with reference to some empirical work in this field.

The Neo-Classical Theory

The Neo-Classical theory of the firm has as its basic assumptions the following:

1) The entrepreneur is also the owner of the firm.

2) The firm has a single goal; that of profit maximisation.

3) This goal is attained by the application of the marginalist principle.

4) The world is one of certainty.

5) Entry assumptions vary according to the particular model.

6) The firm acts within a certain time horizon which depends on various factors such as the rate of technological progress, the capital intensity of the methods of production etc.

When considered against the background of the complex world of modern business many of these assumptions appear simplistic and antiquated. In particular, the assumption of the world as one of certainty and that of the attainment of profit maximisation through the conscious application of the marginalist principle contradict most people's knowledge and perception of the modern business world. The goal of profit maximisation, according to the theory is attained by maximising profits in each period of the time horizon of the firm, because the time periods are independent in the sense that decisions taken in any one period do not affect the behaviour of the firm in other periods.(*1)

The notion that businessmen consciously apply the marginalist principle (equating marginal cost with marginal revenue in price and output decisions) is where the theory first falls foul of empirical work done in this field. In 1939 Hall and Hitch, in the results of a study of 38 firms,

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*1 A good discussion of this feature of the neo-classical theory is to be found in Koutsoyiannis, 'Modern Microeconomics'.

came to the conclusion that firms did not use the marginalist rule.(*1)

Instead, they argued, firms set their price on the Average Cost Principle (Price = AVC + AFC + profit margin). The reasons why this is so, according to Hall and Hitch, are firstly that firms know neither their Demand Curve nor their Marginal cost schedules, hence the application of the marginalist rule is impossible due to the lack of relevant information. Secondly, firms believe that the 'full-cost price' is the 'right' price since it allows a fair profit and covers the costs of production when the plant is normally utilised.

On asking businessmen about their goals, profit maximisation was rarely stated to be their goal. Most firms reported that they aimed at a fair level of profit, and that they also had other goals, such as the building up of goodwill, being fair to competitors, etc. If this assessment is true it dispels any notion of profit maximisation as the main goal. Machlup has argued, however, that just because firms do not consciously and mathematically calculate MC/MR, it does not mean that they do not intuitively work out the right price based on subjective assessments of MC/MR which may be every bit as good as those explicitly calculated.(*2) Gordon would attack such subjectivity and argue that it reduces MC/MR to a tautology: any price could be said to be based on somebody's subjective assessment.(*3) Machlup found, in contrast to Hall and Hitch, that average cost pricing was not incompatible with marginalism (i.e. P = AC can lead to the same solution as MC = MR).

To equate ignorance of marginal concepts with inability to maximise profits is not unlike suggesting that because one cannot read or write music that one could not know how to play it. It seems highly likely that a street wise entrepreneur with his ear to the market and considering hard to quantify factors such as customers' preference for stable prices, the importance of goodwill, good competitor relations etc. might be just as capable of maximising profits as an overcautious bean-counter who looks only at MC/MR and short-run profitability.

Considerable confusion exists in the terminology of profit maximisation. It is particularly unfortunate that the terms 'goal' or 'objective' and 'attain' are used interchangeably. It is obviously a lot easier to come up with an alternative, more plausible behavioural hypothesis if you are seeking to disprove the theory that firms attain profit maximisation than to disprove that the long term goal of the firm is to maximise profits. The only way that a firm might attain profit maximisation in the short term is if it were content and permitted to stay stationary with the same market share, same sales etc. each year. Modern business is however characterised by dynamic markets. Firms themselves are dynamic. Few entrepreneurs are content with the status quo. Most constantly seek to innovate, to diversify, to tackle some new challenge. The one way to facilitate these ambitions to earn a higher and higher rate of return is to make as much profit as possible in all aspects of the business taking into account all

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*1 R. L. Hall and C. I. Hitch, 'Price Theory and Business Behaviour'. Oxford Economic Papers, 1939.

*2 F. Machlup, 'Marginal Analysis and Empirical Research' - American Economic Review, 1946.

*3 R. A. Gordon, 'Short Period Price Determination in Theory and Practice' - American Economic Review, 1947.

the constraints on short-term profits (fixed factors) and also recognising the importance of good labour relations, goodwill and so on if long-term profit maximisation is to be achieved. Confusion exists as to what constitutes profit maximising behaviour on the part of firms and their administrators. In theory of course, there is no limit to how high profits can soar. It might be argued that a true profit maximisation strategy would involve the sabotaging of competitors reputations or factories; the stealing of inputs; corporate espionage; insider trading etc. Obviously these actions are not included in the normal perception of profit maximising behaviour. When we speak of profit maximisation we mean that businessmen seek to maximise profits within the framework of all the constraints under which they operate while seeking all the time to eliminate or mitigate the effects of these constraints in their quest for greater profits.

The limits of capacity, market share, and sales, all constitute constraints on the company and its ability to maximise profits in the short term. These are things which the entrepreneur/administrator will be constantly trying to change. The need to be constantly innovative, to maintain goodwill, good labour relations, good competitor relations are also constraints on short-term profitability which ensure greater long-run profits. Even ignorance of marginal concepts can be a constraint, particularly on small businesses, and may affect the magnitude of profits. If this is the case, the businessman will learn to use these concepts to his advantage, if the opportunity arises.

To pick some arbitrary factor like the fact that no businessman works 24 hours a day, 7 days a week and to suggest, as it has been, that this constitutes a valid reason why profit maximisation cannot be the main aim of the modern business corporation is absurd. Similiarly, the argument that because businessmen are seen to be primarily motivated by the four Ps (prestige, power, pay, perks) that therefore they cannot be profit maximisers is unrealistic. These benefits are recognised internationally as the sine qua non of motivation and positive reinforcement. Businessmen are well known for what T. Boone Pickens calls their "ballroom size egos".(*1) Their need for the superfluous trappings of success is part of the framework in which you must operate - part of your constraints. In any event, many such embellishments often exist to impress customers, equity investors, creditors, etc. and as such they are the price a firm pays for a dependable, prosperous, stable appearance.

Whatever way you view perks, status symbols and so on, they are a necessary part of your constraints. Within these constraints you aim for maximum efficiency, maximum profitability. You change what you can by diversifying, by marketing, by trimming bits off costs, by increases in productivity etc., all aimed at increasing profits. What you cannot change, you make the best of.

This then, is the new idea of profit maximisation as the objective of the firm and it might be termed 'realistic profit maximisation' or 'profit maximisation subject to constraints.' It appears to follow the ideas of Machlup.(*2) Machlup saw that the firm had a single goal; the maximisation

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*1 T. Boone Pickens, 'Boone: An Autobiography', Hodder and Stoughton, 1987.

*2 F. Machlup, 'Marginal Analysis and Empirical Research' - American Economic Review, 1946.

of long-run profit. Of course, the fundamental weakness with this whole approach is that it reduces profit maximisation to a tautology. On the basis of this approach practically any activity on the part of the firm might be said to result from a desire to maximise long run profits. At worst, it is not less testable or workable than most of the other alternative hypotheses put forward.

Alternative Motivation Hypotheses

Most of the alternative movitation theories in existance are based on the strict Neo-classical definition of profit maximisation. It is not surprising then, to find that writers can easily point to flaws in the hypothesis and its (the strict definitions) irrelevance to the modern business world.

The best known alternative motivation hypothesis is probably Baumol's Sales Maximisation Hypothesis.(*1) The classic exposition of this hypothesis is that firms maximise sales revenue subject to a minimum profit constraint. It sacrifices profits by not producing the optimum level of output. While this may happen in the short-term it can be argued that it is the result of a desire to maximise long-run profit. Like all these hypotheses, Baumol's is difficult to test empirically. Marshall Hall used the mean profit rates for the firm's industry and the mean profit for the entire sample of firms (Fortune's 500 1960 - 1962) as a proxy for the minimum acceptable level of profit (the minimum profit constraint). His findings "lend no support to the sales revenur maximisation hypothesis ..."(*2)

Another plausible objective has been put forward by writers like Robin Marris.(*3) The growth maximisation hypothesis sees firms as constantly wishing to grow by diversifying into new products/techniques. The fact that firms want to grow bigger is undoubtedly true. However, as Koch says

> "... firms are vitally interested in maximising growth but for the same reasons as they might be interested in maximising sales. To finance growth the firm must generate considerable profits internally or borrow in outside captial markets. Debt servicing is a drain on a business so a firm aims to finance growth internally as much as possible. Hence a wish to maximise growth will ordinarily constrain the firm to behave in a manner not dissimilar from that of profit maximisation."(*4)

Elsewhere,

> "...athough the short-run decisions of the growth or sales maximising firm may differ considerably from those of the profit maximising firm, the long-run interests and decisions and interests of growth, sales

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*1 William J. Baumol, "Business Behaviour, Value and Growth", rev. ed., Harcourt Brace Jovanovich, 1967.

*2 Marshall Hall, "Sales Revenue Maximisation: An Empirical Investigation", Journal of Industrial Economics, 15 (April 1967), 143 - 56.

*3 Robin Marris, "A Model of the 'Managerial' Enterprise", Quarterly Journal of Economics, 77 (May 1963), 185 - 209.

*4 James V. Koch, "Industrial Organisation and Prices", Prentice Hall, 1980.

and profit maximisers alike are virtually identical. Policies that maximise the long-run growth of a variable such as sales or assets will necessitate approximate profit maximising policies."

Other hypotheses like maximising the present value of the firm are extremely difficult to test empirically and are in any case inexorably linked to long run profit maximisation.

Managerial theories and alternative hypotheses suggest that because so many firms are not owner-managed, the managers are free to, and do, pursue other objectives than profit maximisation. Berle and Means argue that while owner-stockholders are permanently interested in high dividend payments and typically favour profit-maximising actions, managers are subject to their own needs, motives and desires. Managers may be more interested in perks, in being the head of a bigger if less profitable organisation.(*1) I discussed this subject earlier, but it is worth stressing here that very few people are driven solely by a desire for power and perks make it to the top of organisations without displaying an ability to deliver the goods in terms of profits. Kamerschen, in a study of the largest non-financial corporations during the period 1959 - 1964 found not only that the extent of the management control does not affect profit rates in a noticeable fashion, but also that a change in control from owner-controlled to manager-controlled status for a given firm was associated with increased profit rates.(*2)

So even managers have profit to the forefront of their objectives. Prosperity finances growth and pays for the perks that managers enjoy. Profitability is the way to keep jobs secure, to finance perks, and to take advantage of new challenges to grow and diversify. Increasingly management renumeration is linked to profitability. "We pay very little money for coming to work" said Tony O'Reilly recently. About two-thirds of the pay of each of the top 300 managers takes the form of performance incentives based on everything from brand profitability to corporate return on shareholders' equity.(*3)

Lewellen and Masson have demonstrated that very large portions of executive compensation takes the form of stock options, grants and profit sharing. (*4, *5) Masson, for example, found that over five sixths of the total financial compensation received by the executives in his sample was non-salary in nature. During the U. S. Government loan guarantee period at New Chrysler Corporation, chairman Lee Iacocca drew a salary of only $1 a year. Yet his stock options were worth 4 - 5 million dollars(*6). It is easy to

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*1 A. A. Berle and G. C. Means, The Modern Corporation and Private Property, Commerce Clearing House, 1932.

*2 David R. Kamerschen, "The Influence of Ownership and Control on Profit Rates", American Economic Review, 58 (June 1968), 432 - 47.

*3 Fortune, "Heinz Pushes to be the Lowest Cost Producer", June 24, 1985.

*4 Wilbur G Lewellen, "Executive Compensation in Large Industrial Corporations", National Bureau of Economic Research, 1968.

*5 Robert T. Masson, "Executive Motivations, Earnings and Consequent Equity Performance", Journal of Political Economics, 79, (November 1971), 1278 - 92.

*6 Time, "I Gotta Tell Ya", April 1, 1985.

see how important profit is to management. Another reason why profit maximisation as the objective of the firm is so essential is to guard against hostile take-over bids. If management are seen to be aiming for something other than profit or not utilising the company to its full potential, they run the risk of a hostile take-over bid from a healthy company or a corporate raider wishing to take advantage of the undervalued stocks. When this happens the management who presided over the under-utilization or resources quickly become 'guests of the nation'.

It is clear then that for both the firm and for management profit is the key to survival. There are any examples of companies which have failed while having a large sales turnover or that failed because they tried to expand beyond their means (eg PMPA). Few companies fail because they are making too much profit.

In 1958 Lanzilotti carried out a study on pricing objectives in large corporations(*1) He interviewed the senior management of 20 such companies. While, as Lipsey says, "one only needs a nodding acquaintance with elementary psychology to realise that we are not likely to discover what motivates a person by asking them", when you consider that business men would be naturally shy of admitting, if they were conscious of the fact, that they were solely motivated by profit considerations, it is interesting to note that the 4 principle objectives cited (target Return-On-Investment, stabilisation of prices, target market share, matching competition) are all closely related to, as Awh puts it, "a concern for profit in the present as well as in the future". Awh sees three main advantages to the profit maximisation hypothesis.(*2) Firstly, it is the most pervasive force that governs the behaviour of business firms - all other behaviour may be approximated by it. Secondly, it is a simple hypothesis. Thirdly, it is the single best assumption available.

Conclusion

From the outset of this essay I identified what I saw as the problems with a strict Neo-classical perception of the profit maximisation hypothesis and how easy it was for those with alternative theories to find fault with it. While the strict definition might not be very practical the idea that the main goal of a firm is to maximise profits seems to be the best predictor of business behaviour, provided we acknowledge the multitude of constraints under which firms must operate if they wish to ensure long term survival and profits. No other alternative maximisation strategy can ensure long term survival, profitability and growth to the same degree. Nobody realises this better than rational entrepreneurs.

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*1 F. Lanzilotti, 'Pricing Objectives in Large Companies', American Economic Review (1988) p. 921 - 41.

*2 Y. Awh, 'Microeconomics".

Ireland's Employment Problem

Finbar McDonnell

This article tries to give the broad background to 'the employment problem' in Ireland. Any attempt to do this must necessarily describe the demographic trends in recent decades, and provide some information on likely trends in the near future. Since our interest is in the labour force, apart from the population, I shall look at the age distribution, and the participation rate of the population. In the latter section of the article, I shall look at the extent of unemployment in Ireland in 1987, in absolute and sectoral terms. In conclusion, I shall try to place the policies of the next decade in some sort of perspective, by combining the trends in demography and employment.

Looking first at demography, Ireland has a very strange demographic history. Our population figure was unchanged between 1931 and 1971, at just under 3 million. This disguised a large fall in the 1950s period followed by a compensating increase in the 1960s. In the 1970s, the population experienced rapid growth, and in the early 1980s was over 3.5m for the first time in almost a century. These trends are made up of two elements - the Natural Increase and the Net Migration. The natural increase has in fact been fairly steady for the last 100 years, at in or around 10 or 11%. This has been a combination of falling ages of marriage, combined with decreasing fertility rates and a slightly declining death rate. This means a high correlation exists between net migration and changes in population, and the statistics bear out this hypothesis. In the 1950s the decrease in population coincided with high net emigration, the 1960s saw a fall in the emigration which allowed some population increase; the 1970s saw net immigration and the population boomed, and in 1985, emigration was again high, and the population actually declined.

	Natural Increase	Net Migration	Total
1950s	0.99	(1.4)	(0.41)
1960s	1.04	(0.6)	0.44
1970s	1.17	0.30	1.47
1985	0.79	(0.87)	(0.08)

(all % of total population)

Regarding the near future, the NESC forecast a 25,600 natural increase (p.a.) for the next five years. However, they combine this with a forecast that net migration will average - 25,000 p.a., and that the total population is back to the situation it found itself in betwen 1931 and 1971 taken as a whole - natural increase cancelled out by net migration, giving no change.

The second demographic point of interest is the proportion of the population between the ages of 15 and 64; the active population. The rapid population growth of the 1970s gives Ireland an unfavourable age distribution - with 30.3% of the population under the age of 15 in 1981 (29.2% in 1986). This is the highest percentage in the EEC, and combined with a lower percentage of over 65s due to emigration in earlier years, gives Ireland a pyramid-type population structure.

However, the recent decline in the birth rate should bring our population structure closer to the EEC average, and the NESC forecast a fall in the percentage between 0 and 14 to 27.5% by 1990, and a further decline thereafter.

The final point of interest as regards demographic trends is the labour force participation rate, i.e. the amount of people between 15 and 64 who actually 'participate', by seeking 'gainful employment'. Traditionally, the Irish male participation rate has been normal, but the female rate has been below the international average. In recent years, the 15 - 64 male rate has dropped from 78.4% (1975) to 74.1% (1985). This change is probably due to the increasingly skewness towards the lower ages, with a higher percentage in education. The percentage of married females working has continued to rise, from 14.5% (1975) to 20.4% (1985). However, the single and widowed females figure has fallen, again probably due to the education factor. In general, the male rate is fairly steady, and the female rate is rising slowly, although it is still way behind international rates, and indeed the male rate. The overall participation figure was 52.1% in 1985. In the next few years NESC forecast the emigration to be the biggest shaper of participation, downwards due to its concentration in the 15 - 64 age group, and upwards due to its weakening of the so called 'discouraged worker' phenomenon.

Turning to employment levels there have been large fluctuations in the levels of sectoral employment in Ireland over the last 25 years, and it is necessary to look at these to appreciate the extent of the employment challenge in Ireland.

Persons Employed	1961	1971	1981	1985	1990	'000s
Agriculture	360	258	201	169	142	
Industry	253	318	360	305	305	
Services	405	454	590	600	627	
Total Employment	1018	1030	1151	1074	1074	
Shares:						%
Agriculture	34.5	25.0	17.5	15.7	13.2	
Industry	24.9	30.9	31.3	28.4	28.4	
Services	39.9	44.1	51.3	55.9	58.4	

Agriculture has been in constant decline since 1961, and this has caused a major problem with job creation, eg between 1981 and 1985, 32,000 new jobs would have been needed just to soak up the people leaving agriculture. This trend is expected to continue, and by 1990 another 27,000 are forecast to have left, bringing the agricultural share of employment down to 13.2%. Industrial employment rose rapidly in the 1960s but slowed in the 1970s and the recession, combined with large productivity growth, has caused a large decline in the 1980s. The productivity increases are expected to get smaller in the next few years, and forecast increases in specific areas should leave the industrial employment at about the same level.

Finally, the services sector has seen continuous growth, although this has slowed dramaticlaly. Much of the 1970s services growth was in public services, but this has now been halted, and any forecasted growth is expected to occur in the private sector. This gives an overall picture of rapid exmployment growth in the 1970s and a sizeable loss in employment in the 1980s. The forecast for 1990 of no change from 1985, is based on the NESC report which outlines an optimistic and a pessimistic scenario, forecasting an increase and decrease in employment respectively. The no-change forecast is simply a rough approximation.

The combination of the labour force trends and the employment figures can now be examined.

	1961	1971	1981	1985	Dec 1986	(000's)
Labour force	1072	1087	1272	1299	1296	
Employment	1018	1030	1151	1074	1046	
Unemployment	54	57	121	225	250	
Unemployment Rates	5%	5.3%	9.9%	17.3%	19.3%	

For most of the 1970s the growing labour force was matched by growing employment. However from about 1980, the employment figure has been falling, and combined with the rapidly increasing labour force, has caused large scale unemployment. Indeed, the labour force has actually fallen since 1985 due to emigration, and the unemployment situation would be even worse now, were those 60,000 (approximately) to have remained here.

The final point I want to consider is the link between output and employment. It is obvious that the levels of employment in an economy will be determined by the output required and the productivity rates. A change in GDP is a combination of the change in total employment and the change in GDP per worker.

	GDP	GDP/Worker	Total Employment
1975 - 1980	4.6%	3.1%	1.5%
1980 - 1985	1.8%	3.3%	-1.5%

In the next five years, the rate of growth of GDP is dependant on many variables, but estimates vary between 1.9% (NESC's 'pessimistic scenario'), 2.5% (the new government's plan) and 3.2% (the NESC's 'optimistic scenario'). The productivity changes are expected to decline somewhat to (say) 2.7%. In other words, a 2.7% increase in GDP is necessary to maintain present employment figures to 1990. This is certainly on the optimistic side, but is possible.

However, this would have major consequences for unemployment. The active population is forecast to increase by 149,000 in the next 5 years and if the participation rate stayed the same at 52.1% then the labour force would increase by 78,000 people. Were there to be no net migration, then unemployment would be 328,000 by 1990, provided the optimistic 2.7% p.a. growth is achieved. To 'solve' the unemployment problem, i.e. to achieve full employment, would necessitate commensurate growth. NESC reckon that a further 2% would be necessary to expand employment by 100,000. This being the case, a growth rate of 9.8% p.a. would be necessary to achieve full employment in 5 years without net migration. Allowing for a 'natural rate' of 3% unemployment, GDP would need to grow by 9% per year for 5 years, or by a cumulative 54%. This is the extent of Ireland's employment problem.

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Road Pricing - a practical option?

Lee (Eoin) Costello

Introduction

If economics is that branch of study which concerns itself with the allocation of scarce resources among competing needs, road pricing is that area of transport economics concerned with the allocation of road space, an increasingly scarce commodity. Road congestion, particularly in urban areas, is rapidly becoming a severe social problem. The number of private cars registered in the Dublin area has increased sixfold since 1951, car ownership in the Dublin area could be in excess of 300,000 by 1991.(*1) Traffic speeds in the city centre can be as low as 2.2 m.p.h.

Present charges on private vehicle holders include fuel, vehicle and expenditure tax. These comprise a potential two part road charge, the fixed charge (car tax) is a payment for admission to the road system, while the variable charge (fuel tax) is a payment for the use of that system. Currently the rates of tax are not set with any pricing principle in mind, and it is agreed that these taxes do not provide an instrument to restrict the use of the roads in the right places at the right times.(*2)

Before I proceed to discuss the nature of the congestion problem a word of caution is necessary with regard to the title of this article. The words road pricing may lead to the misconception that the imposition of a congestion tax is in a way an attempt to use a normal price system in selling road space. A price for road space arrived at by the normal process of the market would not include the major constituent of a congestion tax, the charge for externalities.

Congestion

The aim of a congestion tax is to obtain a more efficient use of road space. In so far as this is a question of estimating the optimal use of the existing capacity the economist is explicitly concerned with conventional marginal analysis. Imposing a congestion tax involves marginal social cost pricing but in a special and limited sense. The only social cost considered is that imposed on other road users.

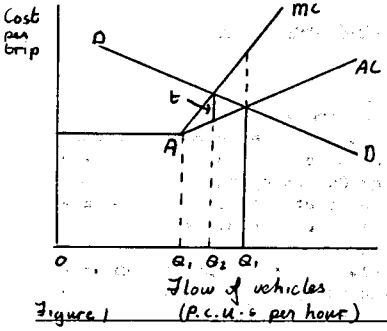

Figure 1

Looking at figure 1, we see the demand for and the user cost of a link in a road system(*3). It assumes vehicles are homogenous and that an ideal pricing system is available. Up to the point A user costs remain constant, indicating that until this level of usage is reached, users do not impede each other. However beyond A not only does every additional motorist raise the cost to himself, but by raising the A.C. he also causes each of the motorists already

*1 The Transport Consultative Commission Report on Dublin Bus Lanes.

*2 Smeed Report, 1964, H.M.S.O.

*3 Harrison, A. J., The Economics of Transport Appraisal.

using the road to bear this additional cost. It is this effect on other motorists' costs that creates the externality.

Once the A.C. curve begins to rise the M.C. curve also rises but more steeply. Beyond the flow OQ2 the value of the trip to the consumer (shown by the height of the demand curve) is less than the marginal cost.

In the absence of any restriction the volume of traffic will settle at OQ1. At this volume of traffic each motorist finds the marginal value of this trip to be equal to the cost of his trip. Once the cost of his trip is revised to include the additional cost the motorist imposes on others, we have to be guided by the M.C. curve.

Employing the marginal cost priciple of choosing as optimum the volume at which M.C. is equal to marginal value (price) volume OQ2 is chosen. This optimal flow of traffic can be brought about by 'extraordinary restraint (taxes) which remove the divergence between private and social costs'. (*1) The optimal tax, t, on each vehicle using the road is calculated by multiplying the A.C. of the journey by the inverse of the point elasticity,

$$t = (1 + 1/E)A.C. - A.C. \quad \text{or} \quad t = (1/E)A.C.$$

This tax could then be imposed using methods discussed below.

However the above analysis is subject to a flaw, that identified by the second best theorem. Whereever the usual optimum conditions are not met in the rest of the economy, one cannot in general justify employing the M.C. pricing rule to determine ideal outputs in a particular sector. In order to identify a constrained maximum under more complex conditions (as identified in the second best theorem) it is necessary to forsake the optimum conditions that are strictly relevant only to the simple case of a single and familiar constraing on the social welfare function. However, according to Mishan (*2) we may be able to discover circumstances which enable us to derive guidance from the usual optimum rules even though those rules are not universally met.

I assume (for the purposes of this article) that the above is the case and I will now move on to a discussion of the alternative methods for levying the tax discussed above, and alternatives to it.

Instruments for achieving optimal amount and allocation of traffic

Traffic Restraint Approach

Uses administrative (parking facilities, traffic management controls) devices to force a particular division of traffic by route, mode or time of day. This approach is usually used in conjunction with area licensing and road pricing. Looking at parking policy in the Dublin area, in the Dublin area there are six radial routes which carry the most traffic. These are the roads to Malahide, Swords, Lucan, Naas, Stillorgan and Blackrock.

It has been empirically demonstrated (Neutze *1) that four lane roads have slower flows than two lane roads due to traffic management policies which

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*1 Pigou, A.C. The Economics of Welfare.

*2 Mishan, E. J. 'Second Thoughts on Second Best'. Oxford Economic Papers, 1962.

allow road side parking and thus the capacity of roadside lanes is severely restricted. Despite this evidence the Dublin Corporation and Dublin County Council allow extensive parking along two of the most congested radial routes (Ballsbridge into Stephens Green and in Donnybrook Village), the Blackrock and Stillorgan roads.

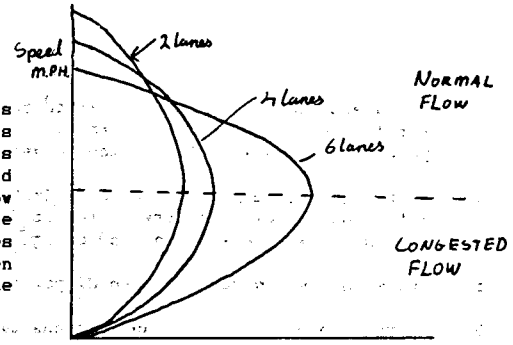

Figure 2

The Road Pricing Approach

Here we raise the cost of using congested facilities. The case for a pricing device which relates the charge for the use of congested road facilities to their marginal social cost was set out by the Smeed Committee in 1963. It discussed the two main methods of direct charging.

1. Off vehicle recording systems: analogous to telephone charging methods.

2. Vehicle metering systems: analogous to taxi meter methods of charging.

In view of the 'impeccable academic pedigree' of road pricing and the wide range of apparently feasible technical methods available for operating it, why are road pricing schemes not widely used? I discuss some of the reasons below.

The Public Transport Subsidy Approach

In this case the cost of using uncongested facilities is lowered. Buses could be subsidised on the grounds that bus passengers contribute less than car passengers to traffic congestion. (*2) It can be better to price mass transit below its marginal social cost simply because car transit is priced below its marginal social cost.

There are numerous reasons quoted for the nonintroduction of a system of road pricing (*3) which include the following:

1. The difficulty of devising a practical method of collection of charges whose level must change as congestion varies.

2. Road pricing and any other system of user charges would be strictly optimal only if all other goods in the economy are also priced at the marginal cost to society.

3. Border and infrastructure problems: there may be increased congestion

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*1 Button, K. Transport Economics

*2 Sherman, R. 'Subsidies to Relieve Urban Traffic Congestion'. Journal of Transport Economics and Policy, 1972.

*3 Barrett, S. and Walsh, B. The User Pays Principle.

*4 Zettel, R. M. and Carll, R. R. 'The Basic Theory of Efficiency of Tolls'. Highway Research Record 19.

in areas bordering the restricted area. The ring road for through traffic must be adequate otherwise road pricing will not work as people will continue to use the congested roads.(*4)

4. There is the possibility of undesirable distribution repercussions, with road pricing the use of the roads depends upon the capability of the potential users to pay the charges.(*1)

5. There is controversy over the disposing of the revenues raised.

6. There are doubts about the response of road users to varying prices for road use.

Conclusion

In Ireland vehicle investment is falling and the percentage of G.N.P. spent on roads is rising steadily.(*2) Increasing investment in roads causes higher levels of noise, atmospheric pollution, vibrations, visual intrusion, planning blight and community severance. Indeed, the proposed road scheme leading to the Christ Church area requires the compulsory acquisition of thirteen licensed premises in the path of the development.

Road pricing is one example of economic science furnishing a powerful guide to practice. If one looks at the results obtained in a limtied schmee of this type(*3) the advantages become obvious. In the Singapore area licence scheme the volume of traffic entering the restricted zone fell by 44%, there was a 22% improvement in speeds within the zone, the bus share rose from 33% to 46% and car pool shares increased from 14% to 41% of all car trips. The carbon monoxide level during the restricted hours (which had formerly been at a peak) was reduced below that in the middle of the day.

Irish authorities are actively pursuing a policy of investment in expansion of roads rather than proper management of the existing capacity. It must be recognised by these bodies that urban road problems require more management and less engineering investment, and more recognition of the beneficial role of 'efficient' public transport.

In conclusion, despite the theory of second best, few would quarrel with the argument that the introduction of direct road pricing would improve the efficiency of resource allocation. Therefore I believe road pricing is a first best solution in a second best world.

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*1 Richardson, H. W. 'A note on the distributional effects of road pricing'. Journal of Transport Ec. and Policy, 1974.

*2 Building on Reality Report.

*3 O.E.C.D. Conference 'Better towns with less traffic', 1979.

The Closed Shop

Maurice Doyle

> "The average worker is a jolly decent chap who, if kept away from nasty shop stewards and made to understand the economic facts of life will quickly become a docile, conscientious, obedient company supporter who will never have any problems with his pay or conditions or supervision. Most of these chaps would not be in unions at all, if it wasn't for the closed shop."(*1)

There are few, if any, institutions which can provoke as much heated discussion as closed shops. It is often claimed that they trample mercilessly across the freedom of individuals in a manner quite unacceptable in an open liberal-democratic state and that they give the unions unparalleled power which can be and is used to the detriment of industry, the economy and the common good (in general). It is the task of this essay to see if these assertions are warranted.

While closed shops (or union membership agreements - U.M.A.s - to use the terminology of the Trades Union and Labor Relations Act 1974 and the subsequent Amendment in 1976) are by no means homogeneous and vary not only through time but from place to place, it is beneficial to produce a definition at this early stage. W. E. J. McCarthy states that a closed shop occurs where:

> "employees come to realise that a particular job is only to be obtained and retained if they become and remain members of one of a specified number of trade unions."(*2).

Two points must be stated here. Firstly, what follows is not a discussion on the relative merits of strong versus weak trade unions, but rather a comparison of compulsory and voluntary unionism.(*3) Secondly, a distinction has to be made between a pre-entry closed shop where workers have to be a members of a particular union(s) before they can apply for employment and a post-entry shop, where they must join after they get the job. This distinction is critically important as both have disparate effects on the balance of power, and on the rights and freedom of individuals. It is the latter topic to which I now turn.

Crouch's theory of the Logic of Collective Action suggests that an apparently free choice to join a trade union in fact contains an in-built bias against membership. So organised labour must strive to increase the benefits of membership relative to those of non-membership. One way of doing this is to ensure that to acquire or retain a job, workers must

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*1 Paul Roots: 'Myths that Blind British Business', page 37. Roots, Director of Industrial Relations at Ford, was not expressing his own opinion, but parodying the views commonly held by management.

*2 W. E. J. McCarthy, as quoted in Ferdinand von Prondzynski's 'Freedom of Association and Industrial Relations', page 117.

*3 Dunn, S. and Gennard, J. 'The Closed Shop in British Industry'. As Stephen Dunn and John Gennard point out, voluntary unions can be powerful. As an example of this, they cite the case of the Post Office's Engineering Union in Britain, which, although not operating a closed shop, achieved almost 100% membership in the late 1970s.

possess a union card. The question is, therefore, does this element of compulsion amount to coercion?

In relation to the post-entry shop, I believe that it does not, for the necessity to join a union is just one of the many conditions of employment workers choose to accept. Those who criticise the U.M.A. in this regard possess a limited rationality for they overlook the similar degree of compulsion to join a sports club, a pension fund or even to work nights, all of which may also be found in the job contract. It must also be said that allowances are invariably made if employees have serious conscientious or religious objections to entering into a closed shop arrangement (*1).

The pre-entry shop, however, is more problematic. It is difficult not to see the potential here for the restriction of individual rights. Actors, for example, are forced to be members of Equity before they can even look for a job. Yet simplistic suggestions of 'freeing the market' are not particularly helpful either. Thus we are left with a paradox:

> "How far can the right of combined action be curtailed without depriving individual liberty of half its value, how can it be left unrestricted without destroying either the liberty of individual citizens or the power of the Government?"(*2)

The stark facts, however, are that workers must unite to enhance their own individual power, and that any organisation, not just unions, that ignores its own security cannot survive. Putting the two together, a strong case can be made for asserting that pre-entry closed shops increase, rather than diminish, the liberty of the individual worker.

Many academics and politicians warn that closed shops give union officials the power to make completely arbitrary or malicious decisions which can effectively impinge upon employees' 'right to work'. Undeniably, there is some justification for this argument. All power can be abused. But once again, this bounded rationality comes through. For what is not in question is the fact that unfair decisions can be made against workers, but that they can now be made by union officials!

I am not suggesting that the exercise of monopoly powers by unions should not go unmonitored. Clearly, such a 'watch-dog' provision would be desirable. However, we must keep the matter in perspective. Compulsion, like it or not, is prevalent in our society and to attack just one manifestation of it (albeit an especially visible form) will not measurably enhance liberty.

> "In short, those who see the closed shop simply in terms of coercion might be said to hold a view of individual freedom of a purity which would be quite startling if applied to other, comparable situations. In any case, it seems clear that the compulsion of the closed shop does not usually coerce the unwilling but motivates the apathetic.(*3)

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*1 One such way in which allowances are made is through an agency shop where workers are not compelled to become members but must instead agree to pay a sum to the trade union or to a mutually acceptable charity.

*2. A. V. Dicey, as quoted in Charles Hanson, Sheila Jackson and Douglas Miller: 'The Closed Shop: A Comparative Survey', page 11.

*3. Ferdinand von Prondzynski: 'Freedom of Association and Industrial Relations' page 129.

Turning now to the question of the balance of power, it is instructive to briefly reflect upon the recent history of the U.M.A. The closed shops McCarthy described tended to be of an informal nature, and were only achieved after a long and bitter struggle. So, it tended to be those areas which had a stronger union organisation to begin with, that gained these monopoly rights (thus attenuating the dualistic nature of the British labour movement). Pre-entry shops were highly prevalent in this era. Characteristic of this form of U.M.A. is that it generally

> "comprises workers who possess skills for which there is normally no substitute in the short-run, that its members are usually admitted on the basis of a selection process operating through controls on entry to the facilities needed to acquire the approved skills and through entry charges."(*1)

Now it is my contention that pre-entry shops do in fact help organise labour to mitigate the imbalance of power. For it is only in this kind of U.M.A. that unions can exercise real control over the supply of labour. The decision to grant a union card and access to employment rests squarely and solely upon their shoulders. As a corollary to this, the adverse economic effects generally assigned to closed shopes in general, such as inducing wage inflation and reducing the supply of skilled labour are more correctly attributed to pre-entry U.M.A.s.

In these situations, unions tend to weigh increased wages higher than extra employment, in keeping with their job rationing ethos which is designed to prevent labour surpluses emerging. It is this ability to manipulate the labour supply curve that enhances their potential to enforce, unilaterally, trade union rules and demands. This power certainly is not absolute, however, for technology and the tendency of employers to 'run away' to locations outside the jurisdiction of pre-entry shops (a la Wapping) limit the extent to which unions can get their own way. Nonetheless, one could plausibly suggest that the strength of unions increases as the proportion of workers covered under pre-entry U.M.A.s widens.

The trend since the 1960s tells its own story. Although the population covered by closed shops in general increased from 3.75 m to 5.2 m by 1978, the figures for pre-entry shops plummetted to .8m (*2). Obviously, further analysis is needed to account for these revealing statistics.

The reason why post-entry U.M.A.s blossomed in the 1970s is, quite simply, that managerial attitudes towards the practice changed considerably.

> "It was anticipated that it (post-entry shops) would prevent protest resignations from union membership and therefore give stewards the confidence to conclude unpopular agreements, and discipline renegade groups who would not conform to such agreements."(*3).

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*1 Charles Mulvey: 'The Economic Analysis of Trade Unions', pages 38 - 39.

*2 These figures, which come courtesy of Stephen Dunn, obviously refer to the U.K. Despite the absence of any 'hard' data, it is a fair assumption that the trends would be similar in Ireland.

*3 Stephen Dunn: 'The Law and the Decline of the Closed Shop in the 1980s', page 93.

The decisive factor in the establishment of these closed shops was not generally union pressure but managerial facilitation and even encouragement. Indicative of this was the fact that U.M.A.s spread to areas such as banking where hitherto unions had exerted little influence. While these arrangements tend to increase union membership (this is its main attraction for organised labour) and possibly even its short-term security, it does little to address the imbalance of power in industry.

In these situations, unions do not operate a veto over who gains access to jobs. They merely are a passive participant in the employing process, issuing union cards at the whim of employers. Neither do they have the final say in whether an employee is dismissed for activities unbecoming to a union member, for, when all is said and done, it falls upon management to decide whether he/she should be sacked. Since its control over the supply of labour is negligible, only marginal economic effects can be attributed to the practice.

In short, if it is employers who in effect determine the existence and the behaviour of post-entry U.M.A.s it is unrealistic to label them great power advances for trade unions.

> "More appropriately the practice (post-entry shop) should be seen increasingly as a source of order and discipline in industrial relations, goals ... which explain why employers have learnt to love the closed shop. Those who should perhaps be most worried about the manner of the recent spread of compulsory unionism are paradoxically trade unionists themselves."(*1)

Through this policy of maximising control by appearing to share it - a la Flanders - employers were able to stave off any more radical demands which might have occurred, such as pressure for pre-entry closed shops. At the turn of the decade, the potential danger for employers eased and they reappraised their approach. Many were content to let their agreements remain until they encountered a situation where it was likely to act against their interests.(*2) It must also be said that there was growing managerial disillusionment with the practice as they discovered that solving the problem of union control was rather more complex than merely imposing compulsory membership.

These developments must be seen in the light of the rapidly changing industrial relations environment which prevailed since the advent of the Conservative Government in Britain in 1979. A deliberate assault on the unions was quickly initiated, largely through economic and legal forces. For trade unions to have any real countervailing power they require a fully employed, highly organised economy subject to government demand management. So under the pretext of controlling inflation, the Tories fostered conditions directly opposite to those most conducive to unions and, by extension, individual workers.

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*1 Moira Hart: 'Why Bosses Love the Closed Shop', page 354

*2 Proof of this came with the British Bakers Union (B.F.A.W.U.) dispute of 1978. The union voted to expel some 2,000 strike-breakers. As an industry-wide Union Membership Agreement operated, it was thought that the employers, the Bakers Federation, would sack the non-strikers. However, not only did they refuse to dismiss these workers but they actually tore up the agreement, saying it was no longer in force!

The Employment Acts of 1980 and 1982 managed to attack both forms of U.M.A. simultaneously. Firstly, they narrowed the definition of a trade dispute to cover only conflict between workers and their immediate employer over terms and conditions of employment. In a pre-entry shop, of course, the common link is not the same boss but the same craft or profession so collective action in support of such an U.M.A. is not now covered by legal immunities. In relation to the post-entry closed shop, it was declared that a shop which had not been ratified by 80% of those entitled to vote or 85% of those actually voting in a recent ballot within the previous five years, would not fall within the suitable legal definition of an U.M.A. and employees would have the right to opt out of union membership at will.

So the future of closed shops in the form we presently know them (*1) is in some doubt. Given the dramatic changes which have evolved over the last twenty years, however, one is wary of making any definitive predictions. Much will depend on the future magnitude and nature of industrial conflict. It is possible that strike activity may galvanise workers to the closed shop principle and thus they will fight bitterly for its survival and extension.

In summary, closed shops currently constitute a threat to no-one - workers, governments and especially employers. Claims that post-entry U.M.A.s - which account for 85% of the total closed shop population - seriously threaten the balance of power in industry or the rights and liberties of employers, can be empirically refuted. Pre-entry shops can help mitigate the capital labour imbalance <u>for</u> individual workers by gaining a modicum of control <u>over</u> them. Any libertarian would prefer a society where people are not compelled to do anything but the alternative, a supposedly free market, is considerably more unpalatable. For, as Burkitt points out:

> "when the economic circumstances of the parties to a bargain are unequal, legal freedom of contract enables the stronger to dictate terms. Workers are legally free but effectively powerless."(*2)

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*1 Stephen Dunn and John Gennard (among others) suggest that a semi-closed shop where workers are not compelled to join a union, but are merely strongly encouraged to do so, may evolve. Whether this type of arrangement actually constitutes a closed shop is, however, highly doubtful.

*2. Brian Burkitt: '<u>Excessive Trade Union Power</u>', page 66

Big Bang

John Duff

Introduction

The Big Bang exploded in the City of London on 27th October 1986, blowing up the restrictive practices which had existed there for centuries.

In this article, I explain the main effects of Big Band, both direct and indirect. Having explained how the pre-Big Bang Exchange operated, I give a description of the main changes that will occur on October 27th. The more far-reaching effects are then discussed, and this section draws heavily on the American experience of Big Bang on May 1st 1975. Finally, I end by briefly discussing the likely effects these changes will have on the Dublin Stock Exchange.

How the Stock Exchange Works

The Stock Exchange, like any other market, is the coming together of the forces of supply and demand to determine price. The 'Goods' on offer in this market are basically of three types: equities, gilts and options. Equities are simply shares in a company which may or may not guarantee the holder a dividend at the end of the year, while gilts or government bonds are loans to the government which do guarantee to pay the holder a fixed sum of money for a set period. Options are speculative instruments, which given an individual the right, for a given period, to buy shares in a certain company, at the present market price, at some period in the future. Obviously, if one feels that today's value of certain shares is below their true market price, it will be advantageous to purchase the option to buy those shares at that price and exercise the option if the share price rises within the specified period. While options clearly illustrate the speculative element of the Stock Exchange, it is equities and gilts which are the most important traded items.

The principle investors in the Stock Exchange are:- Life Assurance Companies, Fund Managers and Unit Trusts. Together they presently hold British equity valued at £210 billion. When one of these investors wishes to buy or sell shares, they approach their stockbroker who is a member of the Stock Exchange. The brokers' main functions are to buy and sell shares on behalf of clients and to offer advice to them, for which they are paid a commission. In order for a broker to deal in shares, he must approach a Stock Jobber, who is also a member of the Stock Exchange. The jobber is like a wholesaler, who is allowed to deal with the brokers, but not the public. The jobbers' income is derived from the appreciation in the value of shares on his book and also from 'jobbers turn', the difference between his buying and selling price. This division of roles between jobbers and brokers is unique to the London Stock Exchange. In New York, for example, a broker wishing to sell shares on behalf of his client, searches around for a willing buyer among other brokers and market makers. If the market is depressed, he may not be able to find a buyer and so is forced to hold shares which are depreciating in value.

On the London Stock Exchange, the jobber will always agree to purchase shares from the broker. However, if the market is under pressure, the price he will be prepared to pay will be fairly low. It can be seen clearly then, that the business of jobbing is extremely risky. It involves a very careful study of the market and scrutinising of trends. On the other hand, the income the stockbroker receives is not variable, as all brokers charge the same fixed commission. An example of some commissions charged in 1986 are as follows:

Minimum Commission Rates (1984)(*1)

Gilt Edged:

For transactions under £200	at discretion
For transactions under £640	£4
For transactions over £640	
in short-dated stocks	at discretion
in stocks with more than 5 years to redemption	5/8% of the value.

Debentures and Loan Stocks:

For transactions under £200	at discretion
For transactions under £934	£7
For transactions over £934	3/4% of the value (with lower rates if above £5,000)

Ordinary and Preference Shares:

For transactions under £200	at discretion
For transactions under £467	£7
For transactions over £467	1.5% of the value (with lower rates if above £7,000)

The above then, is a brief description of how the London Stock Exchange operated for many years until October 1986. With this background, we can now judge the effects that Big Bang will have on the operation of the market.

The Transition from Cartel to Open Market

Before October 1986, the City was a cartel. Commercial banks handled the small bankloan market, merchant banks dominated corporate finances, stockbrokers acted as agents for their investors and jobbers had a monopoly on market making in securities. Everyone had their place and nobody poached another's territory. This, along with the fact that all broking commissions were fixed, resulted in brokers charging roughly twice that of their New York counterparts.

Obviously, such a situation could not be allowd to continue indefinitely, and it was only due to the ability of the City to cover its practices with a veil of decency which allowed them to operate for so long. In February 1979, the Director General of Fair Trading informed the Stock Exchange that he was going to take action under the Restrictive Practices Act, 1956. This statement took the Stock Exchange entirely by surprise. Many Committees had scrutinised the work of the City and Stock Market, but even the Wilson Committee, which was very critical of some of the practices of the financial sector, stopped short of such drastic action. Faced with the prospect of having to defend itself in front of the Restrictive Practices Court, the Stock Exchange set about preparing a detailed defence. The replacement of the Labour Government by the Conservatives in 1979 was followed by intensive lobbying of the new Trade and Industry Secretary, but he refused to reverse the decision.

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*1 How the Stock Exchange Works - Norman Whetnall.

However, in July 1983, the case was abandoned. The Secretary of State indicated to the Chairman of the Council of the Stock Exchange, that if certain changes were made to the Exchange rules, most notably those governing fixed commissions and membership, then he would be willing to drop the action. The Chairman quickly agreed and thus paved the way for Big Bang in October 1986.

The Big Bang itself - Description of exactly what changes it will bring

The Big Bang of October 27th blew away the restrictive practices of the City. It aimed to abolish what the Government viewed as being the most serious obstacles to competition, namely:-

1) Fixed commissions

2) Separation of the functions of brokers and jobbers

3) The absence of competition in the gilt market.

Prior to the Big Bang, all stockbrokers charged the same commissions on the sale and purchase of shares for their clients. Obviously, this fixed price system allowed inflated rates to be charged and permitted inefficient broking firms to survive. In New York, commissions for the big institutional investors, which account for most of the trading, have fallen to between five and ten cents a share (averaging between 0.15% and 0.3%) since 1975. In London, institutions have to buy £600,000 worth of a share before reaching the lowest rate of 0.3%. However, after October 27th all this will change. Investors will be able to 'shop around' and find the broker offering the best services at the lowest price. Even further, institutions will pruchase shares from three sources:-

1) Market makers that quote a net-net price (i.e. offer shares at a fixed price with no commission).

2) Market makers that quote a net price (i.e. contains an element of commission).

3) Broker agencies which act as middlemen with the market makers and will negotiate a commission.

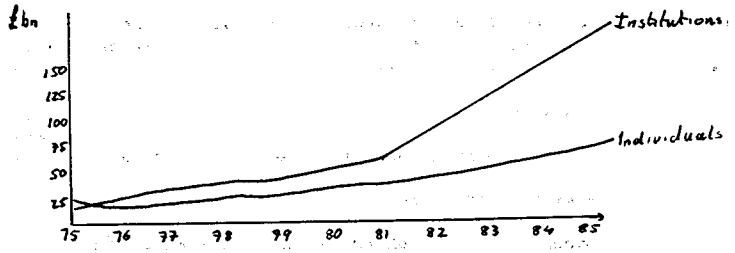
Pre Big Bang equity commission rates had many hidden extras built in. For example, most of the major stockbroking firms carry out large scale research on domestic and foreign companies, and also into market trends and movements. The major financial institutions were sent these papers whether they requested them or not, and of course were obliged to pay for them through the fixed commission. However, from now on, the institutions will pay only for the research which they expressly request. The impact of this is going to be that many broking firms, which relied heavily on research fees, may go out of business or become the object of take-over bids. The main City investors are looking forward to major declines in the price of their equity dealings which stood at over £100 million in 1985. For example, Standard Life, a life assurance company, expects its equity bill to fall by 30%, the Electricity Supply pension fund expect a drop of 25%, pension funds of British Gas by 50%, and those of the Post Office by as much as 60%.

Therefore, it can clearly be seen that the mighty financial institutions certainly had reason to cheer the Big Bang. However, what about the small private investor? What has he, if anything, to gain from Big Bang?

Many brokers, forced to reduce prices to the major investors, will be turning to the small scale investor to try and offset their losses in revenue.

As the chart shows, small investors have really returned to the Stock Market in the past five years or so:-

Value of shares held by individuals and institutions



In 1966 2.5 million people in Britain held shares directly. Now over 4.5 million do. Obviously the much publicised share sales of British Telecom, T.S.B. and British Gas have helped this trend. Also, more and more firms have started giving employees shares as part of their remuneration as a policy of promoting industrial harmony.

All pre Big Bang deals of up to £7,000 carried a commission of 1.65%, subject to a minimum rate of £12. This meant that the ill-informed investor, who took up many hours of his brokers' time having the whole Stock Market process explained to him, was charged exactly the same price as the experienced amateur, who knew what he wanted and simply informed his broker what to buy and sell on his behalf. After October 27th, brokers will cater for three types of investor:-

1) Knowledgeable punters, who want a 'no frills' service, commission likely to be around 1%.

2) Discretionary clients - those who will permit the broker to invest on their behalf.

3) Advisory clients - those who want to be consulted before a broker deals for them. They will have to pay more for this detailed service, either in the form of higher commission or an annual management charge.

As mentioned above, the unique system of having brokers and jobbers trading with each other on the floor of the Exchange, is going to be abolished on October 27th. Single capacity will go, and from that date dual capacity will be permitted. This has led to some major broking firms taking over jobbing firms, and some investment banks have taken over both. For example, Barclays de Zoete Webb was formed by the amalgamation of Barclays merchange bank with the stockbroking firm de Zoete Bevan and the leading jobber Webb Durlacher.

The final explicit aim of Big Bang is to introduce competition into the Gilts market. Under the old system, Mullens acted as the government broker, issuing government securities. The two jobbers, Webb Durlacher Mordaunt and Ackroyd Smithers dominated market making. Now, any broking firm can apply to the Bank of England for a licence to become an official primary gilt dealer. Licences have already been granted to 29 firms

permitting them to deal from October 27th. However, it seems very unlikely that a market, which hitherto only had to support one firm, is going to prove profitable for all 29. It seems inevitable that some firms will be forced to drop out (two already have) and those that remain may merge or be taken over by their larger competitors.

New York's equivalent of Big Bang took place on May 1st 1975. As already explained, the New York Stock Exchange has always had dual capacity, so the main changes that occurred were:-

1) The abolition of fixed commission on share transactions.

2) The approval of public ownership of the New York Stock Exchange member firms.

Prior to 1975, stockbroking firms competed with each other on the quality and level of services offered. When price competition was introduced, many money managers of pension funds decided they would prefer lower commissions instead of highly expensive services. They sought out the big retail brokerage houses and investment banks which were efficient enough to provide good research facilities at low prices. Many of the smaller firms, known for their quality, but expensive, research services have disappeared (e.g. Baker Weeks and Clark Dodge).

As well as leading to a much greater range of prices and services, Big Bang in New York resulted in a massive increase in the level of business on Wall Street. The net profit of NYSE member firms totalled $2.1 billion in 1985, compared with $415 million in 1975. Also since May 1st 1975, the number of people employed in the securities industry in the U S has increased from 171,300 to 366,900. However, as with any policy issue, Big Bang was not Pareto efficient, there were both losers and gainers as a result of it.

Among the losers are the individual investors who, requiring detailed and frequent investment advice from their brokers, must now pay considerably more for this service that previously. The has resulted in a sizeable reduction in the number of individual investors on Wall Street. Some have left because they can no longer afford the necessary services, while others have switched to collective ownership by getting involved in mutual funds or retirement schemes, rather than holding their own portfolios. This shift has meant that the market has become even more dominated by financial institutions. For some stock market commentators, this is seen as a positive step, while others view it with regret.

Also counted among the losers are the middle to small sized brokerage houses. The larger and more efficient brokers have managed to squeeze them out by offering a much more attractive package of a wider range of financial services at a lower price.

The obvious gainers, as in the case of London, from the new regulations, have been the major financial institutions. They are now able to use their size to negotiate better rates with the broking firms. It is estimated that in the U.S. their trading costs have fallen by 70% as a result of price de-regulation. As a result of the lower rates, these major investors now trade more actively than previously. More than 60% of the stock in the portfolios managed by financial institutions is turned over every year.

The other main gainers have been the investment banks offering specialist advice in the field of mergers and acquisitions, underwriting initial public offerings etc. These banks, which can command sizeable fees for their specialist services, have enjoyed a major increase in business as a

result of the increased activity on the Stock Market. The rewards for handling the sale of a client company's shares, and the distribution of those shares, can be a commission 5 - 7%.

Therefore, if New York's experience of de-regulation over the past fifteen years is anything to go by, at the end of the century, London will have fewer, stronger brokers-cum-merchant investment banks offering cheaper services to a market dominated by institutional money handled by hyper-active money managers. Individual investors will pay more to receive less."

The Indirect Effects of the Big Bang

In this section I want to look at the more far-reaching effects of Big Bang. I have already discussed the main changes which occurred on October 27th. However, these changes are going to have a far greater effect on the way the City conducts its business than may appear at first sight.

I have explained the reasons for the whole-hearted welcome the financial institutions have given the Big Bang. It is expected that they will no longer spread their buying and selling orders across as wide a range of firms as they have to date. In future, it will be to their advantage to deal only with 6 or 7 of the larger brokers, using the smaller specialists only occasionally. Obviously, by doing this, the institutions can hope to negotiate much better commission reductions, they will be looking for the cheapest and most efficient dealers, particularly when choosing a broker agency. This means they will favour firms with a strong efficient back room. This will leave the small to middle size stockbroking firms in a fairly difficult position. They will be unlikely to be able to compete on cost terms. Those that have well-developed research departments may be the subject of take-over bids from the larger firms or the investment banks. It should be emphasised that these large, successful broking firms may not be British and are very likely to have a reasonable number of foreigners among them. Thus Big Bang is going to accelerate the process of removing the City from British ownership.

If the American experience is anything to go by, and there is no reason to believe things will be any different in London, Big Bang should lead to a considerable increase in the volume of trading. Merrill Lynch anticipates the increase could be as much as threefold. Increased market activity will result in much greater fluctuations in share prices. To try and counteract this, firms are going to have to be far more open with their investors than before. They will need to give them detailed information on all present projects in an attempt to prevent shareholders panicking and selling when these fluctuations occur. For many of the larger British firms, who already spend a great deal on informing their investors, the above result will not require the taking of any immediate action. However, for others, it will require spending considerable sums on the development, or in some cases, the establishment, of research departments.

One of the more concrete effects of Big Bang is the emergence of a new type of company for investors to deal with - the market maker. Market makers will be part of large broking firms which are in turn, likely to be owned by one of the leading investment banks.

> "They will display their prices on a nation-wide screen linked to the Stock Exchange Automated Quotations System (SEAQ). They can take large positions in a share, becoming in effect, short term investors. Companies will have to build direct links with them, they could cause

huge swings in share prices."(*1)

I have already mentioned that the small stockbroking firms may have something to fear as a result of Big Bang. However, they will not be alone. Many other institutions, such as some of the British Merchant Banks and even the clearing Banks are going to find it difficult to compete with the foreign competitors, most of whom have always operated in a dual capacity market. The American and other foreign giants also have a much greater capital base than most of the British banks (except of course, the four clearing banks). This allows them to take greater risks and to weather short term losses more easily. These two characteristics, along with the fact that most foreign banks, who unlike their British counterparts have long experience in government bond trading, will give them a definite advantage in the gilt market. Five banks altogether, Citicorp, Chase Manhattan, Security Pacific, Bankers Trust and Morgan Guaranty are all setting up primary gilt dealers in London. The British banks have less to fear from the foreigners, at least for the present, in the equity markets. Few foreign banks have acquired stockbrokers, and those that have, have no previous experience of the equity market (eg Citicorp). However, the above situation is unlikely to remain indefinitely for two reasons:-

1) Last year British Corporations raised £5 billion in new equity. With the level of fees charged by Investment Banks, it is doubtful that the foreign banks are going to remain spectators for long.

2) As the full advantage of having access to SEAQ, (through membership of the Stock Exchange) the screen system where blocks of shares are advertised simultaneously on the screens of all members, are fully realised. The system will greatly facilitate exchanges by reducing information costs considerably. Those outside the sytem could find themselves paying premium commission rates to members in order to participate.

One long term effect of Big Bang is certain, it is going to totally change many long standing City relationships. Up to now, if a company wished to go public or make a rights issue, it would go to a Merchant Bank to underwrite the new share issue and to a stockbroker to price and place the shares. However, due to Big Bang, some stockbrockers have already been taken over by Investment Banks, and as explained above, the number is likely to increase if anything. Thus, this once clear dividing line between the two trades has been blurred. So large companies, such as I.C.I., might be encouraged to dispense with long standing relationships and start experimenting with those foreigners who offer 'package deals' and are also likely to be considerably cheaper.

Finally, Big Bang has allowed the physical side of the City to expand. Since firms no longer need a broker on the floor of the Exchange in order to deal, many major banks such as BZW are moving to new headquarters outside the traditional square mile. This trend could eventually lead to the disappearance of the City as we know it today!

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*1 'The Economist', September 13th, 1986.

Fiscal policy in fixed price regimes

Kevin Carey

This essay is a brief introduction to an area of economic analysis that was rather popular during the late 1960s when Keynesianism was at its height. Fix-price analysis was an attempt to establish solid microeconomic foundations for Keynesian macro-theory. Unfortunately, however, these microfoundations proved to be fertile ground for the resurgence of classical economic conclusions, as the "rational expectations revolution" demonstrates. In the essay, I will follow the particular variant of fix-price theory outlined by Malinvaud (*1), whose book contains a particular emphasis on the policy conclusions that can be drawn.

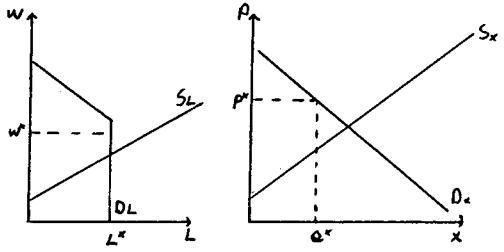
As its name suggests, fix-price theory involves the assumption that neither price nor wages move to clear markets. Depending on the price and nominal wage levels that the economy finds itself with, it can end up in one of three states (strictly speaking there are four, but the fourth is of little interest). What I propose to do is outline the characteristics of each of these cases, which then makes analysis of the effects of fiscal policy relatively simple. We concern ourselves with a representative firm and a representative consumer and analyse the effects of "disequilibrium" prices and wages. I use the word "disequilibrium" tentatively, because the analysis is equilibrium analysis in so far as a consistency exists between decisions - as Malinvaud says, this is equilibrium analysis with a specific concept of equilibrium. That this is so is illustrated by the nature of the diagrams which are "simultaneous diagrams" - the analysis of the labour market depends on what is happening in the goods market and vice versa. Two things should be noted at this stage. Firstly, given certain assumptions about the form of rationing that will take place at nonequilibrium prices, the short side of the market dominates. Secondly, the wage referred to is the nominal wage, thus the curves are drawn for a given commodity price.

Given our 2 markets there are 4 possible disequilibrium outcomes, which can be neatly summarised in the table below:

		Goods Market	
		Excess Supply	Excess Demand
Labour Market	Excess Supply	Keynesian Unemployment	Classical Unemployment
	Excess Demand	-	Repressed Inflation

The reason for the labelling will become clear.

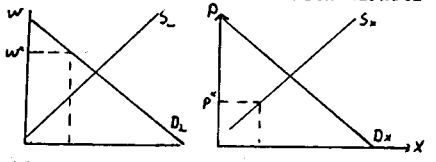
In the Keynesian case, both markets are buyer's markets. P = P* is "high", so there is excess supply in the goods market. Firms are thus rationed in the sense that they can only sell Q*. Q* in turn implies a level of employment L* (through the production function). L* is an "effective" demand for labour since the firm cannot sell all it wants (as opposed to a notional demand/supply where the



*1 E. Malinvaud, The Theory of Unemployment Reconsidered.

agent is unconstrained on other markets). Workers are unconstrained on the goods market and thus offer a notional supply of labour, and because W* is "high", L* is less than the notional supply. The crucial point is that even if the wage was to fall employment would not increase, because firms are constrained in the goods market. This is why the demand for labour is vertical at L*. At wage levels higher than W* the 'notional' demand for labour is operational. The problem with the system is that given P*, W* is too high and vice versa. Or put differently, the economy is suffering from deficient demand.

In classical unemployment the labour market is a buyers' market but the goods market is a sellers' market - firms are unconstrained in both markets and consumers are constrained in both. P* is "low" so there is rationing in the goods market, causing consumers to substitute consumption for leisure. W* is "high" so that the firms' notional demand for labour is less than the effective supply of labour. The problem now is that given W*, P* is too low, and given P*, W* is too high, i.e. the real wage is too high.



Finally in repressed inflation P* is "low" so there is an excess demand for goods, again causing workers to offer an effective supply of labour. W* is "low" so this effective supply is less than the notional demand for labour. This results in firms being constrained on the labour market. It is this which lies behind the shortage of goods in the first place. The reason for describing this equilibrium is clear - there are excess demands but they are not effective.

Having set out the characteristics of each case, policy analysis is relatively simple. By the very description of the problem in the Keynesian case as "deficient demand" it should be obvious that fiscal policy will have beneficial effects. Fiscal policy relaxes the constraint in the goods market by increasing Q*. L* in turn increases i.e. the firm employs more labour. This in turn relaxes the constraint on workers in the goods market - there is a multiplier effect on output as demands are made effective. Not surprisingly, classical unemployment is not amenable to such a solution. To deal with this case, I will assume that the government is not rationed. There is already an excess demand for goods, so fiscal expansion makes things worse. By assumption, it will displace private sector expenditure by the amount of the fiscal expansion. Workers will thus be even more constrained in the goods market and will reduce their effective supply of labour, thus reducing unemployment. The correct approach in this case is to get the real wage down. So far, I have discussed fiscal policy in terms of an increase in government expenditure. But in the repressed inflation regime a reduction in government expenditure is called for since there is already an excess demand for goods. This raises the amount of goods available to consumers, who therefore raise their labour supply, allowing employment to increase, and in turn the supply of goods.

Finally, some general comments. Firstly, note the similarity between conclusions here and those of the IS/LM unemployment policy debate. In the Keynesian case, the solution is increased government spending, and in the other cases it will not help. But the Keynesian analogy should not be carried too far because in conventional analysis, increased government spending solves the unemployment problem by reducing the real wage. In fix price theory, this, by definition, cannot happen. This analysis was used in some form from the late 50s to the early 70s by economists such as Clower, Patinkin, Barro and Grossman. It is interesting that Barro has

since become a key figure in the rational expectations school, which was born out of the quest for microfoundations. The major problem the theory always had was explaining why prices owuld be so rigid, despite supportive evidence. It is unfortunate that fix-price theory did not focus attention on the wider arguments of Clower and Leijonhufvud, who were basically arguing that the absence of tatonnement in the real world could explain price rigidities, and that this was the message of the General Theory.

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Majority Voting and Single Peakedness

John Fingleton

Majority Rule is a method of decision making which is widely used and almost universally accepted as being "good", useful or fair. It is important, therefore, that we examine the underlying rationale for the acceptance of Majority Voting as a legitimate method of social choice and that we investigate the circumstances in which its use can be justified. In this latter context we shall largely be concerned with the issue of Single Peakedness. My approach will be to discuss, firstly, voting systems and the desirable properties they should have as collective choice mechanisms, and, secondly, the issue of Single Peakedness as it pertains to the successful formulation of social preferences.

A Social Welfare Function is a rule or process which, for each set of individual orderings of a group of alternative social states, selects a corresponding social ordering of the same social states. The first issue raised by this definition is whether or not it is rational to speak of society having preferences.

In the event that every person in a society prefers social state x to social state y it is generally accepted that society, as a unit, prefers x to y also. However in a case where a majority (i.e. over half) prefer x to y it is not at all so clear that society should prefer x to y. In particular, if the choice of x results in disutility to those who prefer y (the minority) greater than the majority's utility (in x) then the counter-argument that society prefers y to x because aggregate utility is higher might be valid.(*1) Another problem with accepting that the preferences of a majority should determine those of society, is that paradoxical cycles in society preference structures are obtainable. Clearly these two issues must be considered further in the development of a satisfactory Social Welfare Rule.

A number of different voting systems have been proposed which might be useful as Decision Rules. I intend to briefly outline some of these and then discuss their desirability as Social Orders.

A. Borda Count System:
This method involves the individual assigning values from 0 to n-1 to the n social states under review. For 3 alternative social states, an individual would assign the integers 0, 1 and 2 to the states. It therefore implicitly assumes that utility is cardinal because a score of 2, with twice the weighting of a score of 1, implies the individual prefers the former twice as much as the latter. However, despite this limitation, this system, and others with different weightings, do take account of intensity of preferences to a certain extent. It is not, in any case, a method of majority voting.(*2)

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*1 I do not wish to suggest that utility may be aggregated or analysed in this manner. My purpose is to show that a majority outcome is not unambiguously 'best' for society.

*2 The following preference structure will illustrate this:

Individual 1	x,	y,	z,	w.	x gets 6 points
Individual 2	x,	y,	w,	z.	y gets 7 points
Individual 3	y,	z,	w,	x.	z gets 3 points
	(3)	(2)	(1)	(0)	w gets 2 points

y wins despite the fact that a majority favours x. y might be thought of as the least-worst alternative.

B. First-Past-The-Post
This system is not strictly a Social Welfare Ordering because it does not give an ordering of preferences for Society. It does however select that state with the highest number of votes and is in common use (eg the UK elections to Parliament). The system is very susceptible to strategic voting.(*1)

C. Knock-Out System
This involves the elimination of the least preferred alternative and then proceeding to a new round of voting until there is one alternative left. Under certain circumstances this system is identical to the Proportional Representation method (used, for example, in the Republic of Ireland).(*2)

D. The Committee System
The method here is to compare pairs of alternatives. In particular, the alternative preferred by the majority from the first pairing is then run against another alternative and so on until a winner emerges. At small group level (eg up to 20 people) this method is often used. It is important because most political and economic decisions taken on a day-by-day basis are the result of this method.

We should note at this stage that B, C and D are all majority voting systems in the sense that if a majority of people prefer x to y then each of these systems will select x as preferable to y. A is not, however, a majority voting system in this sense (as mentioned in footnotes above).

The following properties are often considered to be desirable in a voting system or method of decision making.

1. If state x is pareto superior to state y then x should be chosen over y. Clearly A, B, C and D all satisfy this condition because there are no losers to vote against x and at least one gainer who votes for it.

2. Everybody's preferences are accorded equal weight or importance. This precludes dictatorship which many consider undesirable anyway. It is controversial because intensity of preference is ignored.(*3) For

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*1 To see how strategic voting is favoured take the following example:
i = 1 ... 5: x, y, z.
i = 6 ... 9: z, x, y.
i = 10, 11: y, z, x.
The incentive to the last two individuals, if they know y is not to be chosen anyway, is to vote for z so that, a) their preferences will count in the selection, and, b) z will be chosen instead of x.

*2 The systems are the same except for the fact that individuals using the knock-out system may behave differently than their preferences suggest they should, because all of their preference structure is not revealed simultaneously as it is in the PR system.

*3 The issue of intensity of preferences is important because if we could incorporate them we would have "natural" winners which are so by virtue of being best for society in the pareto sense. It should also be noted that two types of intensity exist, one within individual preference structures between the alternatives and the other across individuals for a particular alternative. The former might be taken account of in the Borda System where it may be seen that despite a majority acceptance an alternative may be rejected. Condition 2 is a trade-off with the latter.

example, at the extreme it denies the right to a veto of a small (minority) group or even an individual. It is, nonetheless, generally considered acceptable by default, i.e. simply because usually no better suggestion as to weightings of votes can be made. (*1)

3. All logically possible preference structures of individuals should be admissable by the procedure i.e. the domain of the decision rule should be unrestricted. Thus any preferences, however unlikely and/or inconsistent they may appear, must be respected as legitimate.

   All of our voting systems agree with conditions 2 and 3.

4. Irrelevant alternatives should not influence the outcome between any two states. For example, a system choosing between states x and y should rank them similarly regardless of the inclusion or otherwise of any third alternative z which is irrelevant (in the sense of not being a substitute or a complement for either x or y). Each of the systems B, C and D fail to satisfy this condition if the domain is unrestricted. (*2)

5. A complete ordering of all alternatives for society should be the outcome and this ordering should be transitive so as to be meaningful and useful.

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*1 For example, intensity is taken account of by the EEC Council of Ministers in allowing a veto on affairs of vital national interest. This is to change.

*2 An example is as follows:

i = 1, 2	:	x,	y,	z.	x P y
i = 3	:	z,	x,	y.	x P y
i = 4, 5	:	y,	z,	x.	y P x

In a contest between x and y (z excluded) x wins. Including z yields the result in the committee system that z beats x and y beats z so y is chosen. Solutions to this problem find support in strong chairmen or strict agenda rules to prevent this type of voting cycle.

Under the first-past-the-post system with the following preferences,

i = 1, 2	:	z,	x,	y.	x P y
i = 3, 4	:	x,	y,	z.	x P y
i = 5, 6	:	y,	x,	z.	y P x
i = 7	:	y,	z,	x.	y P x

In a simple contest between x and y, x wins 4 to 3.

Including z we get

x	2
y	3
z	2

so y wins.

This might explain why there is discontent among the SDP/Liberal Alliance in the UK with the first-past-the-post system.

Of the four systems mentioned above, no two will always produce the same result for all possible domains so at best only one of them can be a useful decision rule. This is clear because the acceptance of two decision rules which might produce different outcomes would defeat the purpose of social choice.

In fact, it is not just the four systems which I mention here which fail to satisfy the conditions but, as Arrow's Theorem proves, no voting system exists which satisfies them. Thus one of the conditions must be foregone in order for society to arrive at a decision between alternatives.

If the emergence of a complete, transitive ordering of social states is the object of this exercise then condition 5 must remain. Various relaxations of the other conditions have been suggested. For example, a dictator might be allowed, or an end-state assigned by computer, or various other means would produce a social ordering. However the loss in consumer sovereignty would be great.

A different approach would be to see which, if any, of the conditions is a lesser constraint on the process than any of the others. The result of this line of investigation reveals that condition 3 of unrestricted domain only matters some of the time so we proceed further.

We can illustrate Arrow's theorem using the committee system of voting and an example of a preference ordering as follows:

i = 1 x > y > z
i = 2 y > z > x
i = 3 z > x > y

(">" = "is preferred to")
i refers to an individual.

In a contest

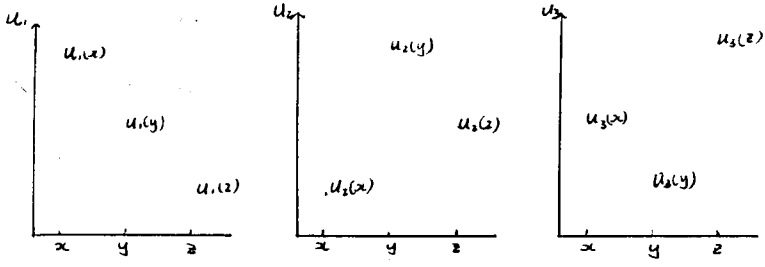
x vs. y => x wins
x vs. z => z wins
z vs. y => y wins

So x "Psoc" y "Psoc" z "Psoc" x etc.

("Psoc" = "is preferred by society to")

This particular preference configuration produces a meaningless result for society. I intend to show that if we prohibit inclusion of such a structure of preferences (known as Latin Square Design) we get a transitive social ordering.

If we show this preference structure in utility space it looks like this:

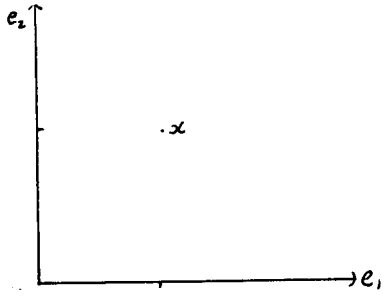


(No figures or values may be placed on the utilities above and the vertical axes in each diagram are not necessarily connected).

If the alternative social states under discussion are all located along a single dimension in space then there is a property of the orderings, called single peakedness, which, if it holds, makes majority voting (a la committee system) transitive at best and acyclic at worst. In terms of the utility diagrams above we may define single peakedness as requiring the existence of an ordering of end-states such that (for that ordering) each individual's utility function for the alternative end-states is unimodal (i.e. single peaked). It is important to emphasise that it is a property of the orderings not of the utility functions. Single peakedness precludes the Latin Square Design so some alternative is never worst, and, by ordering the alternatives such that this alternative is in the middle, we will get unimodal utility functions.

In terms of actual alternatives this is tantamount to saying "If i prefers x to y, then i prefers any point between x and y to y itself". For example, if x is £10,000 expenditure on roads and y is £20,000, then £15,000 or £18,000 are preferable to £20,000. Single peakedness of preferences would, therefore, seem to be a reasonable assumption to make in economics. The assumption simply states that those preference structures where the committee system is indecisive are so rare and unlikely that they may be ignored. Under Single Peakedness, therefore, majority voting constitutes a Social Welfare Ordering.

Often, however, a group must decide on two types of issue simultaneously and the alternatives may be located in two-dimension space.



Point x in this diagram represents levels of e1 and e2. If x is individual i's most preferred alternative then we may discuss the two-dimension analogue of single peakedness with respect to point x here. Point x, if preferences are single peaked should be enclosed by iso-utility lines which should be convex, continuous, and thin (i.e. each point on the line touches two and only two other points). Even with this assumption in the two-dimensional case, transitivity of preferences for society can only be guaranteed by other highly limiting assumptions. As an example of this consider a three-dimensional case of three individuals allocating society's wealth between them.

Distributions of wealth may be represented by vectors and imagine that the following alternatives are proposed:

A: (0, 1, 2)
B: (1, 2, 0)
C: (2, 0, 1)

A vs. B => B wins because two people better off
B vs. C => C wins because two people better off
C vs. A => A wins because two people better off

Thus two people can form a blocking coalition for any distribution. This scenario is quite realistic and illustrates that the multidimensional analogue of Single Peakedness is an untenable assumption.

In conclusion, therefore, it is clear that there is a serious problem in Social Choice Theory, namely that no satisfactory decision rule exists which possesses a given set of basic desirable properties. We have mentioned one example of a possible solution to this problem (i.e. single peakedness), whereby the committee system of majority voting may constitute a Social Welfare Ordering. Single Peakedness is a special case however, alternatives are required to be unidimensional and this is not always a reasonable assumption. Clearly, the biggest problem, that of intensity of preferences being ignored by voting systems, has not been properly addressed here nor indeed in the theory and practice of decision making. I feel it is lateral thinking in this and other directions in Social Choice Theory which should be highlighted, especially in view of Arrow's nihilistic findings.

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On the Assumptions and Methodology of Economic Theory

Trutz Haase

Introduction

> "The assumptions made in microeconomic theory are so unreal as to render the theory useless for analysing real economic problems." - discuss .

Economics is often described as the most 'mature' of the social sciences, or the 'hardest' amongst the 'soft' sciences. To discuss the justness of this claim, I will look in this essay at the most elementary concepts of economic theory. Whilst the complexity of mathematical formulae is wholly without content it is the most elementary concepts which contain the systems of economic relations in its entirety, i.e. the relations of value, exchange and capital.

The object of this essay is to clarify the nature of economic knowledge and its related capacity to predict real economic problems.

Value in Classical Theory

In drawing out the connection between labour and value Adam Smith succeeded in "Wealth of Nations" to set the starting point of economic theory. But the ideas, as expressed in the word 'value', have since remained rather metaphysical.

> "The word 'value', it is to be observed, has two different meanings, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be claled 'value in use'; the other 'value in exchange'." (*1)

But according to Marx,

> "... it is one of the chief failings of classical economy that it has never succeeded, by means of its analysis of commodities, and, in particular, of their value, in discovering that form under which value becomes exchange value." (*2)

Classical theory equates value and exchange-value denying thereby any analytical ground for exchange-value and its monetary forms. One reason for the failure of classical economics to investigate the commodity form lies in the fetishism that surrounds commodities themselves. This means that a definite social reation between men assumes, in their eyes, the fantastic form of relations between things, i.e. their own social action takes the form of actions of objects, which rule the producers instead of being ruled by them. (*3)

This critique by Marx is itself typically classical inasmuch as Smith himself had often criticised the popular conception of economic life for not drawing a conceptual distinction between appearance and reality. And

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*1 A. Smith, "Wealth of Nations", Vol. 1, p. 24.

*2 K. Marx, "Capital", Vol. 1, p. 80.

*3 K. Marx, "Capital", Vol. 1, p. 72, p. 75.

the project of classical theory to demonstrate that the social relations of capitalist production exist only as forms of the real relations of man to nature is equally shared by its Marxist critique.

Utility in Neo-Classical Theory

Whilst classical economics grounded value in nature, neo-classical theory eliminates this essential distinction between value and exchange-value and distances itself from the conception of value as a relation which requires a social grounding intrinsic to the commodity. The whole emphasis in the development of neo-classical theory was not upon the structure of the system but upon its internal working. The theory of relative prices became the almost exclusive subject of discussion.

Yet utility is a concept of impregnable circularity:

> "... utility is the quality in commodities that makes individuals want to buy them, and the fact that individuals want to buy commodities shows that they have utility." (*1)

In contrast to 'desire' or 'satisfaction' which can neither be measured directly, utility is purportedly a quantity which consequently can be spoken of in total, average, and marginal terms. But despite this mathematicization and all further refinements the concept remains essentially metaphysical. Neither does the concept of revealed preferences provide any scientific ground for the theory. The standard examples of paternalism (like drug abuse etc.) show that the preference in the consumption of commodities is primarily socially and not naturally determined. Similarly the claim that market behaviour reveals preferences can easily be questioned as it leaves aside the crucial question of what influences preferences (e.g. information, habit, advertising etc.).

In the end of the day one might even claim that the dilemma of neo-classical economic theory is a preoccupation with raising the respectability of profits to the same level as wages. Everyone is simply maximising something, the household utility and the firm profits. (*2)

The Myth of Objectivity

> "The single most important discovery of social science in these last decades is that social science does not yield the kind of knowledge of society - and the kind of power over society - that the natural science possesses vis-a-vis the natural world." (*3)

An important advance in the development of the methodology of science was arrived at through the works of T. S. Kuhn. Kuhn suggests that scientific knowledge does not develop in a linear fashion, but in uneven movements. According to this theory, most of the time scientists are not concerned with the testing of the underlying assumptions of their theorems, but are involved in the applications of these paradigms in an even greater context. This process he called 'normal science'. Though Kuhn did not relate his theory to economics in particular, the Marshallian cross diagram of inter-

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*1 J. Robinson, "Economic Philosophy", p. 48.

*2. ibid., pp. 57 - 58.

*3. Irving Kristol, "The Observer", 4. October 1964.

secting supply and demand curves provides a perfect example. Only at particular times, when existing theories are evidently unable to explain prevalent circumstances, scientists are willing to look for theoretical explanations beyond the prevailing paradigms and new hypotheses are generated. It is only this period of 'extra-normal science' which is comparable with the orthodox view of what happens all the time. The contrast of this view of economic science with the positivist view is striking and lets many introductory chapters of economic textbooks on the scientific character of positive economics look rather thin. (*1)

Whilst Kuhn provides some explanations for the history of economic thought and reinforces that science is the activity of making testable statements, the most important point that one can take from Kuhn is possibly that

> "... economic scientists do not spend their time testing directly or indirectly the assumptions on which the theory is based." (*2)

The empirical work in which they engage is by and large related to matters of detail. And in the case of findings that conflict the underlying thesis these tend to be explained as imperfections to the unquestioned theory in general.

Accepting Kuhn's theory of paradigms and the historical relativity of fundamental theorems one question arises: Are there any objective criteria which can be used for ultimately showing which of two competing theories is the superior one?

Some important considerations on these questions are expressed in the works of Karl Popper, who generally held a sceptical view towards the social sciences.

> "There is very little in the social sciences that resembles the objective and ideal quest for truth which we meet in physics." (*9)

Yet at the same moment he was over-optimistic in his views upon economics, believing that mathematical economics had qualitatively changed its character. But the mathematical 'revolution' in economics has been one almost entirely of form and, following Kuhn, has been only marginally involved in the empirical testing of its fundamental assumptions.

Though Popper develops his view in contrast to the Vienna School (positivists), one can argue that Popper himself proposes an essentially positivistic view. Firstly, in that he takes it for granted that the attempt to develop economics along naturalistic lines is desirable. Secondly, in that he presupposes the existence of objective truth conditions within the social sciences and therefore reduces the problem of the social sciences to the question of their testability. For finding the 'right' theory he then suggests the competition of ideas amongst various scientists in the adequate journals, conferences, etc.

The flaw in this comparison between economics and the natural sciences and

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*1 Lipsey's "Positive Economics" provides a particular dogmatic example of this.

*2 F. Green, P. Nore (eds.), "Economics - An Anti-Text", p. 10.

*3 K. Popper, "The Poverty of Historicism", p. 16.

the methods, tactics and criteria appropriate to them is that it neglects the vital differences in the nature of the basic materials with which they are engaged. The difference lies in the fact, firstly, that the subject of the natural sciences precedes man, whilst the subject of the social sciences, including economics, is manmade and therefore in its particular form dependent upon the particular historical social relations. Secondly, as in the social sciences, the scientist is not untouched by the subject matter, every statement will inevitably be influenced by his own interests and ideology.

Popper's ideas have been substantially criticised by members of the Frankfurt School, in particular by Theodor Adorno and Jurgen Habermas. In the dispute on positivism (*1) Adorno holds tha tit is not enough to question whether the method sof the natural science are appropriate to the social science, but that it is necessary to question whether science itself is an adequate form by which social relations can be understood. Science has no theory of knowledge by which it can position its own existence. Science is an example of knowledge as such allowing scientism to be the only possible form, thereby creating an inbuilt circularity by which knowledge becomes validated only internally.

Tom Bottomore identifies three major criticisms of positivism as a theory og knowledge or philosophy of science, which can be especially related to economics:

(a) that it treats active human beings as mere facts and objects within a scheme of mechanical determinism;

(b) that it conceives the world only as immediately given in experience, and makes no distinction between essence and appearance. But appearances are nothing more than arbitrarily chosen facts of social reality;

(c) in being concerned only with appearances, positivism is essentially conservative and can be best understood as constituting a new form of domiation (technocratic domination or domination by instrumental rationality). (*2)

In contrast to positivism, dialectic and Critical Theory try to develop a system of practices in which science is not the only possible system of knowledge, and which tries to relate knowledge back to its individual purposes. In contrast to scientism and positivism it integrated knowledge with interests and is aimed at an emancipatory role in the development of human society.

Some Questions that arise:

Based on the previous theoretical considerations I will now raise some quesitons about fundamental assumptions in microeconomic theory.

Is positive economics as valuefree as it claims to be?

First of all I would agree with Popper who already pointed out that the

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*1 T. W. Adorno, "The Positivist Dispute in German Sociology", 1969; (English 1976).

*2 T. Bottomore, "The Frankfurt School", p. 16.

call for valuefreedom is paradoxical inasmuch as scientific objectivity and valuefreedom are values themselves. Secondly, I would disagree with Popper who sees the objectivity of science in the objectivity of the method of trial and error. As the subject matter (i.e. economics) is socially determined and therefore does not precede its investigation, a method that is only concerned with appearances is inevitably conservative, as it only tries to interpret the status quo but does not investigate the status quo in terms of its adequacy in shaping human society coherent to its potentials. Social sciences cannot and should not be valuefree and the common distinction between positive and normative economics is a false dichotomy.

Is it adequate to take the individual as basic unit of analysis?

Since the 1960s orthodox theory had come under attack from Cambridge, England, which tried to contradict neo-classical theory in its own terms. The point that P. Sraffa and others weremaking was such that the rate of profit is not solely determined by technology but thast the distribution of income has equallyto be taken into account. (This they rather narrowly defined as class struggle without which they held neo-classical theory being incomplete). But this was partial-equilibrium theory, which they had criticised. General-equilibrium theory is internally consistent. Where Cambridge, England, claimed that a theory of class struggle was needed, Cambridge, Massachusetts, explained the determination fo factor prices (within a general-equilibrium framework) by individual preferences for leisure rather than for labour and comsumption now rather than later. Thus, precisely by returning to the consistency of its individualistic basis, orthodox theory was defended; at least against a critique of internal inconsistency. But it left unanswered the question of where these preferences and endowments came from. People do what they most prefer to do. What people most prefer to do is what they do. There is no way out of this circularity without a theory which is able to determine people's tastes and explain how these change over time.

There are two more fundamental criticisms on orthodox theory. Firstly, it cannot explain the process of change in society. The capitalist mode of production is not unique. It has neither been always followed, nor is it one that is followed in all part of the world at the present time. But orthodox theory is incapable of explaining why there are different social relations of production and what determines the change from one system into another. Secondly, like any other social theory that grounds itself on the individual as basic unit, orthodox economics is neither able to explain social institutions, nor is it able to account for power relations within society. The former becomes particularly clear at a time when the state plays an ever greater role in economic life. (*1) The latter is related to the appearance that the worker disposes of his labour-power according to his own free will. But this is a mere appearance, an illusion, whose reality is that the worker is forced to sell his labour-power as he is disowned of the means of production.

Conclusion

Are the assumptions made in microeconomic theory so unreal as to render the theory useless for analysing real economic problems?

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*1 This subject rather involves a critique on the assumptions of macro-economic theory and is dealt with in my essay in social theory on the role of the stage as 'collective capitalist'.

From the preceeding parts it should have become clear that there are limits as to what extent orthodox theory is able to explain the very existence of the form of contemporary social relations and the prevailing features of economic life. The relation between methodological injunction and object of study is not one of externality, as is the case with an abstract rule applicable to any content whatsoever. It is rather a relation of adequacy between object and method, the character of the latter being detmined by the structur eof the former. In other words, orthodox economic theory, presupposing the capitalist mode of production (i.e. the separation of the worker from the means of production and the existence of a generalised commodity production) cannot be used to make any serious statement about the adequacy of the capitalist mode of production in regard to the potentials of human society.

On the other hand the last decade shows a rising demand for economists indicating at least the predictive expectations towards this profession. But, coherent to Kuhn's argument, this market demand exists by and large for economists and econometricians who are predominantly involved in the fabrication of quantitative predictions. And it is this increasing quantification which has methodologically led to an attempt to follow much more closely and explicity the natural sciences.

In my opinion orthodox economic theory is able to quantify and predict economic incidents, as long as the major prevailing parameters remain unchanged. But by its very nature it is unable to predict major changes in the organisation of economic life as these are exogenous to thescope of the applied method. And it is not surprising that every major change during the passt 150 years has so far brought about a new approach in the history of economic thought.

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Controversy Revisited

C. Duffy

Introduction

This essay deals with the writings of J. M. Keynes and their subsequent interpretation by economists. These writings have been shrouded in controversy since their publication over half a century ago. Following the publication of his General Theory this controversy took the shape of what Hicks termed the Mr Keynes and the Classics debate. Three decades ago, it appeared that the terms of the truce enunciated by the Neoclassical Synthesis had resolved the major issues of controversy. A new development in this dispute was ignited by the works of Clower and Leijonhufvud. What became known as the re-interpretation of Keynes opened many old war wounds and resulted in an avalanche of research and writings on the exact nature of Keynes contribution to economics.

This continuing controversy is the subject matter of the present paper. Throughout its long history this controversy has reigned on many fronts - cosmological, empirical, methodological, theoretical etc., and from many different viewpoints - historians, theorists, econometricians. As the following excerpt from Blaug highlights, the dispute has had, in many instances, an air of chaos resulting in many becoming despondent regarding the value of such discord:

> "In retrospect, the Keynesian-Monetarist debate of the last two decades must rank as one of the most frustrating and irritating controversies in the entire history of economic thought, frequently resembling medieval disputations at their worst ... Much of the debate consists of talking at cross purposes and at times it is difficult to remember what it is that is actually in dispute, a difficulty that is even felt by the main protagonists themselves. Running right through the debate is a continuing quarrel about what Keynes actually meant, as if it were impossible to settle substantive issues of economic policy without first deciding how Keynes differed from 'the classics' ... Reading the debate, one sometimes gets the feeling that macroeconomists are more concerned with exegesis of the General Theory than with advancing knowledge of how the economy actually works."(•1)

The conclusion to be drawn from the above is that the controversy surrounding the interpretation of Keynes' writings is futile and fruitless and it diverts attention from the 'real' issues of current macroeconomic policy-making. This view of the controversy results, I believe, from a certain conception of the relationship between history and current economic research and analysis. The polarisation of substantive issues and the historical exegetical question is clear in the above passage. I believe that the implicit hierarchy is of dubious validity i.e. the task of ascertaining 'what Keynes really said' is relegated to the task of the economic historian while the more substantive issues are reserved for the labours of the economic theorist/policy-maker. The dichotomization of theory and history reflects, in turn, a certain understanding of economics as a science, the nature of knowledge within that science and the manner in which knowledge accumulates and is communicated within the discipline of economics. In an essay which attempts to discuss the relevance of past controversies in economics, an examination of the above question is evidently essential.

•1 Blaug, M. (1980) Methodology of Economics, pp 221 - 222.

The attitude to the debate in the above quotation is one which views it as a destructive and diversionary activity. This is not an attitude I share and however understandable it may be, it fails to capture and explore a vital element of the debate. The fact that this irritating and frustrating debate has, in many instances, resembled a medieval disputation does not, to my mind, constitute a sufficient reason for ignoring or neglecting the controversy. What is needed is a fresh perspective on these old facts, a shift in the focus of attention. This essay will not concentrate on the historical-doctrinal question of Keynes, the focus is rather on the way in which the controversy surrounding his writings was conducted and structured. By examining the form rather than the substance of the controversy, by tracing its evolution over time, I hope to show that the Keynesian controversy is no mere sterile debate but one which raises questions of fundamental importance to economics as a science.

The suggestion in this essay is, therefore, that the Keynesian controversy is not simply an irrelevant chapter of bickering but one which, when viewed in the perspective outlined above, offers the possibility of revealing and illuminating many fundamental questions in economics. One's attitude towards this controversy reflects more one's view of economcis as a science and thereby goes beyond the confines of the immediate question. An examination of the underlying assumptions of, and paramaters within which, the debates took place offers the possibility of a self-critical and self-reflective analysis of the past. The essay is structured in accordance with these beliefs. Section 2 examines the relationship between history and theory in economics, asking whether the substance of past controversies is irrelevant for current economics. The remainder of the essay will deal with the 'format' which the Keynesian revolution has taken. Section 3 will examine the characterisation of Keynes in terms of a revolution. It is suggested that this is an incomplete and ultimately unhelpful way in which to interpret the controversy. Section 4 then deals with an alternative representation of the controversy, sketching possibly fruitful lines of analysis. Section 5 concludes the essay, summarising the main conclusions of each section.

Section 2: History and Theory

Blaug's diametrical treatment of history and theory quoted earlier obscures the nature of the relationship between the two and thereby acts as an impediment to exploring that relationship. History is viewed as the realm of dead men's (erroneous) riders while the task of the contemporary theorist is with developing models applicable to the real world. The belief that there is no analytical justification for further exegesis of Keynes' work and that the only reason for such exegesis is a concern that the relative merits of analytical discovery be properly apportioned between economists, is not peculiar to Blaug. Hutchison concludes his paper with:

> "Our main and primary concern in this paper has been with the history of economic thought, that is, with contributing to the formation of a less inaccurate record, which is an important task from the point of view of intellectual standards, and also one not devoid of practical and political significance." (*1)

This simply confirms, as Cesarano notes, that:

> "It is a widely held opinion among economists that the history of the

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*1 T. W. Hutchinson (1977) Keynes v the 'Keynesian' p. 46.

subject is of little relevance to the present day scholar. This opinion is reflected in the sharp decline in interest in the history of economics."(*1)

The cosmological foundation of this neglect of history is open to question. The status of economics as a science is what is in question - is it a 'hard' or a 'soft' science? The neglect of history is clearly related to a movement to view economics as a hard science, on a par with the physical sciences. The quantification revolution (for want of a more appropriate title!) in economics is, no doubt, partly responsible for such a viewpoint; its ascendency may be corrolated with the demise of history. An increasingly sophisticated methodological apparatus gives a false impression of a broadening gap between past and present works in economics.

The most important aspect of such a view of science, in the context of the present argument, is the understanding of knowledge relevant to the science and the manner in which it accumulates:

> "... Implicit in the use of these methods is the positivistic and/or naturalistic view that since no logical distinction exists between the methodologies of the physical and social sciences, economics is a cumulatively progressive science in the same way, as, say, physics. By way of analogy then, an economist need not devote his time to outworn theories of the past any more than his counterpart in the physical sciences."(*2)

The belief that progress in economic theory is cumulative has been embraced rather naively and overenthusiastically by some economists. Such a belief forms the basis of a theory/history dichotomy. As Cesarano points out, the whole concept of cumulativity is ambiguous and its existence within economics dubious:

> "Hence, the awkward question of the existence of convergence towards a 'true' theory can be neglected, since what is at stake is the shape of the Path of Scientific Development (*3) and not the presence of a link between convergence (i.e. increase in knowledge) and increase in 'truth content'. A sufficient condition for the usefulness of the history of a subject is the failure to comply with the requirements of a non-decreasing monotonic development path."(*4)

The issue of the importance of history therefore relates directly to the existence and shape of a PSD in economics. The shape of a PSD will evidently vary according to the field, or specialized sub-field, of study. Only in a situation where the discipline displays a non-decreasing monotonic PSD does the past bear no relevance for the present. Whether or not this is so in economics is a controversial and empirical quesiton which I am not in a position to address in the present context. Three things may

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*1 Cesarano F. HOPE 15:1, 1983 'On the role of the history of economic analysis".

*2 Tarascio, quoted by Cesarno, loc. cit., p 64).

*3 PSD:
Path of scientific development. He says that this may be thought of as a time function of the variable 'stock of accumulated knowledge'.

*4 Cesarano, p. 68.

be noted, however. First, a cursory glance at the history of monetary economics reveals the oscillatory nature of economic doctrines which suggests that old ideas die a slow death in economics. Second, since the hypothesis of a non decreasing monotonic PSD for economics appears to be a rather extreme and stringent one, the burden of proof may be said to rest with those who hold it. Finally, in section 4 these ideas will be dealt with again, once more suggesting that the history of economics, given the particular characteristics of the discipline, is not irrelevant to contemporary economics.

Section 3: A Keynesian Revolution

The previous section has established a prima facie case for the relevance of history within economics. This section develops this argument along the lines that not only is the substance of past theories of importance, the form of those theories are also relevant. Furthermore, it is argued that an examination of the manner in which theories are encapsulated in a particular form presented, communicated and interpreted is both instructive and necessary if economics is to be a self critical discipline.

Perhaps the most familiar characterisation of Keynes' work is in terms of a revolution. Since the publication of his General Theory, economic literature has been replete with examples of revolutions, counter-revolutions, resurgences, revivals. There have been as many revolutions as there have been authors so that the exact nature of the revolution has become obscured, as is its timing - was it notionally with the General Theory but effectively with the works of Clower-Leijonhufvud, perhaps? Even before the publication of Kuhn's work The Structure of Scientific Revolution, Keynes's work had been labelled a revolution (see Klein's work, among others). Since the publication of Kuhn's work the notion of a Keynesian revolution or a revolutionary paradigm has become commonplace in economic literature. Blaug rightly points out that economists' adaptation of Kuhn must be viewed in a similar fashion to their earlier adaptation of Popper and their subsequent embracing of Lakatos. (*1)

Many academic works made oblique reference to Kuhn's work, or employed his terminology, without the full conceptual impact of his work being realised. There developed a crude textbook-like version of the Keynesian revolution as a new paradigm in economics. The conclusions to be drawn from this section are twofold. First, that Kuhn's schema is of dubious validity to the history of economics. Second, this being so, the wholesale usage of Kuhnian terminology, though superficially attractive, is ultimately unhelpful, since important aspects of the debate are either missed or underestimated.

The basic stages in Kuhn's history of sciences are as follows: preparadigm stage; normal science; crisis; extraordinary science; normal science again once the crisis is resolved. The normal science from which Keynes supposedly deviated was Marshallian neoclassical economics. The basic anomaly one may discern in this heritage is the postulation of full employment based upon Say's Law and the quantity theory. Given complete wage-price flexibility, full employment was automatically assured. By introducing aggregate demand not income-spending as the crucial linkage in

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*1 Blaug, M. HOPE, Vol. 7, No. 4, (1975) 'Kuhn versus Lakatos'.

the economy's prosperity, Keynes is attributed with totally changing the world view. The basic puzzle of the discipline now shifts. It is no longer a question of determining the distributive shares of optimum resource allocation given full employment, but rather the level of employment of resources, the role of aggregate demand in determining this level and the role of the government in relation to aggregate demand. The crisis was undoubtedly accelerated, and the paradigm battle shortened, by the Great Depression.

As already noted, this account has all the appearance of a Kuhnian scientific revolution. The crisis period witnessed a growing number devoted to working in the anomaly area. The rules of normal science were blurred with attendant insecurity regarding definitions of approach and terminology. Keynesianism emerged as one competing paradigm which eventually became the dominant paradigm, offering its resolution to the conflict. The old paradigm lingered until a new one emerged. Keynes made a substantive contribution to the tools of economic analysis adding new fundamental behavioural functions, i.e. consumption, liquidity preference, multiplicity and new applications of the discipline in areas such as policy and econometrics. In the paradigm battle 'conversion' happened more as a matter of faith than proof. It was a question of persuasion, of adapting what appeared as the most analytically useful set of assumptions and axiomatic position. Two decades ago it was, perhaps unwisely, proclaimed that "we are all Keynesians now".

I find the above account both unconvincing and a potential diversion from many of its own "anomaly" areas. The first set of criticisms concern internal criticisms of Kuhn's theory. These relate to the terminological imprecisions and flaws in Kuhn's exposition. Much of the difficulty in this respect stems from the successive versions of Kuhn's theory, whereby later editions have sought to elucidate what was unclear and redefine what was imprecise, often resulting in apparent internal contradictions. Thus, the word paradigm is replaced by disciplinary matrix and controversy continues to rage over whether old paradigms disappear or continue to co-exist with the new paradigm. This type of criticism is not unique to Kuhn's work, it is a natural consequence of any attempt to develop and articulate a new set of ideas. In the present context the criticism is of significance. If Kuhn's theory is to be of use to economists then internal consistency and clarity of exposition are essential. It will be something of a blunt instrument if the major features of its own construction are in dispute.

A second line of attack relates to a repudiation of Kuhn's central thesis of revolutionary change. This is a fundamental disagreement over the nature of change in science. Kuhn's paradigm-based science and the catastrophic facets of his historiographical framework is anathema to the incrementalists or informatarians who believe that scientific advance is gradual and continuous. These opposing views do not necessarily constitute an either/or choice. It does show, however, that Kuhn has no monopoly in the theory of change and points to the possible existence of other types of change which this theory cannot accommodate.

A third set of criticisms refer to a distinction between the physical and social sciences. However applicable his theory may be for the physical sciences, a direct transplantation of Kuhn's ideas to the discipline of economics is premature and undesirable. Bronfenbrenner states:

> "It may also be that Kuhn has generalised too rapidly from too small a sample of revolutions within the natural sciences which he

treats."(*1)

A consideration of why it is that Kuhn's theories are not applicable to the social sciences, economics in particular, leads to the final and most trenchant criticism of Kuhn. While, in many respects, Kuhn's theory provides a broad general framework within which change and the accumulation of knowledge may be viewed, it fails to provide a mechanism whereby the structure of that change may be explained. It does not deal with the factors which result in change, nor the relationship between these factors. This is precisely what is needed for a reflection on the structure of past controversies in economics. The following section outlines how this task might be undertaken. While it does not purport to be a full specification of a new approach, it does attempt to sketch an alternative to the revolution story.

Section 4: Controversy Revisited

> "Our theories, regarded as tools of analysis, are blinkers in this sense. Or it may be politer to say that they are rays of light, which illuminate a part of the target, leaving the rest in the dark. As we use them, we avert our eyes from things that may be relevant, in order that we may see more clearly what we do see. It is entirely proper that we should do this, since otherwise we should see very little. But it is obvious that a theory which is to perform this function satisfactorily must be well chosen; otherwise it will illumine the wrong things."(*2)

The above succinctly summarises my objection to the application of Kuhn's theory to the works and interpretation of Keynes. It is not that I deny that Kuhn lights up part of the target, it is rather that I believe the darkened perimeter also contains many important insights. A rigid and consistent application of Kuhn to Keynes will systematically fail to explore the perimeter, thereby neglecting many essential features of the issue.

Following Leijonhufvud (*3) I would make a distinction between theory and model. By theory is meant a patterned set of substained beliefs about how an economic system works. In Lakatosean terms this refers to what remains of a research programme if the positive heuristic is included. A model is a formal representation of a theory, or a subset or aspect of it. It is quite probable that no model will succeed in giving an exhaustive account of a theory; it may in fact neglect or misrepresent quite essential characteristics of a theory. This distinction is, I believe, crucial and one which is of great use in analysing the continuation of controversy

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*1 Bronfenbrenner, M. HOPE, Spring 1971, p 136.

*2 Hicks, J. R. in Latsis, Method and Appraisal in Economics, CUP, 1976, p. 208.

*3 Leijonhufvud 'Schools, 'Revolutions' and Research Programmes' in Latsis, op. cit. p.70.
Having already castigated intellectual eclecticism in the case of Kuhn and use of his language and concepts, I am aware that much of Leijonhufvud's paper is based on the work of Lakatos. Any mention of Lakatos in this essay is simply to highlight that these ideas may be 'translated' into Lakatos' system, while the arguments advanced are independent of validity.

surrounding Keynes.

Economic models are at a second remove from economic reality. The first stratum of simplification or reductionism occurs between economic reality and an economic theory. The economic universe is multi-faceted and, in Schumpeter's terms, a 'vision' or theory is a particular understanding of the myriad relationship within this universe. This vision is subsequently distilled in a model, the substance is given a particular form. Economic models are as such surrogate models which are partial in the sense of highlighting certain aspects of the same real world.

In economics the substance and form of a theory is less tightly linked than in the natural sciences. Thus the prevalent use of temporal equilibrium constructions and the comparative static method for the analysis of real-time dynamic processes. This imperfect congruence between substantive theories and formal models means that the latter require interpretation. Two economic models may thus be formally identical or indistinguishable yet subject to substantively different interpretations. For this reason, theories may easily co-exist since decisive falsification or convincingly accumulating confirmation of theories may pose a difficulty (see section 2).

In addition to this theory/model distinction there is another element which will be of use in interpreting the works of Keynes. This is the fact that the universe economists study is a non constant historically conditioned one. As Hicks states:

> "Further, since it is a changing world that we are studying, a theory which illumines the right things now may illumine the wrong things another time. This may happen because of changes in the world (the things neglected may have grown relative to the things considered) or because of changes in our sources of information (the sorts of facts that are readily accessible to us may have changed) or because of changes in ourselves (the things in which we are interested may have changed). There is, there can be, no economic theory which will do for us everything we want all the time."(•1)

The following may be noted in relation to the works of Keynes. Not only is the substance/form distinction applicable to Keynes, and the subsequent interpretation of his work, it is also relevant to Keynes' view of classical economics. Pre-Keynesian theory must be distinguished from the picture of it constructed and propagated by Keynes and his followers. Neoclassical economics of the 1930s was not a homogeneous doctrine. Keynes' revolt against the classics was directed at the Marshallian variant. This must be clearly distinguished from the neo-Walrasian theory which became predominant in the post-war period.

What of the interplay of exogenous and endogenous function which contributed to Keynes' new cosmological view? No doubt there were changes in the real world (unemployment and depression which questioned the automaticity of the system towards full employment); in the perception and vision of that world (one which allowed for the possibility of 'disequilibrium'). The form in which these views were cast obscured rather than highlighted these new developments. Leijonhufvud claims that the technical limitations of inherited models of formal economic analyses left Keynes with little choice but to adapt a static equilibrium framework

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•1 Hicks, J. R. op. cit. p208.

(Leijonhufvud, op. cit. p. 94).

This brings me to an analysis of that remarkable creature known as the Neoclassical Synthesis. The Keynes versus the Classics debate took place in a forum that was alien to them both. Starting with the work of Hicks and continuing with the works of Lange and Klein, to Patinkin, there emerges a growing 'consensus' as to the microstructure which underlies all macrodiscourse. This is of course the neo-Walrasian model in a certainty-based general equilibrium framework. The primary task of this debate degenerated into analytically isolating the atypical assumptions/magnitudes of Keynes' theory which were responsible for the peculiar unemployment equilibrium policy implications.

One might, again, question what were the factors that were relevant to sustaining such a synthesis. Leijonhufvud suggests the following:

> "The 'neoclassical synthesis' proposed a reconciliation of 'Keynesianism' and 'orthodoxy' on a purely formalistic plane ... behind the formal screen they stood poles apart ... yet, surprise at the extent that this modelling formula gained widespread acceptance, <u>despite</u> the incompatibility on a basic theoretical level is possibly misplaced. It may be that it 'worked' in its time, rather, <u>because</u> it allowed the postponement of a confrontation that could not have been decided, but that had tremendous latent potential for diverting energies away from the pursuit of 'normal science' within each 'paradigm'." (*1)

Whether or not Leijonhufvud is correct in his rather nuanced view of Keynes' economics is of secondary importance. What is relevant is that the debate was carried on at the level of models, at a formal level which, in time, became obsolescent. The reasons for this obsolescence is of great interest, but not one that may be easily answered. How is one to understand the re-interpretation of Keynes by Clower and Leijonhufvud? Was it motivated by an effort to go beneath the received formal view to re-present Keynes' essential vision? Or was it motivated by erroneous and/or political factors such as the theoretical impotence within the synthesis and the tottering empirical value in the face of increasing anomalies?

How, indeed, is one to assess their re-interpretation? The attempts to prove a secure Keynesian microfoundation for macroeconomics have provided to be suicidal, opening the way for the micro-founded rational expectations approach. How indeed has the substance of Leijonhufvud's vision been encapsulated in his own model?(*2) As Coddington points out, of the time options open to him Leijonhufvud only discusses one, thereby marking Keynes something of a reconstituted reductionist.

The above sketch does little justice, perhaps, to the complexity of the debate. It is, nevertheless, a more promising perspective within which these events might be viewed. The controversy has been a controversy of models, not theories; the contentions have been about the appropriate specifications of possibly unsuitable models; shifts in the choice of models and new specifications of these models motivated by an interaction of exogenous and endogenous factors.

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*1 Leijonhufvud, op. cit. p. 98.

*2 The further question of how Leijonhufvud's vision of Keynes' theory actually corresponds to Keynes' theory is a moot point.

Section 5: Conclusion

The preceeding sketch has a number of significant elements. This lack of perfect congruence between substantive theories and formal models lies at the heart of much of the controvery. It highlights the limits which a particular representation of a theory may impose on one's understanding. Progress in theory may impose on one's understanding. Progress in the economic analysis proceeds not by pure examination of ideas but by a complex interplay of endogenous and exogenous factors. The manner in which economic models are presented, communicated, interpreted and reacted to by the economic profession plays a crucial role in this process.

Academic lassitude of the continuing Keynesian controversy is, therefore, misplaced. Not alone is the substance of past theories of interest, but the form which they have taken is of relevance. Controversy is a perennial feature of economic discussion. If economists are to become involved in controversy in a worthwhile and analytically fruitful way, then it is imperative that they be self-aware of the format and implications of controversy. Unless economists are clearly aware of the scientific basis of economics and the nature, process of accumulation, communication and interpretation of knowledge within the discipline, future economic controversies are likely to be uncritical, aimless, futile and destructive. An examination of Keynesian controversy along the lines sketched above offers the possibility of avoiding this and of entering new controversies in a self-aware and self-critical manner that will be of analytical benefit and not a useless distraction.

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Issues concerning The Market

Finbar McDonnell

The concept of the market has been central to economics since the time of Adam Smith, and this essay deals with what advocates of the market claim are its chief advantages, namely efficiency and freedom, and also asks how (if at all) this theoretical debate is of relevance to an actual economy.

Economics is defined as a science which studies how the scarce resources of the world are distributed, and it is perhaps the major claim of the market that it facilitates the attainment of efficiency in this regard. The case linking the market and efficiency has evolved over the years and can be summarised as follows:

The Italian economist, Vilfredo Pareto defined efficiency as a situation where to make anyone better off, someone must be made worse off, i.e. no person's economic welfare can improve without a fall in somebody else's. Pareto also showed that in a free market, which obeyed certain assumptions, this type of efficiency would be achieved (optimality). This 'perfectly competitive' market causes:

- Productive efficiency to be maximised, i.e. no waste occurs, because producers must always produce at the lowest cost level.
- Consumption efficiency to be maximised, because it can be shown, using indifference analysis, that consumption takes place where utility is tangent to the production possibility frontier, i.e. where utility is maximised.

The most important assumptions of Perfect Competition are that many buyers and sellers exist, that firms have free entry to, and exit from, the industry, and that buyers and sellers have full information about both the present and future states of the market. Pareto's criteria were later modified by Hicks and Kaldor who allowed for the possibility of compensation. This means that if welfare changes such that the people who gain can compensate those who lose, and still have some 'left over', then this is an improvement. This gets rid of the absurd notion that a decrease in welfare of one person, no matter how small and no matter how great the corresponding gain for society, is never an improvement. It is intuitively more desirable also, in that an improvement in national income will always count as an improvement in National Welfare. Finally, compensation has the technical advantage that it is a far more decisive criterion: given a choice between two patterns of income it will always prefer one over the other, unless they add up to the same total. The Pareto criterion, on the other hand, is indifferent to all those pairs in which there are losers as well as winners; so it has nothing to say in just those cases where policy-makers need most guidance.

Besides Pareto efficiency there is another type of efficiency which is also maximised by the market, i.e. diachronic efficiency. This is efficiency which will exist in the long-run due to the process itself, and can be sub-divided under two headings:

- Production Efficiencies. Under a perfectly competitive system, factor price equalisation will occur over time. In the short-run capital (for example) may be fixed in quantity, but in the long-run all factors are variable, so the producer will move to the point where MPK = MPL. This is aided by the incentives in competition to improve productivity, to invest in new machinery etc. Of course, when one firm engages in these processes, all firms must, due to the process of 'tatonnement', i.e. if one firm does not it will be pushed out of the market.

- Exchange Efficiencies. Again, the idea is the same; in the longer term, transport costs fall, more branches are set up and distribution costs minimised. Another vital efficiency is that of information, the costs of which are far less in the free(ish) markets of the world than in centralised economics. It is argued that the 'informations revolution' is a diachronic efficiency of the market system. Again, tatonnement takes place and costs fall.

This is a basic outline of the 'efficiency argument' for markets. The second claimed advantage of the market is the attainment of economic freedom. This, I feel, is an argument of far less strength than the efficiency argument, since in effect it depends on one's definition of freedom.

Economic freedom tends to be defined as the general absence of economic constraints.(*1) The absence of economic constraints leads to the following:

- Consumer Sovereignty: This is the principle that whatever people want will be reflected in the production process due to perfect information, and a desire to maximise profits. In other words, what people want matters, and is listened to. Some examples of consumer choice in action would be the rejections of Guinness Light and the new 'sweeter' Coca Cola, or more positively the shift to health foods in the 1980s.
- Freedom of choice: It is also argued that the choice the market system entails is a good thing in itself. This, as a philosophical point, is unproveable.

There are solid arguments against the idea of the market entailing freedom. On an overall level, the definition is hotly disputed, a recent manifestation being Hattersley's "Choose Freedom, the future for democratic socialism". Funnily enough, he uses the same concepts as Hicks and Kaldor did, arguing that a government should restrict one group's freedom (apply restraints) if the sum of liberty in the population is increased. However, even acceptance of Friedman's definition does not mean that economic freedom exists. It is argued, by Galbraith among others, that manipulation of consumer wants is widespread, and that the marketing industry exists solely for this purpose. On the other hand, it can be argued that freedom ought to be, but is not, divorced from economic considerations. Mr Thomas Jefferson may have written noble words about liberty, which are universal in their application. But if one had happened to be a black working in Jefferson's fields, one might well have found his sentiments of purely academic interest and his reiteration of them insensitive and irritating.

The final section of this article will look at whether the type of theoretical issues outlined above have any practical applications to an actual economy. The following points are equally valid for a study of the Irish economy.

The uses of this type of theoretical discussion are

- a value base underpins all economic systems, whether overtly or hidden. In Keynes' much qoted words, 'Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.' The first argument for theory would be that it is much wiser to discuss these values openly

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*1 According to Milton Friedman, 'Liberty means the Liberty to shape one's own life.'

than to drift along with no logical, worked out system in operation.

- while the Pareto system is theoretically sound, it is unanimously accepted that it has failings in practice. These consequently require some sort of policy (even if it is no response). To decide on policy, a model of a theoretical nature is vital to reduce the economic system to where policy can be clearly decided for theoretical reasons, and not on the basis of what is 'smooth and flowery' in the short term.

There are, of course, arguments claiming that the theory of the market is of no relevance to real economies:

- the theory of second best , developed by Lipsey and Lancaster, states that a distortion in one market may mean it is not optimal to have perfect competition in any other market.
- the assumptions involved are totally unreal, and render the model and its findings useless.
- cynicism, i.e. Pareto's model has existed for 80 years now, and gross inefficiencies abound. Theories, schools, debates and personalities have contributed to the theory of the market, but decisions are still made due to pressure groups, politics etc. In other words, economics is meant to be a social science, affecting peoples lives, but often seems to be simply another branch of mathematics.

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The Methodology of Econometric Research

Kevin Carey

In the 1970s many of the macroeconometric relationships which economists had previously taken for granted broke down. One consequence of this was the backlash against "Keynesian" economics and the re-emergence of previously discredited economics disguised as new theories of "expectations". But in narrower circles there was a concern that it was the econometrics rather than the economics that had been at fault. This prompted a methodological debate which is still with us. The length of this debate is due to the fact that it has come to embrace some fundamental issues in the methodology of economics as well as that of econometrics. There was (and is) a growing disillusionment at the inability of econometrics to perform what should be its basic function - to empirically corroborate or otherwise competing economic theories. It is perhaps ironic that this same malaise is present in the methodological dispute - the competing views are partly incomparable because they are stated in different terms. In economics this has meant that theories are only tested on the basis of internal logic, and the only weapon an economist has is to attempt to discover logical flaws in rival theories and so it was that a central controversy in the world of economics in the 1950s and 1960s was the "Cambridge controversy" a rather esoteric dispute about the nature of capital. Realism, explanatory power etc. all go out the window in the quest for an internally consistent theory. This essay attempts to draw together the various opinions on what is the methodology of econometrics. I will discuss each approach on its own terms, and where possible compare it with other approaches. Departing from the tradition in economics, I will come down firmly in favour of one particular approach.

An obvious question to ask at this stage is why bother discussing methodology at all? Econometrics will reach certain conclusions based on enquiries conducted in accordance with a definite policy for obtaining and assessing evidence. As Nagel says, the rationale for confidence in those conclusions must be based on the merits of that policy. He says that understanding the logic by which conclusions are established is the task of the philosophy of science. It could be argued that he has to say this to justify his writing a rather long book on the topic. At times philosophers of science such as Nagel tend to go to extraordinary lengths to establish what seems like an insignificant point and at such times one tends to agree with Feyerabend's comment that philosophy of science is

> "one of those bastard subjects ... which have not a single discovery to their credit".

However, given the fact that no one believes anyone else's econometrics any more, I believe that methodology is worth discussing. The best place to start is with a series of objections, which were raised almost 50 years ago to 'conventional' econometrics, which is the current textbook approach to the subject - Koutsoyiannis's book is a classic example. She outlines a step by step approach to econometrics, which I believe is fundamentally flawed every step of the way. These flaws were amply aired by Keynes in a review of a book by Jan Tinbergen in 1939. A contrast of these two approaches is particularly revealing.

Stage I of the textbook approach to econometric research is specification of the model. This involves deciding on your dependent and explanatory variables, the mathematical form of the model and stating a priori expectations regarding the sign and size of the parameters. This stage brings with it a corresponding assumption - that your model is correctly

specified. This assumption has major implications for the procedure followed from here or in the research. Keynes asks

> "Am I right in thinking that the method of multiple correlation analysis essentially depends on the economist having furnished not merely a list of the significant causes ... but a complete list?"

If you do in fact leave out an important variable you don't obtain estimates of what you think you are estimating - as Keynes puts it

> "The method is only applicable where the economist is able to provide beforehand a correct and indubitably complete analysis of the significant factors."

It is at the specification stage that most attention has focused and I will return to this topic later.

However, the applied econometrician spends most of his time estimating relationships, which in practice means evaluating computer printouts. Here, Keynes identifies a host of problems which have increased in significance since Keynes' time. He mentions

> "the frightful inadequacy of most of the statistics making spurious correlations from proxy variables being unable to separate the distinct effect of multicollinear variables, assuming linear forms, confusing cause and correlation ... and confusing statistical with economic significance."

He then tops off this list of failings with a damning question:

> "If the method cannot prove or disprove a qualitative theory and if it cannot give a quantitative guide to the future, is it worth while?"

All in all, his article is a fairly comprehensive destruction of the "average economic regression" (AER) approach to econometrics, which he sees as "statistical alchemy" and in this respect worse than black magic. Having dealt rather tersely with the AER approach to econometric research I will now turn to the proposed alternatives. In particular I will analyse the contributions of Edward Leamer and David Hendry.

As I mentioned earlier the crucial issue is specification. Leamer contends that economic theory will never generate a complete specification, and therefore the actual variables used in your model will depend on what you believed beforehand. The basic problem facing researchers is that you can never be sure what variables you have left out, and what bias is emerging in your estimates as a result - this is the problem of specification uncertainty. The data will give you no information about the size of the bias, which means you must decide independently of the data how good the 'non experiment' is. For Leamer, the crucial difference between experiments and non experiments, between the natural and social sciences, is that the specification bias is larger in the non experiment. The only way (in principle) the problem can be overcome is to include all the relevant variables in the regression - but as he shows, you can always find a set of

observations that will make the inferences implied by a model with one less variable seem silly.

> "There is no formal way to know what inferential monsters lurk beyond our immediate field of vision." (McAleer, Pagan and Volker).

In (necessarily) limiting your field of vision, you will make what are essentially "whimsical" assumptions. It is therefore no good simply to report the particular regression that resulted from your arbitrary assumptions. Your inference should be robust, i.e. it should be able to withstand changes in the assumptions. As an alternative to reporting a single inference, he suggests "Extreme Bounds Analysis" (EBA). The researcher explicitly states his prior beliefs in the specificaiton process and then attempts to evaluate the validity of these beliefs in the light of his data. The role of econometrics is to determine the range of inferences implied by a closely related range of models. The goal is to have a narrow range of inferences implied by a broad family of models. The centre of attention should not be the regression equation itself but the mapping from assumptions to inferences - "the mapping is the message". You must show how you arrived at the inference and examine its sensitivity. In short, critical attention to the words "whimsy" and "fragility" would be the salvation of econometrics.

This sounds fine in theory. But the acutal methodology of EBA is guilty of exactly the same flaws that Leamer criticises in conventional econometrics. It involves you stating what you believe to be your "important" and "doubtful" variables. You then manipulate the "doubtful" variables and hope that this will lead a reasonably stable value for the co-efficient you are interested in - the "focus variable". Leamer points out that opinions are whimsical

> "sometimes I take the error term to be correlated, sometimes uncorrelated, sometimes normal and sometimes non normal ... does it depend on what I had for breakfast?"

But we can just as well ask - does his choice of what is an important variable and what is a doubtful variable depend on what he had for breakfast? It has been pointed out that in a model with 9 variables there are 181,440 conceivable partitions of important and doubtful variables! Thus even if one were to consider the ludicrous idea of a fragility analysis of your fragility analysis, this task would in practice be impossible. The same article has drawn attention to the fact that EBA assumes that the error terms are normally distributed, non-autocorrelated and homoscedastic - precisely the conditions which do not arise in applied econometric research. These are obviously major flaws in his approach. However it has to be said that the property which he seeks of an inference is obviously desirable. On his own example where the inference is not robust, practical applicaiton of a single reported inference could have literally lethal consequences! This is why Kennedy correctly chooses it as a desirable general principle for model evaluation. I do not believe however that you derive a general philosophical approach to econometrics from just one principle. The Hendry approach has a rather more extensive basis, it is to it what I will now turn.

Nagel points out that for a social science to be 'scientific' does not mean that it must be able to carry out controlled experiments. What is required is "controlled empirical enquiry", a clearly defined method of analysing non experimental data. The form of enquiry that is pursued in economics is the "ex-post facto experiment". What distinguishes this from a natural science experiment is that the relevant factors cannot be overtly

manipulated. Control is achieved if sufficient information about these factors can be secured. The crucial point is that the subjects manipulated are the data of observation on relevant factors, and not the factors themselves. This is probably the single most forgotton fact in econometrics - that in the strictest sense econometrics is just 'number crunching'. The data we actually collect were generated by a certain data generating process (DGP) which we can never hope to know. The best we can do is design a model which approximates as closely as possible to the DGP, which "adequately characterises the data". The simplified representation of the DGP cannot be strictly valid; the best it can be is adequate - in the jargon, we look for a "tentatively adequate conditional data characterisation". A model is never right or wrong, but useful or useless for a particular purpose. This contrasts with the AER approach where the model is treated as axiomatically correct. As Gilbert points out this has major implications for the procedure following specification, because it means that poor test statistics imply problems in consistently and efficiently estimating the parameters of the model. It does not imply problems with the model itself. On this view, the econometrician must worry about the pathology of his estimates - Part II of Koutsoyianis is called "Econometric Problems", and the chapters are entitled "Autocorrelation", "Multiple Collinearity" etc. Each chapter follows the same format - the assumption, its plausibility, the consequences, the tests and crucially the 'solution'. This 'solution' usually involves adding in extra variables and generally tampering with the form of the model. It is a movement from the simple to the general. It is what she herself describes as the 'experimental' approach, but I find that a label that has been applied to Hendry's approach is more accurate - 'kitchen sink econometrics'.

As far as Hendry is concerned however, poor test statistics imply model misspecification. He starts with a very general hypothesis and then looks for simplifications that are acceptable based on the data. This process has been described as 'testimation'. This model must conform to certain previously laid down criteria - it must be data admissable (it must be logically possible for the model to have generated the data), theory consistent etc. An example of the difference in approach is provided by the autocorrelation problem - for Hendry this implies a systematic ofrecasting error, therefore your model must be respecified. The AER view says you correct for autocorrelation by re-estimation. One of the most crucial requirements of the model is the encompassing principle - that your model should be able to predict the results of alternative models, their successes and failures. The main argument against all this is that the general to simple approach essentially involves 'data mining'. It can lead to complex looking empirical models containing a wide variety of variables and lags without any theoretical basis for their inclusion. Hendry's reply is that theory will never provide a guide to all situations that will arise, and that the interaction between theory and data can be two way.

Apart from coping better with the limitations imposed by ex post facto experiments, this methodology has a second major advantage, related to the testing of economic theory. Economic theory is usually stated in terms of "latent variables" i.e. unobservables such as expectations, equilibrium etc. The choice of proxy variables for these is just as crucial as the normal specification process. Hendry explicitly concerns himself with this "mapping from unobservables into observables" and has developed techniques for coping with the problem which I do not propose to outline (because I have not a clue what is actually involved). I shall give him credit for trying! In general philosophical terms, also his approach is much closer to economics - in particular Friedman's idea that all models are false and that economics is a process of 'as if' theorising. It is also particularly

well suited to the rational expectations revolution which should be another factor in its favour.

This arises because Hendry deals explicitly, as previously stated, with "latent variables", expectations being the most latent variable of all. A final advantage of the Hendry approach is that it is reasonably well grounded in existing techniques and so would not require a dramatic revision of econometric methods for its implementation.

In conclusion, therefore, I have argued that the conventional methodology of econometric research as presented by, for example, Koutsoyiannis is flawed, and is generally recognised as such. Despite difficulties in comparing proposed alternatives directly, it was concluded that the approach offered by David Hendry was the best way forward. Indeed, there are signs that this view is gaining wider acceptance within the profession. A sure way of judging this is by the content of more recent textbooks. For example, Kennedy takes a distinctly Hendry type view of what econometrics is about, and he incorporates the criteria put forward by both Hendry and Leamer in stating what constitutes a 'good' model. If the methodological debate has prompted a general move in this direction then it will not have been a waste of time.

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The Dual Decision Hypothesis: A Discussion

John Fingleton

Introduction

Robert Clower formulated the dual decision hypothesis (d.d.h.) in 1965 as an attempt to explain, as he saw them, the principal innovations in economic theory contained in Keynes's book "The General Theory of Employment, Interest and Money" (G.T.).

Clower wishes to restate Keynes's attack on orthodox micro-theory and its attendant macro-approach to economics, and in so doing uses an orthodox framework of analysis. In particular Clower aimed, in his reinterpretation of Keynesianism,(*1) to establish a hypothesis of household behaviour which would, if accepted, establish the classical theory of full employment general-equilibrium as a special case of a more general theory (the Keynesian Model).

He says (Clower, 1965)

> "I shall argue that the established theory of household behaviour is, indeed, incompatible with Keynesian economics, that Keynes himself made tacit use of a more general theory, that this more general theory leads to market excess demand functions which include quantities as well as prices as independent variables and, except in conditions of full employment, the excess demand functions so defined do not satisfy Walras' Law."

Clower advances the d.d.h. as the "more general theory" of which Keynes made tacit use in The General Theory.

Two other points should be noted in regard to Clower's hypothesis. Firstly, he states that he derives excess demand functions which do not satisfy Walras' Law so we may assume he also dispenses with the Walrasian auctioneer. Secondly, and relatedly, Clower's article is one of the first in a series which deal with the issue of disequilibrium at the macro level and the associated micro behaviour in this state.

In evaluating the d.d.h. it is my intention to examine the hypothesis against a background of classical microeconomics and to evaluate the implications of Clower's work for Economic Theory with particular reference to the reinterpretation of Keynes's economics. Furthermore I am interested in discussing the limitations of the hypothesis resulting from various criticisms that have been raised in order to say something about the scope of the d.d.h.

Classical Microeconomics(*2)

I wish at this stage to outline a number of ideas pertaining to Classical

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*1 With due respect to Leijonhufvud, Grossman etc. I shall distinguish neither between "Keynesian" and "of Keynes" nor between "Keynesianism" and "the economics of Keynes". Clower did not do so and I do not feel it is important to this presentation.

*2 Classical microeconomics is used to describe the general corpus of analytic techniques and their underlying assumptions which existed pre-Keynes' General Theory.

Economics which are important in this discussion.

1. Demand and Supply curves represent the outcomes of decisions by utility-maximising-households and profit-maximising-firms in equilibrium.

2. All agents are price-takers and on the basis of this income is a choice variable (for households) in the classical model.

3. Information is free, perfect, and is available to all agents.

4. Prices are flexible and respond to excess demands.

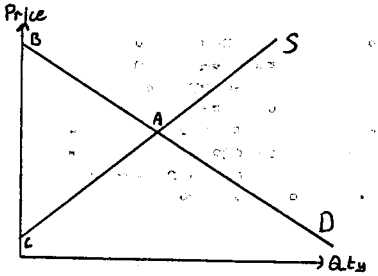

Figure 1

On the basis of these and other ideas the concepts of Supply and Demand may be seen as market constraints so that for any particular price level output or quantity in a market is constrained by supply, demand or both. These schedules are therefore boundaries of a feasible set within which the market must trade (see figure 1). The fact that agents maximise implies that the market will actually operate at some point along the line BAC (figure 1); i.e. on the boundary of its feasible set.

Price adjustment ensures that point A in figure 2 will be the one where the market is in equilibrium and moreover that it will be attained by society.

This picture is one of desired magnitudes and given the Walrasian system of tatonnement these desired magnitudes will be realised. In particular, if the market is for total output in the economy (as I shall henceforth assume it to be) the equilibrium of (P1 Q1) at A implies that households earn income $\bar{Y}_o$ = P1 Q1 in some other market (say the labour market). The Walrasian system, making tacit use of Say's law of markets, inherently states that the hyperbolic (*1) constraint imposed on the market intersects exactly at

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*1 If current income is $\bar{Y}_o$ and households are on their budget constraints (presuming that $\sum_i piXi$ = P1 Q1 after aggregation, P1 and X1 are individual prices and the associated goods) then

$$\sum_i piXi = Yo = P_1 Q_1 .$$

This gives a hyperbolic relationship describing the locus of feasible price-quantity combinations.

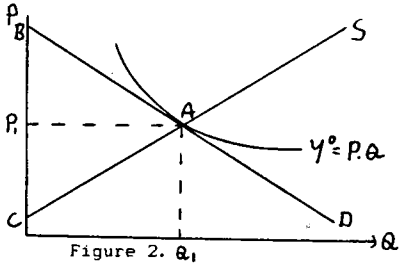

Figure 2.

Because of Say's Law it would intersect at point A (i.e. output Q1 at price P1 generates income Y which must equal $P_1 \times Q_1$).

Clearly, at A it leaves the feasible area unaffected. This is the basis for independence between markets.

A in figure 2 and therefore has no effect on the outcome in the market for current output. This independence between markets is ensured in the model by the tatonnement process.

In this model any deviation from equilibrium will be offset by price changes which respond to excess demands and which are instantaneous. These self-correcting forces are crucial to the general equilibrium model.

It is clear that either wage/price rigidity or the existence of an extra constraint in the market for current output might jeopardise attainment of equilibrium.

The Dual Decision Hypothesis

Clower presupposes that aggregate output has fallen in the model discussed above and shows that the self-correcting forces may not work as predicted. Keynes's attempt to do this had previously been represented by the Neo-classical synthesis as an assertion that wage/price rigidity was the factor which prevents the market forces (i.e. price and wage movements) from leading to an equilibrium outcome. The Neoclassical synthesis, in this light, regarded Keynes's theory as being a special case of rigid prices and wages and thus concluded that Keynes's contribution made no great advance in Economic Theory.

Clower reinterprets Keynes's theory as being an attack not on price/vage flexibility but rather on the constraint structure of the market for current output as outlined above. His argument proceeds as follows.

Output has fallen and so employers now employ less people than before (*1) and thus, in the aggregate, the income of households has also fallen so that expenditure of P1 Q1 (in figure 2) by households is no longer feasible. The reduction in their income now means that the hyperbolic constraint of realised income is below that of planned income and no longer intersects at A. Thus realised income imposes an extra constraint on the market.

We now have two market pictures, a notional or planned state of affairs and an actual or realised one. The former satisfies Say's law but the latter does not. Thus Clover's analysis also suggests an examination of the differences between a monetary versus a barter economy and in particular questions the Walrasian assumption that money is just like any other good. In the barter economy, because goods trade for goods, all excess demands constitute effective market signals because they are backed up by ability to pay (i.e. householders get paid in the goods they produce so there is no uncertainty facing the firm about sales).

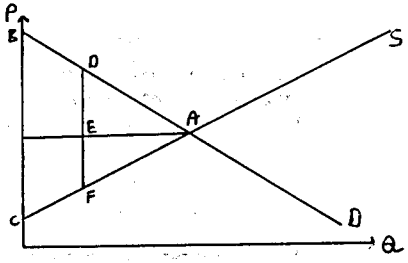

Figure 3

*1 It might be the case that people just work fewer hours. This would result from a leisure-income trade-off where employees face a lower wage. In reality, however, it is generally assumed that the number of people employed will.

Thus a quantity variable, i.e. income, enters the model for the first time as an independant variable. In terms of the constraints in the market place we note (figure 3) that the feasible set has been reduced.(*1) This reduction is such that the full-employment-equilibrium position in the commodity market is no longer attainable and so output and income are at a lover level, along the line DF in figure 3, where there is a quasi-equilibrium and price is bounded but not uniquely determined. It is appropriate at this junction to mention the contribution of Patinkin which partly inspired Clover's work and which is analytically similar to Clover. Barro and Grossman (1971) note

> "Patinkin's model involves profit maximisation subject to an output constraint, whereas Clover's model involves utility maximisation subject to an employment constraint."

Clover is concerned to explain the effects in the output market of results in the labour market whereas Patinkin traces the effect in the opposite direction (Patinkin's model is different in so far as full employment is reached because, he contends, notional excess demands constitute market signals that are effective). A model incorporating both these inter-connections between goods and labour markets would possibly be subject to a deviation amplifying effect whereby a shock in one market would create a number of "reflections" making the total effect greater and countering any self correcting forces that might be present. (*2)

This is a quasi-equilibrium involving effective demands consistent with the existance of unemployment.

Implications

Clover's model gives the same results (or many of them) that Keynes tried to show in writing General Theory without resort to the assumption of downwardly rigid wages etc. Within an orthodox framework he has amended its theory of household behaviour by making it a dual theory and consequently reconciled differing views on Keynes's contribution to Economics.

In particular the following points are of interest:

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*1.

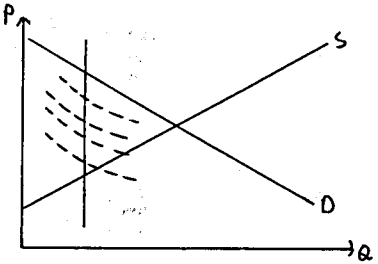

Figure 4

The reduced area of the feasible set should not be perceived as a leftward shift in the hyperbole in figure 2. Instead, the new constraint is a straight line locus of hyperbole points because in the region DEF price variations do not affect output or employment and therefore income is constant so the hyperbola just shifts along the DEF line.

*2. Clover also postulated a wealth effect whereby the decreased income, if perceived to be permanent, would decrease aggregate demand further because lifetime wealth (expected) has fallen.

(a) Clower's theory emphasises the restriction placed on the purchase of current output by diposable or realised income. Whereas beforehand the Keynesian consumption function was an "illegitimate" offspring of general equilibrium theorising (because a quantity entered as an independent variable) Clower's modification makes it (at best) legitimate or at worst explicable depending on the extent with which one agrees with him. He has explicated the consumption function in a manner different from previous treatments, thus adding a new insight to the income constrained process, which, by being developed in a theoretical mode, assumes a new gravity in economic theory. This hitherto theoretically bastard device now claims parenthood which must be challenged or else the claims accepted.

(b) The hypothesis does not depend on rigid wages and prices. Indeed it predicts that policies designed to raise output and employment via wage and price deregulation/manipulation will be ineffective. The most effective type of policy would appear to be one aimed at incomes (i.e. fiscal policy) thereby creating the Keynesian "multiplier" effect.

(c) The hypothesis is consistent with a stable involuntary unemployment equilibrium as noted above.

Apart from this the hypothesis has the advantage of (a) being micro based and (b) not depending on rigidities in the traditional model. Thus the classical picture of full employment is one of the two sides of Clower's coin where notional demands and supplies are exactly realised and Walras's Law holds. The fact that he includes this possibility makes Clower's case a more general one which includes the classical theory as a special case.

It is on the basis of these findings that Clower can say

> "Keynes either had a dual decision hypothesis at the back of his mind, or most of the General Theory is theoretical nonsense."

Clower explains Keynes very well and fits his analysis in with traditional methods in such a way as to make it less a controversial and a more acceptable approach. Whether he interpreted Keynes correctly is not so clear; especially as the dual decision hypothesis is not perfect.

Limitations and Problems and Extensions

In this discussion, limitations of two types are considered, those concerned with the merits of the hypothesis itself or concerned with its relevance to General Theory. Because they are so interlinked in places I shall take them together although both aspects may not always be relevant to the discussion.

Firstly, the issue has been raised concerning the origin of the initial shock which causes output to fall in the model. However, in the light of work by Alchian and indeed Keynes's Chapter 12 in General Theory on the state of expectations, it is possible to see the ease with which a shock may cause a setback to output.

The second criticism is based on the abandonment of the Walrasian equilibrium which Clower himself says he wishes to do. This presents two inconsistencies within Clower's model.

Firstly, because the hypothesis implicitly rejects the traditional theories on information and co-ordination within the economy, we are no longer

dealing with a purely flow model (like the Walrasian one). Because of uncertainty and information problems stocks must be a feature of the economy represented by Clower's model yet they are not dealt with.(*1) Secondly, because trading occurs at non-equilibrium prices we get false trading (a la Hicks). False trading can have serious effects if distributional factors are significant. Leijonhufvud (1967) notes that Clower deals with trades which do not occur as a result of false prices yet it is significant that he omits discussion of those trades that do take place. However despite the absence from Clower's work of these issues, I do not believe that they affect the import of his hypothesis. Perhaps Clower is to be congratulated for not becoming bogged down in non-central issues which might have distracted attention from, without diminishing the substance of, his main innovation.

The third criticism is related to the framework within which the analysis is couched. The fact that it is an attack on Walrasian theories would seem to make the latter unsuitable as a basis for Clower's hypothesis. It might be argued that Keynes did not have a dual decision hypothesis at the back of his mind and that Clower's article is merely a Keynesian aided and inspired insight into Classical or Neoclassical economics which serves to make it more palatable to both Keynesians and Classicists. As an example we might look at figure 3 once more. A quasi-equilibrium at point E, say, shows that households are off their demand curves. Patinkin would say that BDEF is a new demand curve and so describes the behaviour of households better than the old one (BDA). Clower seems to be obscure on this issue but perhaps this is due to differences in their approaches. However it could be contended that Keynes's impression of point A would be that agents are not on their demand curves, which are irrelevant anyway because they are based on unrealistic assumptions about individuals and their behaviour. Keynes may therefore have been attacking the basic postulates of microeconomic theory.

This model by Clower is set in a framework which presumes perfect competition, which in turn presumes perfect information, which itself is a crucial part of Clower's analysis by virtue of being absent. Perhaps Keynes's contribution ought to be re-evaluated in a model characterised by monopolistic competition and imperfect information. Agents would be price-makers and the theory would describe the actual practice of price setting very well. I mention this suggestion not as an aspiration I cherish deeply but simply to make the point that Clower's model, while it explains Keynes very well, would appear to be conceptually different. Keynes constantly cites psychological and behavioural theories to support his argument, thus suggesting he was making a more fundmental attack on traditional economics than Clower supposes.(*2)

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*1. As demand contracts the initial effect would be an accumulation of stocks in inventory. However, producers, sensing the permanency of the sales constraint would reduce output and an expansion in stocks of human capital would ensue, accompanied by an abatement of inventory stocks. Clower reaches the final stages without dealing with the adjustment or its possible effects.

*2 Of course, the Neo-classical or Walasian framework was only formulated after General Theory starting with Hicks (1939). However Keynes very carefully and with a certain amount of determination avoids using an analytical framework preferring to use words rather than other generalising symbols. His theory is often considered "obscure" on this account by those practiced in orthodox techniques.

On one final point it is interesting to note that in General Theory Keynes avoids using a price index or a measure of income. In Chapter 4 of General Theory Keynes notes three perplexities which most impeded his progress in writing the boook. He lists them as

> "firstly, the choice of the units of quantity appropriate to the problems of the economic system as a whole; secondly, the part played by expectation in economic analysis; and thirdly, the definition of income." (G.T. p 37)

Conclusions

In Chapter 1 of General Theory Keynes writes

> "I shall argue that the postulates of the classical theory are applicable to a special case only and not to the general case, the situation which it assumes being a limiting point of the possible positions of equilibrium."

In view of this statement and the fact that Keynes regarded his consumption function as crucial, Clover would appear, at first glance, to have done a great service to Keynes's ideas by making the latter's ideas clear in a standard framework.

However, it might also be argued that this very framework which involved maximisation by agents and generalisations about human behaviour is what Keynes sought to overthrow.

The fact that Clover has made no fundamental challenges to the basic framework has led to his theory being more readily accepted by the economics profession, most of whose training was conducted in this paradigm of thought.

The dual decision hypothesis is also acceptable because it resolves, fairly well, a dispute in Economics, namely that of "Keynes versus the Classics" by establishing a general, micro-economic based theory of how an economy works, which is "Keynesian" on the one hand and "Neoclassical" on the other. However, endorsement of his hypothesis on the basis of a "best-yet" reconciliation is not proposed here. Rather, it is the case that Clover has made a novel, innovative and enlightening contribution to economics, which, albeit not Keynesian (I contend), is highly appealing and acceptable on its own merits.

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Book Review

Caroline Bain

"DOES AID WORK" - Robert Cassen and Associates, OUP, September 1986.

Robert Cassen's book "How does Aid Work" fills a certain void in the literature of economics. A fresh look at the role of Aid was very much needed as little has been written on the subject since the first flush of enthusiasm in the 1960s. Since then both Aid flows and research into the associated issues have stagnated. However, the 1980s have seen a restoration of Aid as a policy tool to help with the solution of two critical global problems:

i) Disaster (famine etc.) in the Third World - specifically Africa
ii) Servicing the Third World debt of approximately 1,000 billion dollars.

Cassen's study was commissioned by "The Task Force on Concessional Flows" established by the development committees of the World Bank and the IMF. Governments of both developing and developed nations contributed to its costs and thus ensured a certain objectivity in approach. The book makes no pretence at considering anything but the purely economic forms of Aid - there is little mention of political or strategic concerns or of military aid. While this is understandable as these raise major issues in their own right, large military or politically motivated financial transfers do effect the recipient economy in that capital becomes available for development-oriented projects.

Although this narrow definition of Aid is one limitation, Cassen's approach still lacks any revolutionary or innovative analysis. No new model of the effectiveness of Aid or even reforms or adaptations of previous models are suggested.

However, what he does is to provide a very comprehensive overview of the various different forms of aid that have been developed in the past. He studies the success of the 2-gap, Harrod-Domar model of growth and analyses the effect of aid on poverty. He reflects the prevailing thought of the 1980s which encompasses a return to the more traditional ideas on development - essentially characterised by the savings gap and trade gap which relate to the African famine crisis and the debt crisis respectively. He also emphasises that pure economic return in the form of profits is no longer the sole aim of Economic Assistance - we are obliged to consider income distribution, the effects on the environment and moves towards self-sufficiency as well. By relaxing the need for obvious financial results from Aid, Cassen is easily able to prove the effectiveness of Aid and its worthwhile nature.

As a handbook for possible donors Cassen's evaluation of the differing forms of Aid - project, programme, technical help, bilateral v multilateral is very useful. He declares that any failings in the past experience of Aid have been due to a lack of information or poor administration on the part of donors and recipients, not to an inherent weakness in the nature of Aid.

Cassen's book is essentially positive. He does not dwell on the institutional and cultural impediments to growth in LDCs, seeing a new approach to Aid based on policy co-ordination as a solution to these problems. He suggests that Aid does not fail on any larger scale than any other type of financial investment.

"Does Aid Work?" is not a difficult analytical book to read - in fact it could even be criticised for its lack of more theoretical economic analysis. It adheres very rigidly to the question of whether aid works and provides a very thorough, if slightly idealistic, case for the continued practice of bilateral and multilateral assistance.

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