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Contents

- Privatization: Principles, Problems and Priorities
by Michael Beesley and Stephen Littlechild 1
-
- The Role of Commodity Prices in Economic Recovery
by Nicholas Kaldor 21
-
- Farm Incomes: Myths and Perspectives
by Berkeley Hill 35
-

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Privatization: Principles, Problems and Priorities

by Michael Beesley and Stephen Littlechild

What principles should guide a further programme of privatization? What kinds of problems will be encountered, and where should the priorities lie? Economists have not written much on these issues. We hope to provide an explicit structure in which relevant questions can be identified and answered.

'Privatization' is generally used to mean the formation of a Companies Act company and the subsequent sale of at least 50 per cent of the shares to private shareholders. However, the underlying idea is to improve industry performance by increasing the role of market forces. Many other measures can contribute to this, notably freeing of entry to an industry, encouraging competition and permitting joint ventures. Market forces can also be increased by restructuring the nationalized industry, to create several successor companies which may be publicly owned. To secure maximum benefits, a whole set of measures must be designed for each industry, including privatization as a key element.

In this paper we seek criteria to decide: (i) whether a particular nationalized industry is a serious candidate for privatization, (ii) how the industry should be structured and the regulatory environment designed, and (iii) what should be the priorities for privatization among the industries.

Criteria for Privatization

It is helpful to structure the problem as a cost-benefit analysis. In principle, one might examine the effects of each alternative privatization proposal on different interest

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groups such as existing and potential customers, taxpayers, suppliers of labour and capital, etc. Trade-offs between these interest groups could be established and decisions made accordingly.

We propose to short-circuit this procedure somewhat by specifying a single criterion, namely, the present value of aggregate net benefits to UK consumers. This is measured primarily by lower prices of currently available goods and services (offset by any price increases). Effects on the level of output, the quality and variety of goods and services available, and the rate of innovation will also be important. Typically, there will be release of resources, benefiting the consumer in other ways. Changes in the distribution of benefits (e.g. by geographical area) and effects on employees, suppliers, exports and taxpayers must also be considered. Nonetheless, the criterion of aggregate net benefit to consumers seems a simple and appropriate starting point. Unless this promises to be considerable, the political costs of change will scarcely be worth incurring. (Public opinion on privatization is probably changing. Political 'costs' may prove significantly less than they once appeared.)

We do not assume that privatization is desirable in itself. Respectable arguments support such a view — for example, that political freedom depends on private property, or that government intervention should be minimized, because the larger the government sector, the larger the threat to liberty. Here, privatization is strictly an economic instrument. Privatization in certain industries (or parts thereof) could be ruled out as simply not beneficial to consumers.

Our criterion excludes the stock market value of the successor company or companies. This value could clearly be artificially increased (e.g. by granting a monopoly or announcing lesser restrictions on entry), but this would be counter-productive to consumers. Similarly, the (alleged) poor proceeds of sale, realized or in prospect, should not in themselves deter privatization. The right sale price is simply that which investors are prepared to pay, once conditions and timing of sale have been determined by the criterion of consumer benefit.

Though it should not influence the decision to privatize, the sale value is not unimportant. The proceeds are the price at which the present owners of the company's assets (*viz.* the taxpayers) transfer these assets to the future owners (*viz.* the shareholders). The method of flotation should aim to minimize over- or under-subscription. There is no merit in making a gift to 'stags' or imposing losses on underwriters. The difficulties of estimating future stockmarket prices are great, as witness Amersham, Britoil and Associated British Ports. There is therefore a strong case for supplementing professional advice by the organization of some form of

futures market, e.g. by distributing to customers limited quantities of shares to be traded in advance of the main flotation.

The criterion of benefit to consumers should be used to design the privatization scheme as a whole. Consider some of the things to be decided in order to write prospectuses for floating one or more successor companies:

- i) the number of companies, the assets and liabilities of each, and their intended aims and scope of business;
- ii) the structure of the industry in which the company (or companies) will operate, especially the conditions of new entry;
- iii) the regulatory environment, including competition policy, efficiency audits, controls (if any) on prices or profits;
- iv) non-commercial obligations (e.g. with respect to employment, prices or provision of services) and sources of funding for these obligations (e.g. direct subsidies from government or local authorities);
- v) the timing of the privatization scheme, including the flotation date and the times at which new competition is allowed and/or regulation instituted;
- vi) future levels of government shareholding, and ways in which the associated voting power will be used.

Potential investors will translate this package, which is designed to maximize benefits to consumers, into a stock market price. Successful flotation requires an accurate forecast of this price, and a limited futures market in the shares can help.

Benefits and Costs

Our criterion involves benefits for two sets of consumers: actual or potential consumers of the industry; and other consumers, who benefit from savings in resources which may accompany privatization. Thus, if lower subsidies are paid, other consumers will benefit via lower taxation. Subsidies represent real resources which could be consumed elsewhere.

Privatization will generate benefits for consumers because privately-owned companies have a greater incentive to produce goods and services in the quantity and variety which consumers prefer. Companies which succeed in discovering and meeting consumer needs make profits and grow; the less successful wither and die. The discipline of the capital market accentuates this process: access to additional resources for growth depends on previously-demonstrated ability. Selling a nationalized industry substitutes market discipline for public influence. Resources tend to be used as consumers dictate, rather than according to the wishes of government, which must necessarily reflect short-term political pressures and problems of managing the public sector's overall demands for capital.¹

But gains are not all one-way. Privatization is intended to change motivations of management towards profit-making. A privately-owned company will have greater incentive to exploit monopoly power commercially. To the extent that this is not limited, consumer benefits from privatization will be less than they might be. Second, a privatized company will be less willing to provide uneconomic services. The resources so released will be used more productively, but particular sets of consumers will lose by the change. This raises the question of how such losses, often thought of as social obligations, should be handled. Third, eliminating inefficient production and restrictive labour practices means the release of resources. This will benefit taxpayers and consumers outside the industry, but some employees and suppliers will suffer. The short-cut criterion does not explicitly recognise these losers. Ways of coping with these three problems are discussed below.

Some have argued that ownership is largely irrelevant. But could the benefits of privatization be obtained without the change in ownership? We have already argued that ownership *does* matter because consumers in general will be better served. Also, for political reasons, privatization may be a necessary accompaniment to competition. The additional liberalization of entry into telecommunications announced in February 1983 would not have been politically feasible if the transfer of British Telecom to private ownership had not by then been in process. Furthermore, competition policy is (or certainly could be) more effective against a private company than against a nationalized industry.

Alternative ways of increasing market pressure are politically limited. The benefits of privatization derive partly from the ability to diversify and redeploy assets, unconstrained by nationalization statutes. These statutes might be relaxed without transfer-

¹ To support this argument, there is growing empirical evidence, mainly from the USA, that privately-owned companies make more efficient use of labour, capital and other resources, and are also more innovative. See, for example, De Alessi, 1974, 1980.

ring ownership, but rival firms and taxpayers fearing government-subsidized competition or uncontrolled expansion would undoubtedly oppose this. Again, efficiency might increase if governments refrained from intervening in the industries, but as long as the industries are nationalized, such self-restraint is implausible. The industries might be asked to act commercially, but nationalization itself delays inevitable adjustments to market forces. The substantial reductions in overmanning in BA and the nationalized manufacturing industries could surely not have been achieved if the intention to privatize had not already been expressed.

Nationalized industries were deemed appropriate vehicles for a wide variety of social policies. But most consumers' interests were adversely affected, and nationalization often proved inadequate for the social purposes too. It is now necessary to reform the industries while meeting social needs. This is always a politically difficult exercise, and impossible with nationalization. Privatization properly designed makes it possible to decouple the two tasks, and to focus social policy more effectively.

Competition

Competition is the most important mechanism for maximizing consumer benefits, and for limiting monopoly power. Its essence is rivalry and freedom to enter a market. What counts is the existence of competitive threats, from potential as well as existing competitors. The aim is not so-called 'perfect' competition; rather, one looks for some practical means to introduce or increase rivalry. The relevant comparison for policy is between the level of competition that could realistically be created, and the present state of the nationalized industry.

Certain features of nationalization need attention whatever the ownership form finally adopted. The artificial restrictions on entry embodied in the statutory monopolies granted to most of the earlier nationalized industries should be removed. Government-controlled resources (e.g. wayleaves and radio spectrum; airspace, routes, and landing rights; harbour facilities; mineral rights on land and sea etc.) should be made equally available to new entrants, without favouring the incumbent nationalized concerns.

The starting structure for the successor private company or companies is extremely important. In some cases, different parts of the industry could compete if formed into horizontally separate companies. Resources or assets could be transferred to potential entrants. Vertically separating the industry into different companies would also generate rivalry at the interface. If, for example, British Telecom's International

division were separated from the Inland division, each would encourage alternative sources of supply (including self-supply).

Splitting up an organization might involve sacrificing economies of scale or scope. Increased costs of production or transacting may offset the gains from increased competition. This argument is dubious for present nationalized industries, since they have been determined largely by political or administrative, not market, forces. However, in the absence of competition, one cannot know in advance precisely what industry structure will prove most efficient. Therefore, as far as possible, the future growth of the industry should not be fixed by the pattern established at flotation. Companies should be allowed to expand or contract, diversify or specialize, as market forces dictate. Where there are very few existing outside competitors, or none at all, the starting structure should be designed to create effective competition. When in doubt, smaller rather than larger successor companies should be created, and allowed to merge thereafter, subject to rules of competition policy discussed below.

Regulation and Competition Policy

Even the introduction of such competition as is feasible may still leave the incumbent with significant monopoly power in some industries. How should this be dealt with? Government will no longer have the direct and indirect control associated with nationalization, but alternative means of influencing or regulating conduct are available (besides the promotion of competition).

One favourite idea is to influence the successor company's prices by limiting the profits earned, expressed as a rate of return on capital. The US has had much experience of this; the result has generally been higher rather than lower prices. Some defects are well-known: disincentives to efficiency, a 'cost-plus' mentality and expensive enforcement. Other defects are gradually becoming better understood: the vulnerability to 'capture' of the regulatory commission by the regulated industry, and the associated tendency to limit competition among incumbents and to restrict new entry. In fact, US regulation embodies a philosophy similar to nationalization, with similar effects. Rate-of-return regulation should not be thought of as a relevant accompaniment to privatization.

There is considerable pressure for efficiency audits or value for money audits, on the grounds that monopoly industries will have inadequate incentive to increase efficiency. Without sanctions for non-compliance, such audits are likely to be ineffective. However, if they are used for setting tariffs and controlling investment plans, the

system essentially amounts to rate-of-return regulation, itself defective for the reasons just indicated. Pressure of competition and the firms' own incentive not to waste resources are likely to be more effective inducements to efficiency than the creation of a government nanny.

Another possibility is to limit prices directly by means of explicit tariff restrictions. For example, it is proposed that the price of a bundle of telecommunications services should not increase by more than X percentage points below the Retail Price Index (the RPI-X formula) for a period of five years. This could be applied to any set of services, perhaps weighted as in the bills of a representative consumer. The level of X would, in practice, be the outcome of bargaining between BT and the Government; an exhaustive costing exercise is not called for.

The purpose of such a constraint is to reassure customers of monopoly services that their situation will not get worse under privatization. It 'holds the fort' until competition arrives, and is inappropriate if competition is not expected to emerge. It is a temporary safeguard, not a permanent method of control. The 'one-off' nature of the restriction is precisely what preserves the firm's incentive to be efficient, because the firm keeps any gains beyond the specified level. Repeated 'cost-plus' audits would destroy this incentive and, moreover, encourage 'nannyish' attitudes towards the industry.

A preferable alternative to detailed regulation of costs, profits or prices is greater reliance on competition policy. Predatory competition should be discouraged, both to curb monopoly power and to allow new ownership structures to emerge after privatization. In the UK at present, potential anti-competitive practices have to be considered in turn by the Office of Fair Trading, the Monopolies and Mergers Commission and the Secretary of State. In the case of hitherto-nationalized industries a stronger and speedier policy is required. The main aim should be to protect existing and potential competitors likely to be at a disadvantage when competing with a dominant incumbent, who in the past has generally had the advantage of statutory protection, and who even now probably has significant legal and other advantages (e.g. rights of way). Certain practices (e.g. price discrimination, refusal to supply, full-line forcing) should be explicitly prohibited if they are used by the dominant incumbent to eliminate or discipline specific competitors. Parties adversely affected should be able to sue in the Courts, perhaps for triple damages.

The 1983 Bill privatizing British Telecom exhibits some awareness of the problem. Present monopoly control has been supplemented by an Office of Telecommunications, and BT's licence will require published tariffs and prohibit predatory price

discrimination. However, encouraging future entry and reliance on competition policy instead of regulation have yet to be as firmly established as would be desirable.

Non-Commercial Obligations

Nationalized industries provide various services which are uneconomic at present prices and costs. Not all are necessarily uneconomic and some could be made viable by a private company or companies operating with increased efficiency. However, there will also be attempts to raise certain prices and/or reduce certain services. Since a main aim of privatization is to guide resources to the most highly valued uses, the companies should not be prevented from doing so. Nevertheless, it may well be felt socially desirable or politically necessary to ensure that certain prices or services are maintained (e.g. in rural areas).

Procedures for establishing non-commercial obligations need to be clearly specified. Each privatization act should define which services are potentially of social concern. Any company claiming that such a service is uneconomic should be required to provide relevant financial data to support its case, accompanied by a request to withdraw unless a subsidy is provided. A specified public body (e.g. a local authority) will then consider whether the case is plausible, whether another operator is willing to provide the service, and whether a subsidy should be provided.

Where should this subsidy come from? One of the prime aims of nationalization was to facilitate cross-subsidies from more profitable services. However, cross-subsidization largely hides the extent of the subsidy and opens the door to political pressures. Also, it inevitably entails restrictions on competition so as to protect the source of funds: cross-subsidization and unrestricted competition are mutually incompatible. For these reasons, economists have long recommended that explicit public subsidies should be provided in preference to cross-subsidies.

What if the government is unwilling to do this? Explicit subsidies have admittedly not proved politically popular to date. Other possibilities have to be explored. In telecommunications it is currently envisaged that BT will charge an access fee to other networks; this will be used to finance emergency services, call-boxes and certain loss-making services in rural areas. This amounts to a tax on telecom operators to support particular socially-sanctioned outputs. So long as the scope of these 'social' services is narrowly defined, stringent tests of loss-making are applied, and the access fee is applied to all relevant operators, the tax will remain low and competition should not be seriously damaged. Such compromises may well have to be worked

out for many cases of privatization in which protection of particular consumers is deemed important. They will reduce total net benefits to consumers; but political realities have to be faced. Unless safeguards are provided for adversely affected interest groups, privatization itself could well be jeopardized. Once again, the design of the privatization scheme is crucial.

Privatization is often opposed on the grounds that it leads to unemployment. But even state-owned firms cannot in practice finance overmanning over long periods. Large-scale redundancies have already occurred in those which have failed to match international competitors' efficiency. Where the effects of privatization promise to be severe, generous redundancy payments should be made. However, remaining employees' prospects will be brighter in privatized industries, which have a superior ability to adapt, diversify and grow.

Priorities

We have argued that a nationalized industry should be privatized if the net benefits to consumers from doing so are positive. Many industries will meet this criterion, yet it would be impossible to privatize all of them at once, if only because of the constraints imposed by the parliamentary timetable. Which industries should then be given priority? Leaving aside political considerations, our criterion indicates those industries where the consumer benefits of privatization are greatest. How can this be determined?

First, other things being equal, a larger industry offers larger potential scope for savings. That is, if costs and prices can be reduced by an average of x per cent, an industry with a turnover of £2 billion offers twice the potential benefit of an industry with a turnover of £1 billion. Table 1 on page 10 lists the nationalized industries in order of turnover. It shows that the largest three industries (electricity, telecommunications and gas) account for nearly half the total turnover in the nationalized sector. At the other end of the list, there is relatively little to be gained by privatizing the smallest seven industries, whatever percentage gains each one could generate, since together they account for less than 6 per cent of total turnover in the nationalized sector. Of course, other things are *not* equal, and the industries offer significantly different scope for generating benefits, as we show in a moment. Nonetheless, the criterion of size must be constantly borne in mind. For example, to match a 1 per cent saving in capital employment in the electricity industry, it would be necessary to achieve a saving of 2 per cent in telecoms, 5 per cent in coal, 12 per cent in steel or 24 per cent in posts.

Table 1 *Nationalized Industries,* year 1981/82*

Name	Turnover £m	Capital employed (CCA basis) £m	Workforce 000s	% change in workforce since 1979/80
Electricity Industry (1)	8 057	32 605	147	- 8
British Telecom	5 708	16 099	246	+ 2
British Gas	5 235	10 955	105	0
National Coal Board	4 727	5 891	279	- 5
British Steel	3 443	2 502	104	-38
BL	3 072	1 521	83 (5)	-31
British Rail	2 899 (2)	2 746	227	- 7
Post Office (3)	2 636	1 347	183	0
British Airways	2 241	1 338	43 (4)	-24
Rolls-Royce	1 493	992	45	-23
British Shipbuilders	1 026	655	67	-18
S Scotland Electricity Board	716	2 817	13	- 5
National Bus Company	618	508	53	-16
British Airports Authority	277	852	7	- 7
N Scotland Hydro Electric	270	1 981	4	- 3
Civil Aviation Authority	206	162	7	- 2
Scottish Transport Group	152	157	11	-17
British Waterways Board	16	50	3	- 2
Total	42 792	83 178	1 627	

* These are the organizations classed as nationalized industries in the public enterprise division of the Treasury, as reflected in the White Paper *Government Expenditure Plans*, Cmnd 8789, with the addition of BL and Rolls-Royce.

Notes:

- (1) Including CEGB, Council and Area Boards. Figures for CEGB alone are £6 364m, £23 357m, 55 000, -11%.
- (2) Including government contract payments £810m
- (3) Including Giro and postal orders
- (4) Reportedly 37 500 as at March 1983
- (5) UK only; overseas approximately 22 000

Second, industries will offer less scope for savings if they have already been subject to severe remedial action, and more scope if they are as yet relatively untouched. The last column of Table 1 shows the percentage changes in manpower over the last two years. By this criterion, the 'manufacturing' nationalized industries (British Steel, BL, Rolls-Royce, British Shipbuilders) plus British Airways and the bus companies probably have relatively small further savings to offer compared to the other industries, particularly since press reports suggest that yet more redundancies are already in train.

Third, benefits to consumers are likely to be greater insofar as competition rather than monopoly is likely to predominate. Competition could come from multiple ownership in the same industry, from abroad, or from rival products. However, in order to ascertain which industries, or parts of industries, are susceptible to competition it is necessary to examine more closely the demand and cost conditions under which the industries are likely to operate.

These ideas may be clarified by conceiving of each nationalized industry as located in a simple two-by-two matrix. Demand prospects for typical services and products are classified as Good or Bad, depending on long-term trends, and supply prospects are classed as conducive to Single or Multiple (competing) ownership depending on developments in technology. This of course oversimplifies the situation, but the contrasts between the industries are great enough for the divisions to be useful.

Diagram 1 on page 12 shows our own conjectures as to the quadrant in which each industry would be located *if appropriately privatized*. These are not necessarily the same quadrants as the one in which the industries would currently be placed. As we shall shortly argue, privatization may well be necessary in order to shift an industry from an 'inferior' quadrant to a 'better' one, i.e. to one which offers greater benefits to consumers (and, often, to employees also). In some cases, too, it is appropriate to place different parts of an industry into different quadrants (e.g. electricity production and distribution). We now consider each quadrant in turn — for convenience, in the order D, C, A, B.

Quadrant D

Industries in this quadrant need present no problems of monopoly power, since multiple ownership is quite feasible within the UK. Moreover, the manufacturing industries among them — British Steel, BL, British Shipbuilders and Rolls-Royce — are already subject to international competition, which secures prices as low as can

Diagram 1 Classification of Nationalized Industries Post-Privatization

		Demand Prospects	
		Good	Bad
Supply Prospects	Single	A Electricity distribution (Area Boards and Grid) Telecoms (local) Gas distribution Airports	B Rail Post (or possibly C?) Waterways
	Multiple	C CEEGB (excl Grid) Telecoms (excl local) Gas production Coal British Airways	D Steel BL Rolls-Royce Shipbuilding Buses

be expected, given the current excess capacity on a world scale. Operating efficiency — or lack of it — in the UK industries is a relatively minor factor in determining prices. Labour monopoly power has surely been much reduced. There may be expansion as the depression ends, but there will probably be increasing competition from superior sources abroad, so these industries are always likely to occupy quadrant D. Thus, consumers in these manufacturing industries will gain little *directly* from privatization.

Consumers will, however, gain indirectly from privatization, notably as taxpayers. Private owners will be more willing and able than the government to identify and rectify inefficiencies and to exploit new opportunities. Privatization will reduce the liability to losses and free resources for better use elsewhere. It should not be deferred merely to get the industries 'into the black', by further subsidies, so that a 'respectable' flotation price can be achieved.

Of all the nationalized industries, bus operations are least suited to the scale of operations which nationalization implies. Nevertheless, the prospective gains are greater from encouraging competition than from privatization. An important element of NBC is long distance traffic. Here deregulation occurred in 1980, leading to increased competition, better service and lower prices. Further gains would follow

from removing further obstacles to competition (e.g. by facilitating access to favourable terminal locations). In urban areas, the principal short-distance markets, quite different conditions prevail. The incumbent operators are owned by local authorities, and to a much lesser extent by NBC, and entry is still toughly regulated. Here, there would be a large gain from deregulation, not least in the redistribution of bus resources towards the more favourable routes. Methods of subsidy should also be changed to stimulate competition so as to promote efficiency among all kinds of operators (e.g. by shifting subsidies to users, not paying them to producers).

In sum, privatization of the manufacturing industries in quadrant D will yield positive but small net benefits to consumers, so a high priority is not indicated. In the bus industry, preference should be given to facilitating competition where it is at present restricted.

Quadrant C

Industries in this quadrant are characterized by good long-term demand prospects. They happen to be very large, and (with the exception of British Airways) are relatively untouched as yet, so they presumably offer considerable scope for improvements in efficiency. They need present no significant problems of monopoly power, because multiple ownership is viable. Thus, they are prime candidates for privatization.

Interestingly, however, none of the four industries is organized as if it were in quadrant C at present. The CEGB and British Telecom are each a single organization (though Mercury should begin to offer a challenge to the latter). The NCB is a single organization whose prospects in the absence of privatization are somewhat dim. British Airways is part of a multi-ownership industry, but again its prospects without privatization are unclear. Currently, these industries would probably be put in quadrants A, B and D respectively. Privatizing them involves recognizing that, wholly or partly, they could belong to quadrant C, and that benefits for both consumers and employees can be secured without generating severe problems of monopoly power. However, careful attention needs to be given to their structure after privatization.

In the case of the CEGB, the national grid should remain in public ownership for the present, perhaps as a common carrier. (It might be integrated with the Department of Energy.) The generating stations should be sold to separate buyers, so as to establish competition in production. Firms would be allowed to bid for a group of stations

(and coal mines) so as to achieve economies of integration, but sufficient independent entities would be created to make competition workable.

Privatization of the British coal industry would follow a similar pattern. Consumers would benefit directly from the lower prices due to competition, including the removal of restrictions on imports. The prospects for the British coal industry itself would also be greatly improved. There are currently very dramatic differences in costs between different pits. Resources of capital and labour would be reallocated so that the more efficient pits — which would command the highest prices on privatization — would expand. There would also be benefits from a severe reduction in the monopoly power of labour. The relatively low capital-labour ratio (£21 000 capital employed per man in 1981/82) could profitably be increased. Because long-term trends in demand are favourable to coal (particularly when synthetic fuels become viable), and because Britain has many favourably-placed locations for coal mining, the industry could once again become an expanding one. Employment could then increase in the British coal industry as a whole. In practice, privatization seems necessary to secure these benefits. Of the pits which are presently extra-marginal, some would become viable as a result of more efficient management. Widespread closure of the least efficient pits would necessitate a generous policy to cope with social adjustment. As noted earlier, a merit of privatization is that it divorces the problem of industrial development from that of discharging society's debts arising from the past.

The 1983 Bill enabling the privatization of British Telecom does not envisage the restructuring of British Telecom. The present analysis would indicate the creation of several successor companies. Local distribution (which we place in Quadrant A) presents the chief monopoly problem. The Bill does explicitly recognize the need for developments in competition policy to prevent the exploitation of a dominant position, and the Government has concurrently announced limited measures to facilitate competition from new entry, though more could be done. Overall, most of the industry is prospectively in quadrant C.

The British Gas Corporation is already subject to competition in the discovery and extraction of gas. It has hitherto held a favoured position as sole buyer; this has recently been discontinued. Competition and efficiency would be further increased if some of the extremely valuable existing contracts were auctioned to new entrants, if the production side of the Corporation were completely separated from the national grid and local distribution, and if restrictions on gas exports were removed. Whether privatization of gas production would create direct as well as indirect benefits for consumers is not clear.

No special steps are necessary to achieve a competitive market structure for British Airways, though fewer restrictions on routes and allocation of airport landing slots on a more competitive basis would facilitate competition. However, as with the manufacturing industries, it is not clear that the further gains to consumers from privatizing BA would be substantial. Thus, in quadrant C, the prime candidates are the CEEB, British Telecom and the NCB.

Quadrant A

The industries in this quadrant are characterized by good demand prospects but the supply prospects do not favour multiple competing ownership. Local distribution systems for electricity, gas and telephones are characterized by high sunk costs. With the possible exception of telephones, they do not face much immediate technological challenge, and will be sustainable as local monopolies. Consumers are therefore at risk.

Cannot the market process be used even if successor entities are sustainable monopolies? Some have argued for auctioning franchises to private bidders, thereby encouraging competition for the monopoly privileges. Franchising would transfer the value of the inherent monopoly power to the seller — in this case the government. This benefits the taxpayer, but does little to help the consumer. There are practical snags, too, in awarding the franchise to the bidder offering the lowest price to consumers, as witness experience in the US with franchising cable TV. It is difficult to specify in advance the appropriate pattern and quality of output, and the costs of negotiating and monitoring contracts are substantial. Furthermore, it is difficult to sell a franchise on the premise of sustainable (natural) monopoly alone. Bidders will usually demand statutory monopoly privileges, which will create formal exemption from risks of entry and engender a position from which to exact further concessions from governments. Though the franchising option is not ruled out, it needs far more analytic attention before positive recommendations can be made.

This does not mean that nothing can be done to generate benefits for consumers in these industries. Restrictions on new entry can be removed, so as to pare down the monopoly to a minimum. This has recently been done for gas and electricity, but entry into local telephone networks (e.g. by cable TV companies) is still highly restricted. Dividing utility distribution systems into regionally independent units would create market pressures on supplies of factors of production, not least in providing alternative opportunities for hiring and rewarding management talent, and would facilitate competition on the production side. Between airports, there is some,

but not much, scope for direct competition for customers. It would be quite feasible, and beneficial, to organise the more important airports as separate entities.

To summarize, privatizing the industries in quadrant A will pose problems in curbing monopoly power. It would be more fruitful to encourage competition by removing restrictions on entry and restructuring the industries, even if the successor companies remain as nationalized, municipal or other public bodies.

Quadrant B

The industries in this quadrant have declining demand prospects while their supply conditions favour a single organization. Monopoly power may be a problem in some services, but it is generally not severe because the reason for the decline in demand is the emergence of substitutes preferred by consumers. Nationalization was seen as a means of resisting decline: it led to continued injections of new capital and the financing of losses. The aim of privatization would be to facilitate the movement of resources out of these industries and/or use existing resources more fully by developing new products and services. However, social and political problems will accompany the withdrawal of services. Privatization schemes will need to be designed with careful thought to non-commercial obligations.

As far as rail operations are concerned, British Rail would remain in quadrant B after privatization. These operations are not easily divisible below reasonably-sized and geographically separate sectors, such as the old regions. No one is likely to want, or to be able, to emulate such successor railway supply companies, so their monopolies will be technically sustainable. However, demand is adverse, and will increasingly be so. This particular combination of circumstances BR shares with British Waterways. But BR is marked off from the other nationalized industries by the exceptionally high alternative use value of its assets. Its territory is immense, and in many parts very valuable indeed. Privatization here would indeed be called an asset stripper's paradise, not just for selling land, but for all the myriad deals which can be constructed, based on locational advantage.

In the case of a declining industry of high alternative use value, asset stripping is very much in the general consumer's interest. However, railways are perhaps the most politically sensitive of all the nationalized industries. Wholesale withdrawal of services would not be politically acceptable. A practical compromise therefore presents itself. Successor companies could be floated which, in return for command over assets, would have to bind themselves to a minimum programme of rail output. This

output would be heavily passenger-oriented and would, in effect, be financed by profits from other activities. Because of privatization, the required output would be achieved in a much more economical way than at present, thereby freeing up many stations, marshalling yards and miles of track. The alternative use value of these assets is so great that a quite considerable passenger output could be insisted upon. The Serpell report thought it necessary severely to curtail the rail network in order to achieve financial viability. With the present approach, a much higher rail output could be attained. Thus, privatization would open up social solutions not possible under nationalization.

Demand for postal services is probably decreasing, partly because of more direct competition from telecommunications. However, there are attractive market possibilities in new forms of collaboration with new techniques. In fact, though most would now place the Post Office in quadrant D, there are opportunities for its eventual emergence in quadrant C. Mainly because it is so labour intensive — capital employed is the lowest of all Table 1's industries at £7 600 per man — there is considerable scope for labour substitution and redeployment. The basic distribution network has great potential for development outside traditional Post Office work. A useful form of privatization would be a successor national company, or several regional companies, which essentially would franchise the local operations to individual small groups. One could therefore expect not only an improvement in postal services, but also a willingness to diversify into such services as security and delivery work.

Conclusions

Privatization is not merely a matter of selling shares in a nationalized industry. The underlying intent is to improve industry performance by increasing the role of market forces. To achieve this, other devices for promoting competition must also be adopted. Each act of privatization must be part of a whole scheme tailored to the particular conditions of each industry.

The following general considerations should guide policy:

- (i) Privatization schemes should be designed to maximize net consumer benefits, measured primarily by lower prices and improved quality of service, rather than stock market proceeds. A futures market for shares would facilitate flotation.

- (ii) The promotion of competition — by removing artificial restrictions on entry, making resources equally available to potential entrants, and restructuring the existing industries — is the most effective means of maximizing consumer benefits and curbing monopoly power.
- (iii) Stricter competition policy is preferable to rate-of-return regulation, efficiency audits and related forms of government 'nannying'.
- (iv) Clear ground rules should be laid down concerning the criteria for providing uneconomic services and the sources of finance for these.
- (v) Compensation should be paid for serious transitional unemployment, though in the longer run employees' prospects will be enhanced by privatization.
- (vi) Priority should be given to privatizing those industries where consumer benefits are likely to be greatest. Potential benefits will depend upon the size of the industry, whether it has already received attention, and whether competition rather than monopoly is likely to ensue.

The scope for privatization is substantially greater than is commonly believed. Consumers would benefit, directly or indirectly, from appropriately designed privatization schemes in industries covering over four fifths of the presently nationalized sector. In the remaining industries, notably buses, airports and local distribution of electricity, gas and telephones, the main benefits would derive from restructuring into smaller units and facilitating new entry.

The announced intention to privatize British Airways and the manufacturing industries has already helped to increase efficiency, and privatization should not be delayed merely to increase the proceeds from flotation. Nevertheless, these industries are no longer first priorities. Greater benefits to consumers would derive from privatizing the Central Electricity Generating Board (excluding the national grid), British Telecom, the National Coal Board, British Rail and the Post Office. Apart from British Telecom, these industries are seldom thought of as candidates for privatization. However, the bulk of the consumer benefits that can be expected to follow from privatization could be achieved by appropriately designed policies for these five industries alone.

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The Role of Commodity Prices in Economic Recovery

by Nicholas Kaldor

The economic model which in my view is most likely to highlight the central problems facing the world economy is the one which looks upon the economic activities of the world as consisting of two large complementary sectors. One is the primary sector, which supplies food, raw materials and energy, all of which depend upon man's powers to exploit for his own use the natural resources of the planet. The other main sector is the so-called secondary sector, which consists of the production of finished goods out of the products of the primary sector. In a simple approximation we could refer to these two sectors as 'agriculture' and 'industry'. But not all primary products are agricultural; there are all the minerals and forms of energy such as coal and oil which are the result of mining. What is common to all of them is that they are 'land-based' activities in the production of which natural resources (or simply 'land' to use the classical expression) play an important role. Industry on the other hand is dependent on the flows of supplies of primary products, for the conversion of which it requires increasing amounts of labour and capital. However, the availability of labour and capital for industrial purposes cannot really be regarded as an effective limitation in itself except for short periods. The conversion capacity of the numerous industries of the world can be treated as given at any one moment, as the heritage of the past, but over longer periods it can be increased almost indefinitely, since on a global scale there are no practical limits to the increased employment of labour, whilst the accumulation of capital through additional investment is but a facet of the increase in industrial production and a more or less automatic consequence of the increase in demand for manufactured goods.

The classical economists, Adam Smith and his followers, were undoubtedly on the right track when they made their predictions on the assumption that while the law of increasing returns applies in industry (because the productivity of labour depends on

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the division of labour and the latter in turn depends on the size of the market), the law of diminishing returns applies in agriculture, because the most favourable opportunities are exploited first, and any further enlargement of production implies exploiting the less favourable or less adaptable resources of nature. Hence their underlying pessimism based on the existence of ultimate limits to primary production which must bring all economic growth sooner or later to an end.

Yet nowhere were the predictions of economists so completely falsified as in the prophecy of Malthus and Ricardo that with the growth of world population more and more of the world's labour and capital resources would be required to be devoted to agriculture, leaving less available for industry and services. On the contrary, the last two hundred years witnessed, despite the enormous population explosion, a spectacular diminution of the share of economic resources devoted to agriculture and mining.

There can be no guarantee that this favourable trend will continue. That it was so completely unforeseen was due to the failure to recognize that land-saving or natural-resource-saving technological progress was so much more important quantitatively than the labour-saving technical progress in the manufacturing industries. This account gives a partial view, however, since the world production of primary commodities has not grown as fast as would have been required to raise the living standards of the world population at the same rate as those of the industrially developed countries which comprise only one-third, or perhaps only one-quarter of humanity. In fact, elimination of the backwardness and low living standards of the Third World would require a manifold increase in the production of energy, metal-containing minerals, agricultural raw materials and food. This is only another way of saying that the ultimate factors governing the permissible rate of growth of the world economy are to be found in the growth of the availabilities of primary products and not in the availabilities of labour or capital; and given this rate, industrial growth tends to get polarized (or concentrated) in a minority of fast-growing areas owing to the cumulative effects of static and dynamic economies of scale.

The Market Mechanism

According to standard economic theory, it is the function of the market mechanism to ensure that the long run compatibility between the growth of availabilities of primary products and the growth of industry is maintained. In the absence of economic planning by governments or by international organs, the mechanism consists of price variations in primary commodities relative to industrial goods, induced

by market forces. If industrial requirements race ahead, primary product prices will rise, and this will check industrial growth and at the same time stimulate 'agricultural' growth. In the converse case, the terms of trade move against 'agriculture', and the adjustment will work in a contrary direction.

The functioning of this mechanism in the present century (though not perhaps in the 19th century) was increasingly impaired by the fact that primary product prices (until the 1930s at any rate) were determined in highly competitive markets, whereas industrial products were marketed under monopolistic conditions with producers setting their prices mainly by reference to costs. In the latter case, the response of supply to demand took place not through the agency of price changes, but as a direct result of the so-called stock-adjustment principle. Manufacturers expanded or contracted their rate of production according to whether the flow of new orders exceeded or fell short of what was required to keep stocks in a normal relation to turnover.

The highly competitive markets in basic commodities on the other hand rely on variations in *prices* for keeping demand and supply aligned to one another, both in the short run and in the long run. In the short run it was the function of middlemen (the merchants or professional traders operating in every market) to cover the gap arising from short-period differences between the flow of absorption and flow of accrual of commodities, by keeping a variable stock reserve which provided a source of additional supply in case of excess demand and of additional demand in the case of excess supply.

The efficiency of this mechanism, however, depended crucially on the professional traders' willingness to absorb stocks or to release stocks in response to variations in market prices that were not unduly large. This in turn depended on the traders having a *firm* expectation of a long run normal price for each commodity, deviations from which would be considered as temporary. The firmer or the more certain the expectation of a normal price for, say, wheat, based on normal costs of production, the greater was the traders' willingness to increase their stocks in response to a fall in prices and *vice versa*. It is important to remember that the whole system depended for its smooth functioning on induced variations in (privately held) stocks — a condition which may have been more valid in the 19th century than in the present century. Long before the outbreak of the First World War and far more in the period between the two World Wars, commodity markets functioned in an increasingly unsatisfactory manner — that is to say, they functioned only through very large

short-term variations in prices which were reversed within a few months. Thus Keynes, writing in 1938, calculated that on the *average* of the previous ten years the difference between the highest and lowest prices in *the same year* in the case of rubber, cotton, wheat and lead amounted in *the average* to 67 per cent.¹ In the post-World War II period the volatility of commodity prices in the free-market commodities was greater than before the War, as the calculations of Mr St-Clair Grondona have shown.² While between 1950 and 1970 the index of the prices of internationally traded basic materials, as compiled by the UN, remained constant in dollar terms, there were sharp fluctuations up and down with changes in the rate of growth of industrial activity, and of course much sharper fluctuations in *individual* commodities such as sugar. And since 1971, as Professor Sylos Labini has recently shown,³ the prices of raw materials became far more sensitive to variations in world industrial production than they were before. Whereas in the period 1950-1971 the rise and fall of raw material prices coincided with corresponding changes in the growth rate of world industrial production, but the percentage range of variations in prices was somewhat smaller than that of industrial production, *after* 1971 the extent of price fluctuations in percentage terms was nearly three times as great, see Figure 1 opposite.⁴ Thus the sharp rise in prices in 1972-74 was followed by an almost equally sharp fall in 1974-75, which was again abruptly reversed when world industrial production recovered in late 1975 and in 1976; in fact there can be little doubt that the sharp rise in raw material prices in 1976 (and again, following another sharp fall, in 1978) was the main factor which nipped world industrial recovery in the bud. These extraordinary changes reflected changing expectations concerning the future rate of inflation, far more than varying pressures of demand coming from outside the markets, and this is best seen by the close correlation between movements in the gold price and commodity prices which doubled and quadrupled in a couple of years only to be halved again in the next couple of years. Until recently, with

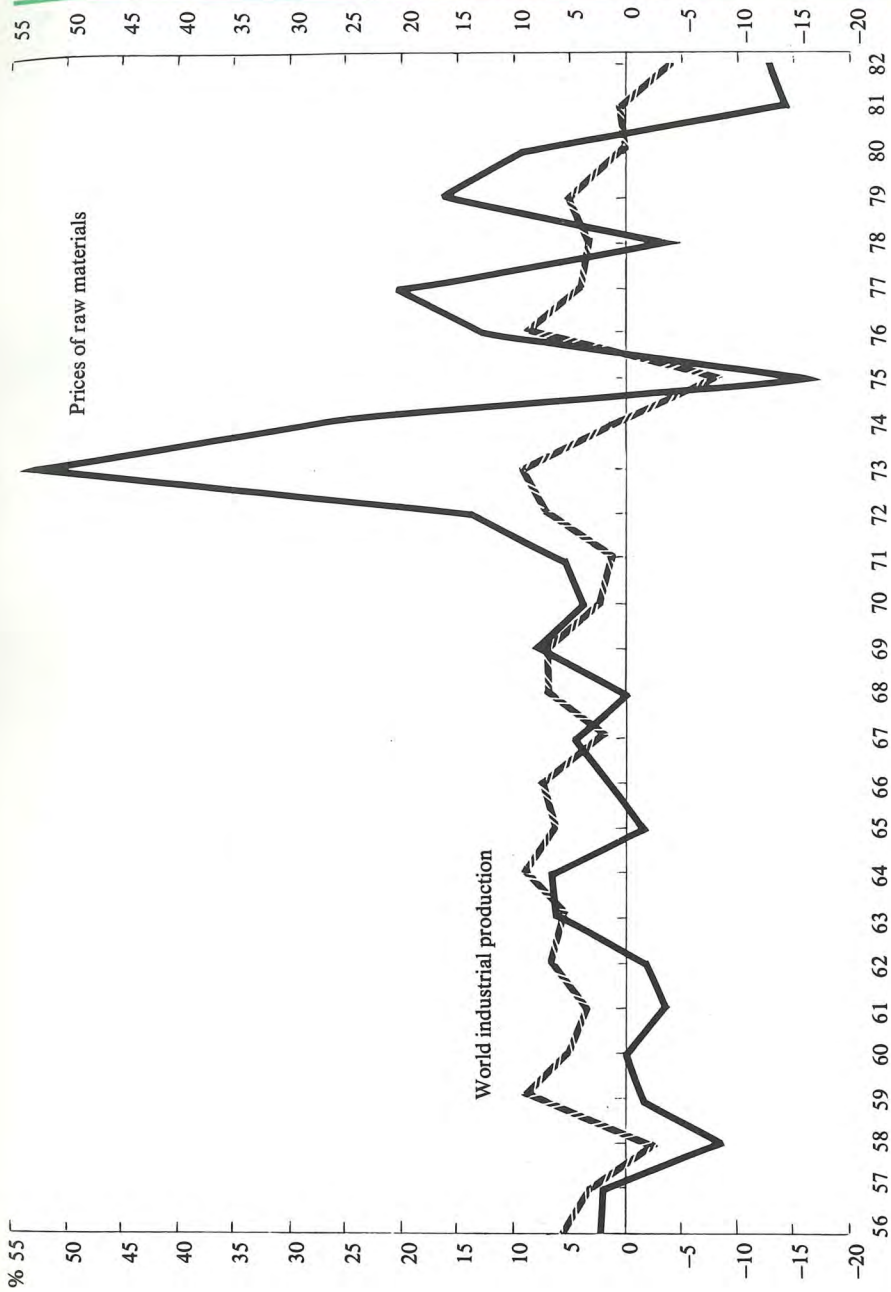
¹ 'The Policy of Government Storage of Food Stuffs and Raw Materials', *Economic Journal*, September 1938, pp 449-460.

² St-Clair Grondona, 'Economic Stability is Attainable,' Hutchison Benham, London, 1975.

³ *On the instability of commodity prices and the problem of Gold*, paper presented to the World Conference on Gold, Rome, February 1982.

⁴ Professor Labini's calculations are shown in Figure 1. Professor Labini also calculated the regression equations of the rates of change of commodity prices ($\dot{R}M$) as a function of the rate of variation in industrial production ($\dot{W}IP$) for the periods 1958-71 and 1972-80. For the first period the regression equation is: $\dot{R}M = -5.1 + 0.9 \dot{W}IP$; For the second period it is $\dot{R}M = + 9.1 + 2.4 \dot{W}IP$.

Figure 1 Industrial production and the prices of raw materials



Source: The figures were compiled by Professor Sylos Labini from various issues of *International Financial Statistics*, *Yearbook*, *IMF*, and *Main Indicators*, *OECD*.

deepening world-wide recession, the terms of trade of commodity producers were less favourable than at any time since the 1930s.¹

Stabilization Schemes

The efficiency of commodity markets as we have seen very largely depends on the traders' belief in the long run stability of the 'normal price' of each commodity. Once this belief is impaired or destroyed by the instability of *actual* prices, the traders' subjective appreciation of the risks incurred in holding stocks is increased, with the result that they require a higher expected compensation for any departure — upwards or downwards — from their normal commitments (their normal stock/turnover ratio). But this means, in turn, that any variation in the carry-over of stocks from period to period will be associated with an even greater variation of prices, which in turn will have further repercussions on the traders' willingness to take risks. Thus unregulated commodity markets, contrary to the generally held belief, represent a highly wasteful and primitive instrument for aligning the supply and demand for commodities. In fact, as a result of experience, the demand for commodity price stabilization schemes became increasingly widespread even before the collapse of world commodity prices after the 1929 crash.

In the course of the 1930s, most countries introduced schemes for securing 'remunerative and stable prices' for the producers of the main agricultural crops, chiefly food-grains. One of the first of these schemes was the agricultural price support programme of the Roosevelt Administration in the United States, which set the pattern for national schemes in all those countries which had exportable surpluses and which could not therefore be adequately protected by import duties. The Common Agricultural Policy (CAP) of the EEC was a development in direct line

¹ In the more recent period the high volatility of commodity prices was aggravated by the policy-induced volatility of interest rates — a consequence not of economic forces, but of the spread of 'monetarist' ideologies, and the attempts by Governments to set targets to the growth of the money supply, and to vary interest rates so as to secure some degree of conformity with these targets. Thus according to William D Nordhaus, *Chaos and Confusion in the International Economy Today*, (prepared for the *Seminaire de reflexion sur l'economie mondiale*, Paris, May 1982), since 1979 the volatility of monthly changes in interest rates in the United States rose by a factor of six at the short end, and a factor of $2\frac{1}{2}$ -4 at the long end of the capital market. This was reflected, in greater or lesser degrees, in corresponding increases in volatility of interest rates and of spot exchange rates of other countries. Thus some countries such as Japan preferred to keep interest rates relatively stable at the cost of more violent movements in the spot exchange rate; others, like the members of the EMS (European Monetary System) or Britain preferred to allow their interest rate to fluctuate with US rates. This of course was an additional source of instability, with adverse effects both on investment and on international trade.

with these earlier measures; it was the first of its kind which aimed at securing a uniform set of agricultural prices in a number of countries — the members of the EEC — simultaneously, but did so by methods of local market intervention that gave the appearance of a 'common price' without the reality of free competition between relatively low-cost and relatively high-cost areas.

It was intended, first of all, as a subsidy to farmers through the stabilization of prices at a remunerative level. I do not wish to go into the defects of its basic conception, which have already been frequently analysed. Here I would stress its two advantages which have not been so widely recognized.

(1) The first is the great advantage of guaranteed prices in improving agricultural productivity. This is equivalent to a large reduction in costs, or in the cost of borrowing, which makes it profitable to the producers to carry investments a great deal farther than they would have done otherwise. The introduction of a guaranteed price has thus a productivity-raising effect as such — this was found equally to be the case among temperate or tropical foodstuffs (e.g. the effect of the introduction of marketing boards in West Africa, etc.); and also under schemes in which the price was stabilized by direct market intervention, or through deficiency payments to the farmers who sold in a free market below the guaranteed price (as under the post-war British scheme which was in force prior to the UK joining the Common Market).

(2) The second relates to the effects of steadily rising purchasing power of the agricultural community on the demand for manufactured goods. The rate of growth of the secondary, or manufacturing sector, mainly depends on the rate of growth of the demand for its products coming from *outside* the sector — whether this is export demand, or demand coming from the agricultural sector *within* a country. If the growth of demand from 'agriculture' is speeded up, then the growth of demand within the industrial sector will also be speeded up — through induced investment as well as consumption — by a kind of 'tuning-fork' effect. Hence, provided agricultural prices are maintained in a reasonably stable relationship with industrial prices, agricultural price fixing carried out through market intervention will speed up the rate of expansion of both 'agriculture' and industry.

This will certainly be true if the net sums spent on market intervention (which correspond to the net acquisition of commodity stocks by the international agency) are treated as capital expenditures financed by borrowing and not as current expenditures financed by taxation. For if it is the latter — as is the case with the CAP — the expansionary effects of the policy are (partly if not wholly) rendered nugatory through additional taxation.

Finally, if the policy results in the accumulation of stocks — as is often the case with the CAP through the accumulation of butter mountains, beef mountains and so on — it is no good trying to get rid of these stocks by selling them at a discount in the world market, for this latter policy will also set up negative effects on the generation of incomes outside the EEC area that may nullify, partially at least, the expansionary effects of the policy.

A New International Agency

The net effect of these considerations is that the principles of the CAP ought to be extended so as to make it truly international — in other words, world-wide — and not confined to producers of a favoured group of countries; and that the net expenditure on market intervention resulting in the acquisition of stocks should be treated as investment and not as current expenditure, and financed as such.

In other words there ought to be a new international agency, on the lines recommended by Keynes during the last war, for world-wide price-stabilization by means of buffer stocks for as many commodities as possible. Keynes' war-time plan for an international agency for stabilizing commodity prices (alongside his plan for an International Clearing Union — which came into existence, in a much emasculated form, in the Bretton Woods Agreement of 1944) has only become known some years ago, with the release of war-time Government papers under the 30 years' rule and their subsequent publication in Keynes' *Collected Writings*.¹ He named this agency International Commodity Control, which would set up buffer stocks for all the main commodities, operated for each particular commodity by a subsidiary organization run on identical principles and subject to the central control of the General Council of the main body. Unlike his proposals for an International Clearing Union, this plan was never seriously considered at the international level, though Keynes and some of his fellow economists (such as Roy Harrod and Dennis Robertson) regarded it as of the utmost importance for securing stability and prosperity in the post-war world. Both schemes went through a succession of drafts as a result of discussion inside the government machine, and they largely overlapped with one another. The first draft of the Clearing Union plan is dated early September 1941; the first draft of the buffer stock plan 20 January 1942; a succession of further drafts of both schemes followed in quick succession in the first half of 1942. The various versions of the buffer stock plan make it clear that Keynes' ideas advanced considerably since his first article on

¹ *The Collected Writings of John Maynard Keynes. Volume XXVII: Activities 1940-1946. Shaping the Post-War World: Employment and Commodities.* Edited by Donald Moggridge (London: Macmillan, 1980, pp xiii + 539).

the topic in the *Economic Journal* of 1938.¹ Both went through detailed consideration by both official and ministerial committees, but the buffer stock scheme ran into far more opposition from the Ministry of Agriculture and (more surprisingly) from the Bank of England, who considered the proposals 'to be far too *laissez faire* inasmuch as they still allow a place for private trading', thereby displaying, in Keynes' view, a 'bias towards rigidly controlled State trading on Russian lines'. In a minute to Sir Richard Hopkins of 15 April 1942, Keynes wrote: 'I can only plead guilty of aiming at a plan which does take a middle course between unfettered competition under *laissez fair* conditions and planned controls which try to freeze commerce into a fixed mould.'²

It is assumed that the net expenditure on this scheme represents a net addition to world investment, which would be ensured if and only if the expenditure of the Commodity Control Agency were directly financed by the issue of new international currency, in other words, by SDRs. The great advantage of such a scheme is that it would provide a most powerful stabilizing device to the world economy, which would operate so as to secure the highest sustainable rate of economic growth to the world as a whole, i.e. the highest rate of growth of world industrialization which the growth of availabilities of primary products permit.³ This would happen because whenever the increase in the supply of primary products was in excess of the growth of requirements (as governed by the prevailing rate of growth of world industrial production), there would be an increase in investment in stocks which would automatically generate an increase in the rate of growth of demand for industrial products and would have large multiplier effects; in the converse case, an excessive rate of growth of industrialization would automatically be damped down by a decrease in investment in stocks which would cause the growth of demand for industrial products to be slowed down, since the industrial sector's outlay on primary products would come to exceed the receipts of producers.

¹ Cf. note 1 on page 24.

² *Ibid.*, pp 110-11. The Minister of Agriculture, Mr Hudson, and his Permanent Secretary, Sir John Fergusson, were the most vociferous opponents, and they had the support of Sir Frederick Leith-Ross. They were all convinced that nothing but output restriction, enforced through export and import quotas, could solve the problem of commodity surpluses. In their view Keynes' buffer stock scheme gave all the *wrong* incentives since, by guaranteeing a floor price, it gave a strong stimulus for increasing production instead of diminishing it.

³ Contrary to general held beliefs, the rate of growth of industrial production is *not* confined by the available 'supplies' of Labour and Capital in any particular country or region and their exogenous growth rate over time. As the post-war experience of Germany and most other Western European countries have shown, when home and foreign demand for manufactured goods reaches the point where the growth in production threatens to be confined by shortages of domestic labour, the latter will be augmented by the importation of guest workers from labour-surplus areas. Similarly the accumulation of capital will automatically be stepped up with the growth of industrial production — indeed the one is but an aspect of the other. There are limits in any given situation to the possible speed of adaptation and adjustment; but this is a quite different thing from saying that the growth of industrial output will be *determined* by the (exogenous) rate of growth of labour and capital resources.

In other words, under a buffer stock regime — assuming that it is world-wide in scope and sufficiently comprehensive as to the range of products included — the task of aligning the growth of world industrial production to that permitted by the growth of availabilities of primary products would take place, not through price variations but through variation in the rate of investment in stocks of the International Commodity Control Authority.

The 'alignment' of the two sectors would thus take place, not by changes in the terms of trade, but by income variations — or rather by induced changes in the rate of growth of industrial output and incomes.

A comprehensive buffer stock scheme of the kind advocated by Keynes would not rule out adjustments of relative prices as between different commodities, nor would it guarantee the *complete* stability of the average level of prices in terms of the international currency unit into which the range of commodities included in the scheme would be convertible. But the adjustment of prices would be circumscribed by carefully laid down rules, relating the movement of the stock/turnover ratio of a particular commodity deviating from the average in excess of a permitted range of variation; and the adjustment process would need to follow rules prescribing a graduated change in successive steps extending over a period. However, since such individual adjustments due to deviations from the *average* change in stocks can take either direction, the consequential variations in the price level of basic commodities in general are not likely to exceed a fairly narrow range in terms of international currency units (SDRs). A buffer stock scheme linked to the issue of SDRs would thus provide the world with a basic money unit which can be guaranteed to be stable in terms of basic commodities.

And this in itself would be a tremendous achievement — indeed it would largely deal with the problem of chronic world-wide inflation. In any one country inflation occurs because of (i) the rise in commodity prices which now occurs regularly as a result of even a moderate recovery in demand, but which leads to a revision of expected future prices¹ and thereby greatly increases the volatility of prices (i.e. the amplitude of

¹ This is only another way of saying that it leads to purely speculative investment in commodities (by traders and speculators) which cause the price rise to become exaggerated instead of being moderated (as in the normal case) by speculative disinvestment.

price fluctuations);¹ (ii) the rise in commodity prices, by increasing the cost of production of manufactured goods, increases the cost of living, which in turn tends to raise the rate of increase of money wages, thereby adding further to the rise in costs and prices.

Hence a rise in commodity prices (at any rate above a certain limit) causes inflation in the industrial countries for two separate but connected reasons: (1) because the rises in raw material prices are passed through the various stages of processing and distribution (magnified by the customary percentage addition for profit) to the prices paid by the final buyer; (2) because the increase in the cost of living caused by (1) leads to additional wage increases which further magnify its inflationary effect. It is the difference between the two types of market structures — the cost-determined character of industrial prices and the market-determined character of commodity prices — which might cause a 'spiral effect' in the course of which the rise in prices becomes general and self-perpetuating without providing thereby any large change in the *average* of the relative prices of the two groups over any given period.

The critical factor in the generation of the inflation of the 1970s was President Nixon's suspension of the convertibility of the dollar into gold on August 15, 1971. Although at the time it was regarded largely as a formality (indeed it was welcomed by many economists as a necessary move to re-establish more appropriate exchange rates and to reduce the imbalance in the international flow of payments), in fact, as it became evident later, it had fateful and unexpected consequences, given the special role of the dollar in the world economy in the post-war period.

This role emerged as a (largely unforeseen) consequence of the mode of operation of the Bretton Woods Agreement² elevating the dollar into a universally accepted reserve medium which increasingly replaced the role of gold in the international payments system. As US dollars were the scarce currency *par excellence* both in the

¹ It is sometimes suggested that the volatility of commodity prices would be reduced if the spreading of risks through 'hedging' were made more readily available through increased facilities for buying and selling 'futures' for each commodity, for a whole series of future periods. In my opinion this is a mistaken view, because while such development would make the spot price in any market more narrowly dependent on the 'futures' prices, there is no reason to suppose that the volatility of movement in the 'futures' market would be any less, (and therefore the movements in the spot price would vary less) and there is evidence for the view that it would be greater than in the absence of futures markets. Greater scope for 'hedging' risks must generate a correspondingly greater volume of 'speculative transactions' (or 'movement trading') and that assumes greater, not lesser, deviations from the 'normal' price. (See an illuminating article by Nicholas Colchester, 'Protection from Chicago', in the *Financial Times*, 4 February 1983, page 7.

² Under the accepted rules of interpretation of the statutes of the IMF, the dollar became the universally accepted 'intervention currency' among the members of the IMF, which meant that any country was deemed to have fulfilled its obligations under the treaty if it maintained in *its own market* the parity of its currency in terms of the US dollar.

1930s and in the initial post-war years, the central banks of the world were quite happy to hold dollar balances which yielded an interest income in preference to gold which did not, in the secure expectation that inter-country balances could be 'cleared' by payment in dollars. This meant, in turn, that for many years almost the whole annual increment in monetary gold out of new production was absorbed (with some reluctance) by the US Treasury.

But as time went on, and the official dollar balances of foreign countries came to exceed the US gold reserve by the early 1960s, countries became gradually more reluctant to increase their dollar holdings; and some countries, like France, insisted on converting any increment in their dollar balances into gold. This unwillingness increased considerably when, as a result of the Vietnam War, the rate of US inflation reached 5-6 per cent a year (instead of the previous post-war average of 1-1.5 per cent) while the US balance of payments which was adverse on 'basic transactions' from the end of the fifties, became increasingly adverse on current account as well. The Washington agreement of March 1968 provided temporary relief through the agreement of a number of major countries to accept dollars in payment from other countries and not seek to increase their holdings of gold. But with the rise in the rates of inflation which was world-wide,¹ the demands of dollar-holders for conversion into gold intensified to the point at which the total suspension of convertibility became necessary.

The effect of this step was to destroy the belief, still held by professional traders in various markets, in the long run stability of the *dollar* price of particular commodities. This, as we have seen, is a vital element in ensuring the satisfactory functioning of markets which requires that professional traders (just like jobbers on the Stock Exchange) behave in the opposite way to outsiders: ready to sell when outsiders are buying, and *vice versa*. There is evidence that President Nixon's move unleashed inflationary expectations and led to speculative investment in commodities or commodity futures as an inflation hedge. Such speculative investment extended to 'soft' commodities (such as cocoa, coffee, tea and sugar) where there was no evidence of a reduction in stocks due to excess consumption, as well as to non-

¹ This occurred prior to any major change in commodity prices as a result of the inflationary rise in wage rates in a large number of countries in 1968 and 1969, the precise causes of which are uncertain. It may have been the reaction to the 'evenements' in France in June 1968, when a general strike led to the Government agreeing to a universal increase in wage rates by 15 per cent, the effects of which rapidly spread to other countries (much as the February revolution in Paris in 1848 led, within a very short time, to revolutionary outbreaks all over Europe) given the increased aggressiveness of trade unions after many years of full employment. This meant that the annual rise in the dollar price-level of manufactured goods moving in international trade, which hovered around 1-1.5 per cent throughout the post-war period, rose to 5 per cent a year after 1968.

ferrous metals like tin and copper, where there was an apparent excess of consumption over current production in 1972-73. That a great deal of the rapid rise (and subsequent rapid fall) in commodity prices was due to the perverse effects of speculation is shown by the similarity, both in extent and timing, of movements in the gold price and in the index of commodity prices.¹

Of course a scheme of the kind advocated here does not in itself guarantee the absence of inflation in the prices of industrial products due to a rise in 'efficiency wages' — i.e. money wages increasing in excess of the increase in the productivity of labour. However, the very existence of an international reserve currency which is stable in terms of commodities would exert a strong dampening effect on wage-induced inflations. This is because if one country allows its 'efficiency wages' to rise at a faster rate than others, it will face an unfavourable balance of payments on current account; it will therefore be tempted to devalue (in terms of SDRs) so as to ease the balance of payments constraint on employment, which in turn would serve to lower industrial prices in terms of SDRs. It would also turn the terms of trade against any devaluing country more powerfully than at present, which in turn would be bound to exert a moderating effect on excessive wage claims.

But with the present volatility of commodity prices, any expansionary move is likely to generate inflationary tendencies (due to the rapid and disproportionate rise in commodity prices) and thus tempt Governments of all kinds of political colours to seek safety in fiscal austerity and thereby aggravate the stagnation in the world economy.

Conclusions

An international buffer-stock scheme (on the lines worked out by Keynes²) appears to me the most promising avenue for getting out of the rut into which capitalist market economies have fallen,³ for two main reasons:

¹ Cf. OECD *Economic Outlook*, December 1973, p 106.

² Cf. p 28 note 1.

³ The scheme advocated here falls short of an International Commodity Reserve Currency (advocated by Benjamin Graham in the 1930s), a detailed version of which was submitted to the first Unctad Conference in 1964, in the names of A G Hart, J Tinbergen and myself. The basic conception of that scheme was an international currency convertible into a fixed *bundle* of commodities, each unit of the bundle consisting of so much wheat, so much rice, tobacco, copper, wool etc. — altogether 30 commodities comprising some 90 per cent of the total value of commodities moving in international trade. However, on closer inspection, a scheme of this kind revealed inherent problems of its own which are absent in the case of a simpler scheme consisting of separate buffer stocks being operated for the various commodities: also, it would have been highly complicated to operate.

(1) It is essential if market economies are to resume sustained economic expansion without generating unacceptable inflation due to the consequential rise in commodity prices, resulting from speculative influences of a perverse character, and to enable the changes in stocks to be carried which are necessary to tide over short-period differences between absorption and accrual of commodities without any large deviation of the current price from the 'normal' price.

(2) It is essential in order to resume investment in new capacity in primary products on an adequate scale. With wildly fluctuating prices, the risks of investment in additional capacity are greatly enlarged, particularly for commodities like copper or oil, where investment in new capacity has a long gestation period.

If the argument advanced in this paper is correct, and economic growth in the long run depends on the growth of availabilities of the essential 'inputs' of the industrial sector, in food, industrial raw materials and energy, the prime condition is to secure stable world prices for such commodities through a new international reserve currency that is *de facto* convertible into commodities.

This, I am sure, was the thought behind Keynes' advocacy of an International Commodity Control. His proposals have thus the same intended effect as the more recent proposals for a 'Common Fund' — even though the latter is not linked to the creation of a new international currency convertible into commodities. However, since the latter scheme originated with the 'developing' countries (members of Unctad), it had the same cool reception which Keynes' ideas received from the British establishment during the War. Nobody seems to have understood that, while the proposal was promoted by the developing countries, its adoption was in the vital interest of the 'developed' or industrialized countries, since it is a pre-condition for securing adequate long-term investment necessary for sustained industrial growth.¹

¹ The very large expenditures incurred on prospecting and developing new oil fields since the war would not have been possible if oil had fluctuated in price in the same way as copper or tin. The fact is that, prior to OPEC, a stable price was secured thanks to the control over distribution and marketing by the seven major international oil companies. Since 1973, the world price mainly depended on the fixed price charged by OPEC's 'price-leader', which is Saudi Arabia (owing to her large share in total world production). Recently, there was a threat of a collapse of oil prices due to reduced demand which (in my opinion) was rightly received with a great deal of misgiving, even by the large oil-importing countries: since they realised that in the long run they are likely to fare worse under a regime of fluctuating oil prices than under a regime of stable prices, even though the latter would be a relatively high one in terms of industrial goods.

Farm Incomes: Myths and Perspectives

by Berkeley Hill

For those directly or indirectly concerned with the economic health of the British farming industry, the publication of the Annual Review of Agriculture White Paper is an eagerly awaited event. And among the wealth of statistics contained in the White Paper none generates more interest than the estimate of the farming sector's aggregate income. It is singled out for comment by the Minister of Agriculture in his presentation of the Review to Parliament and is seized on by the Farmers' Union and other interested parties; journalists, academics, and members of the industries which supply or are supplied by agriculture, as an indicator of farming's economic health.

The events surrounding the 1983 White Paper, containing the income estimate for 1982, were no exception. A year earlier the modest rise in the total income for 1981 over the 1980 figure of about 11 per cent in real terms had been welcomed as a reversal of the downward trend which had gone on since 1976 (see Table 1 on page 36). In 1982 a much more substantial income increase occurred, 45 per cent in nominal terms over the 1981 level and 34 per cent in real terms. Both the Minister and the NFU were quick to point out that, despite the substantial recovery of the last two years, aggregate farming income had not reached the level enjoyed before the decline which started in the mid 1970s. In his statement to the House of Commons, Mr Peter Walker said 'Between the mid 1970s and 1980 there was a drop of more than 50 per cent in farming incomes in real terms. But the improvement in the last two years has brought about substantial recovery on this position.'¹ The NFU President was equally reticent 'The 1982 figures must be seen in perspective. After allowing for the effects of inflation, farming income last year was still well below the average for the 1970s; and a substantial part of the recovery was due to the exceptionally favourable weather conditions which boosted the production of arable crops and led to an increase in milk yields.'²

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¹ MAFF 1983, *Annual Review of Agriculture 1983: Joint Announcement by the Agricultural Departments in the United Kingdom*. Press Notice No 46, 22 February 1983.

² NFU, 1983 *Annual Review White Paper* Press Notice No 27, 22 February 1983.

Table 1 *UK aggregate Farming Income*

Year	£m current prices	£m constant (1975) prices	Index 1970-72 = 100
1975	1 004	1 004	94
1976	1 293	1 110	104
1977	1 269	940	88
1978	1 252	856	80
1979	1 141	688	64
1980	1 027	525	49
1981	1 275	583	54
1982 (forecast)	1 849	781	73

Source: Current price series, *Annual Reviews of Agriculture, 1980-83*.

The precise way in which the White Paper's aggregate income figure is calculated need not concern us here, except perhaps to point out that interest on 'commercial' debt is treated as a cost and therefore deducted but that on loans for land purchases is excluded, a division which must be in part arbitrary and which results in a pre-interest income figure being commonly quoted. Although alternatives to the narrowly defined traditional figure can be calculated and are used by MAFF, they tend to yield broadly the same conclusions about the recent recovery and the pattern of prosperity of agriculture over the last decade or so.

Estimates published by the European Commission suggest that the upturn in the UK is also found across the Community, although the extent of the decline which preceded the 'bottoming out' was greater in the UK than among the other member states.¹ In 1982 real income in agriculture probably increased in almost all EC countries, with particularly large rises in Belgium, Luxembourg and Denmark. The underlying cause of these improvements in income was a move in the ratio of output prices to input prices in favour of the farmer, relaxing the longer-term cost-price squeeze; for example, in the UK, 1982 output prices rose by 13 per cent but input prices by only 7.6 per cent. The Commission's main income concept (net value added per person employed in the industry) explicitly allows for the declining number of persons found in agriculture, but in the UK the annual average fall in 'persons employed' over the period 1975-80 was only 0.4 per cent, lower than for any other member state (EC 9 average 2.5 per cent), and could only have had a minor influence on the income per

¹ Commission of the European Communities (1983), *The Agricultural Situation in the Community; 1982 Report*.

head figure. Figure 1 on page 38 shows the income trend for the UK according to a commonly quoted UK calculation (farming income before interest charges) and the EC estimate; since 1972 the patterns have been similar, and the greater stability experienced by the Community as a whole is also apparent.

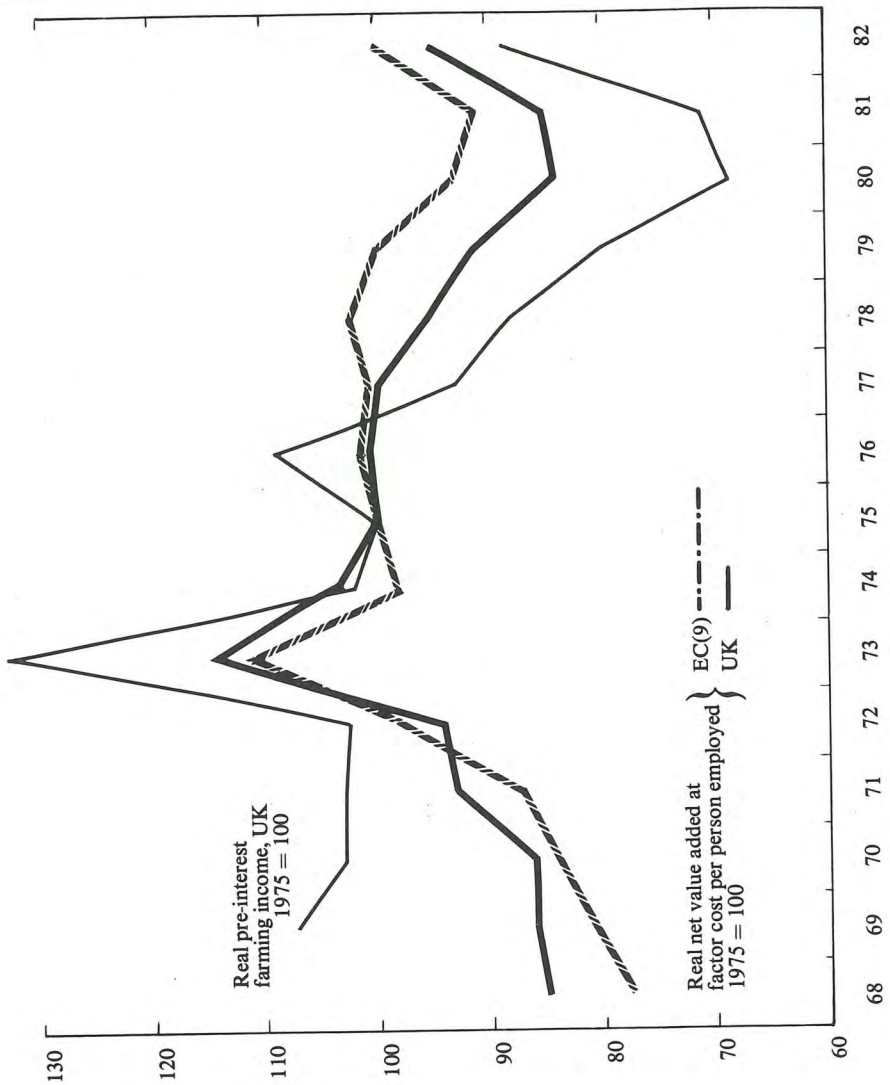
Interest charges on 'commercial' borrowing form a particularly notable item in the income calculation. During most of the 1970s, interest represented less than 12 per cent of pre-interest farming income, but it took an increasing share of the declining income from 1978 onwards, and in 1980 it reached a peak of 31 per cent. As well as income being lowest in that year in real terms, interest payments were at their peak (see Table 2 on page 39). The recent recovery in aggregate income coupled with a slowdown in the growth of lending to agriculture and lower interest rates has reduced both the real interest burden and the proportion of income absorbed by it.

While a calculation of the agricultural industry's income has relevance to the construction of national accounts, just as for other industry groups, the annual estimate has a greater importance from a political viewpoint and for the implementation of policy. Commonly, the assumption is made that the aggregate income figure is in some way a valid proxy for the incomes of farmers, so that changes in the aggregate figure are reflected in comparable changes in the well-being of individual farm households. While undeniably there are links between the incomes of individuals and that of the aggregate, the situation is too complex for a simplistic view to be acceptable, and changes in the industry figure do not necessarily offer a reliable guide to what is happening to the incomes of farmers and their families. The considerable attention which the aggregate figure receives should cause us to question what governmental policies towards farm incomes are trying to achieve and whether the present way of assessing incomes is capable of giving the necessary information by which the desirability of policy can be judged and its effectiveness measured.

The Income Objectives of Agricultural Policy

At its inception in 1942, it seems that the White Paper's aggregate net income figure was supposed to be a proxy for the income of farmers. The various price rises which had been given during the War to encourage higher output were thought to be having a major but unknown effect on farmer incomes. Direct measurements at the individual level were impractical, but estimates suggested that farmers' incomes in total had risen fourfold in four years. Subsequently, this aggregate figure became interpreted as an important barometer of agricultural prosperity, with the agricultural lobby attempting to achieve the recoupment of any rises in costs through

Figure 1 Trends in Aggregate Agricultural Incomes in Real Terms: EC(9) and United Kingdom.



Source: Data from *Economic Trends*, December 1981, and various issues of the *Annual Review of Agriculture* and *The Agricultural Situation in the Community*.

Table 2 *UK Farming Income and Interest Payments*

Year	Pre-interest Farming Income		Interest on commercial borrowing		(b) as % of (a)
	£m current (a)	£m constant (1975)	£m current (b)	£m constant (1975)	
1975	1 119	1 119	124	124	11.1
1976	1 422	1 221	139	119	9.8
1977	1 409	1 044	153	113	10.9
1978	1 442	986	190	130	13.2
1979	1 488	897	324	195	21.8
1980	1 498	766	471	241	31.4
1981	1 743	796	468	214	26.9
1982	2 344	989	495	209	21.1

Source: Derived from *Annual Reviews of Agriculture*.

larger government guarantees. But the aggregate income figure is incapable of telling very much about the incomes of farmers which can be readily interpreted in the light of the fundamental objectives of agricultural policy.

Policy on farm incomes has never been precisely spelled out for the UK although incomes form a fundamental reason for close governmental involvement with agriculture, a feature not only of the UK since the last War but of developed countries in general. Article 39 of the Treaty of Rome states as an objective of the common agricultural policy the ensurance of '... a fair standard of living for the agricultural population, particularly by the increasing of the individual earnings of persons engaged in agriculture.' This, of course, applies to the UK, and is very similar in its lack of precision to the 1947 Agriculture Act which framed pre-entry policy and which referred to 'proper living conditions for farmers and workers'. Such statements are inherently concerned not with aggregate industry income but with the circumstances of individuals and family units who are engaged with farming.

Within the diffuse concern with farmer incomes there appear to be three discernible strands; first, concern over the poverty associated with low incomes in certain regions or types of farm; secondly, concern over the comparability of returns, especially that of labour, between agriculture and other industries; and thirdly, over the stability of incomes over time, returns from farming being inherently subject to

fluctuation. The underlying cause of the third strand is the easiest to explain; in the absence of government intervention, unplanned changes of supply caused by weather (and cyclical behaviour on the part of producers of some commodities as diverse as pigs and blackcurrants), combined with inelastic demand, can result in disproportionately large product price variations, and therefore large income variations. A degree of stabilization can well be justified in terms of resulting in a more efficient use of resources and reducing the unplanned variation in the income of farmers. The basic cause of the first two strands of concern, that is of low incomes in agriculture in general, is the unwillingness or inability of resources (especially labour) to flow out of agriculture when faced by the price-depressing effect of the tendency in developed countries for increases in supply, propelled by the treadmill of technological advance, greatly to exceed any expansion in demand from influences such as population and income growth at the given level of prices. The result found in many developed countries is that per capita incomes in agriculture tend to be less than in other sectors of the economies. However, while this may be true as a broad multinational generalization, it does not follow that poverty and poor comparability are necessarily features of UK agriculture as a whole, although there are likely to be sectors where they are evident, especially among the occupiers of small farms whose scales of operations are too small to provide an adequate income.

Although incomes are not the only objective of agricultural policy, it could be argued that they are the most fundamental. Many discussions seem to imply that even in the UK there is a gap to be closed between farm and non-farm incomes, or that the rewards in agriculture in the absence of government assistance would be unacceptably low. Moves to reduce problems of over-supply of agricultural produce in the most obvious way, by lowering prices, run into the objection that this will reduce farmers' incomes, with the implication that hardship will result and unfair disparities of reward occur; such implications require closer scrutiny than they have traditionally received. For poverty purposes, some indication of the funds available to the farming family in a spendable form is required, judged in relation to some minimal standard of living; the USA uses an official 'poverty line', but no such specific level exists for UK farmers. Assessing the 'proper' living standards requires the use of some other measure and a yardstick of comparability, usually the average income earned in other sectors of the economy. The notion of 'parity of rewards' is frequently extended to include returns on capital; farmers are substantial owners of business assets when they own their land, as most do.

Despite the importance of being able to assess the poverty and comparability aspects of agricultural policy, in fact we know very little about the incomes of the farming community, and incomes have never been officially measured in ways which can be

used to indicate in any meaningful manner the living standards of farmers.¹ Instead, attention has been centred on year-to-year changes in two economic indicators; the aggregate income estimate prepared for the annual White Paper, referred to above, and the results of the annual Farm Management Survey (FMS) which is based on the accounts of over two thousand farm businesses. The aggregate figure gives no indication of how the industry's income is distributed between farming households or of their individual changes of income from year to year. Knowledge of the pattern of distribution is particularly important in an industry as diverse as agriculture, with its wide range of sizes of farm, types of farming, standards of management and hence sizes of incomes accruing to farming families. We hear much about the small farm generating a low income but very little about the high incomes of large farm businesses. The occupiers of high-income farms could hardly justify government aid on grounds of social hardship, although many of the schemes intended to assist the incomes of small-output farmers, notably product price support, inevitably largely end up helping the bigger farmers. The FMS, despite the 'Farm Incomes' title of its annual report, adopts accounting conventions which give rise to somewhat artificial income figures (although a valuable source of data for production-orientated studies). In calculating average 'Net Farm Incomes' it treats all land as rented and deducts a notional rental value for owner-occupiers' land which is in fact enjoyed as income but, on the other hand, it fails to charge adequately for the costs of borrowing. In addition, the FMS is poor in its coverage of small farms; this is particularly unfortunate since it is at the small extremity of the size spectrum that low incomes are most likely to be encountered. Although frequently cited both officially and in speeches at events such as the Oxford Farming Conference, the FMS income figures do not correspond with the sort of income concept which can easily be interpreted as indicating poverty or economic status among farmers.

The Incomes of Farming Families

Both the White Paper aggregate income estimate and the Farm Management Survey figures limit their view to incomes arising from agricultural output and so are industry based rather than concerned with the total incomes (from whatever sources) of those people who are farmers. By so doing they ignore an important contribution to the welfare of many farming families. According to EC statistics, almost a quarter of all UK farmers (23 per cent) have another source of earned income and this is an

¹ Britton, D K (1981) *Agricultural Policies and Agricultural Incomes* (First Asher Winegarten Lecture), Wye College, University of London.

Hill, Berkeley (1982) 'Concepts and measurement of the incomes, wealth and economic well-being of farmers'. *Journal of Agricultural Economics*, Volume 33 pp 311-324.

understatement of the position if farmers and spouses are taken together; the proportion of farming couples with another gainful occupation is probably nearer one-third. There seems to be almost no job which cannot be found combined in some way with farming, and examples range from cabinet ministers, pop-stars, solicitors, shopkeepers through to post-men. Despite this heterogeneity, in the UK off-farm incomes in the main come from some other business which the farmer owns or from a profession or from the higher levels of management, and only a relatively small proportion of part-time farmers are employees in manual or lower white-collar jobs. Second, earned incomes in other EC countries occur with similar or greater frequency than in the UK, with 43 per cent of German farmers and 30 per cent of Italian farmers having other jobs, the figure for the Community as a whole (excluding Greece) being 27 per cent.

In Britain about three-quarters of part-time farmers gain their non-farm income as proprietors of second businesses, in contrast with, say, Germany, where off-farm hired employment predominates. While many of the second businesses have associations with farming (a wide range including butchers and greengrocers shops, seeds and feeds merchants, food processing and marketing), almost half have no obvious agricultural connections. Self-employment in both farm and non-farm occupations could be expected to permit considerable flexibility in allocating time according to each business's need, a facility which might not be available to most manual or lower white-collar employees. Parallel proprietorship of a farm and non-farm business also means that there must be competition for capital funds, and that bank loans ostensibly intended to support activities in one sector are likely to have some impact in the other business under the farmer's control, although the extent to which loans to farmers have been used to develop other activities, and vice versa, is difficult to gauge.

While 'part-time' farmers can be found throughout the farm size spectrum, they are most numerous among small farms, where farm earnings are likely to be lowest. The incomes of these farm families are clearly greater than those from their farms alone; indeed, farm incomes may be deliberately kept low for tax reasons. The main purposes for being in farming may be environmental, social, domestic and for investment rather than as a source of current income. Surveys covering part-time farmers in Britain have shown that most do not rely on their farms for their main source of income. Harrison¹ found that in four cases out of five their non-farm income exceeded that arising from the farm. Similarly, the most recent research by Gasson²

¹ Harrison, A (1975) *Farmers and Farm Businesses in England*, University of Reading, Dept of Agric Econ and Management. Miscellaneous Studies No 62.

² Gasson, R (1983) *Gainful Occupations of Farm Families*, Wye College (University of London) School of Rural Economics.

into the gainful occupations of farm families showed that part-time farming households were generally more dependent on non-farm sources of income than on their farms. In countries where data are available, these multiple-occupation farmers are frequently found to have high total incomes; in Canada off-farm income does much to compensate for the low farm incomes of the group of 'limited resource' farmers who might be expected to form the subject of an income-support programme and, among those farms which could uncontroversially be labelled as 'commercial' non-farm sources contribute about one quarter of total income on average.¹ In the USA, when farm and non-farm incomes were combined, the total incomes of the occupiers of small farms were found to exceed those of farmers on all but the largest farms. The trend seen in North America and elsewhere has been for off-farm earnings to increase in relative importance and they are more stable from year to year than are the rewards from farming.

In the UK farmers with additional incomes from other gainful activities have been recognised for at least one hundred years; in the 19th century two Royal Commissions appointed to examine the great hardship caused to certain large sections of British agriculture in the late 1870's to the late 1890's found a wide range of occupations combined with farming (fishing, retailing, road haulage, wholesale distribution, factory work, banking and agricultural work on other farms), much in permanent combination, the symbiosis resulting in increased security and not uncommonly proving extremely profitable. With the addition of a few other categories such as tourism, middle and upper management and the professions, the list of non-farm activities would serve to describe the situation found in the 1980s.

While in the United Kingdom our present knowledge of the total income from all sources of farmers is far less advanced than in N. America, recently released information from the Inland Revenue's Survey of Personal Incomes (SPI) effectively demonstrates that a simple view that the income of individuals and couples engaged in agriculture as entrepreneurs comes only from farming is untenable. Table 3 on page 44 shows the aggregated incomes of persons and couples whose principal self-employment income was classed as agricultural, as defined in the 1968 Standard Industrial Classification (that of either member in the case of couples). Those with some agricultural income but whose major source of self-employment income was from a business or profession which fell into some other SPI category were excluded,² which

¹ Brinkman, G L (1980) 'Reflections on Farm Incomes in the 1970s, *Canadian Journal of Agricultural Economics*, Proceedings of Annual Meeting 1980.

² Married couples were excluded if neither partner's self-employment income source was agricultural. Salaried directors of farming companies were also excluded. For details see Hill, Berkeley (1983) *Information on Farmers' Incomes: Data from Inland Revenue Sources*, Paper given to Easter Conference of Agricultural Economics Society, to be published in 1984 in the *Journal of Agricultural Economics*.

Table 3 *Composition of total income of couples and individuals in the trade group agriculture of the 1978/9 Survey of Personal Incomes*

	% total income
Self-employment income	
Husbands (and single persons)	54
Wives	9
Employment income	
Husbands	8
Wives	7
Other (including pensions)	5
Earned income	83
Rents	2
Building Society interest	5
Other interest and dividends	11
Investment income	17
All income	100

Source: Inland Revenue, given in Hill (1983) *op cit.* Figures may not sum due to rounding.

means that the table approximates to full-time farmers and those part-timers mainly dependent on agriculture. Nevertheless, in the year in question little more than half of the total personal income to such individuals and couples came from business profits accruing to the farmer (54 per cent) and this was only raised to 63 per cent by adding the profits accruing to wives. Most but not all of this self-employment income would have come from farming, the rest from that wide range of businesses and professions which part-time farmers manage to combine with agriculture. Major contributions to the total came from investment income (18 per cent) and from employment, i.e. as hired employees taxed under Schedule E (15 per cent); while some of this employment income would have come from working on other farms, independent evidence¹ suggests that most would have arisen from outside farming.

Comparison with the incomes received by the rest of the population is difficult, but the SPI data suggest that farmers' incomes are disproportionately represented among the high income groups; among incomes of £1 000-£8 000 those classified as agricultural (or horticultural) accounted for only 1 per cent of incomes, but this proportion rose with higher levels of income and for incomes above £20 000 they accounted for over 7 per cent.² There were very few farmers (and couples) with

¹ Gasson 1983, *op cit.*

² Hill 1983 *op cit.*

negative incomes once all sources had been taken into account (only 1 per cent), a considerably lower figure than alternative estimates of incomes arising from the farm alone might suggest. While the use of tax information in the UK is far behind the sophisticated links made in Canada between the Censuses of Agriculture and Population and taxfiler data, it is evident that the existing UK farm data sources could be usefully complemented by the examination of the more comprehensive set of information on incomes which the SPI could provide.

The Capital Position of Farmers

Then there are farming's capital gains which are of great relevance when comparing longer-term returns in agriculture with those in the rest of the economy. Since the last War, the trend has been for land prices to rise faster than inflation, and real capital gains have been largely responsible for placing land-owning farmers among the wealthiest members of society (almost two-thirds of UK farmland is owner-occupied).

Part of the long-term return to the business of farming clearly comes from changes in asset values and to exclude rising farmland prices is to ignore a major source of explanation for farm business behaviour, borrowing, investment and personal spending. For some, it is the chief reason why they are in agriculture. Yet in measuring the income of the farming industry, capital gain is studiously ignored; the 1982 White Paper, when listing 'all the returns to the capital invested in the industry', made no mention of capital gains. It is important to note that it is real capital gain (i.e. after allowing for falls in the value of money) and not nominal gain which makes a positive contribution to real income, since it is this which represents an increase in purchasing power. While it may be in the interest of farmers, when presenting their case for higher product prices, to play down capital gains, their existence has not escaped the notice either of outside investors or that of the farming community itself. Between 1970 and 1981 the net worth of UK agriculture increased by 49 per cent in real terms, despite an increase in total liabilities of 10 per cent and a rise in bank lending of 57 per cent. Including real capital gain raised the FMS's average Net Farm Income for the period 1970-7 by almost 50 per cent.¹ The MAFF Assets and Liabilities Survey, an adjunct to the Farm Management Survey which traces the growth and development of net worth, suggests that particularly large increases in net worth have occurred at times when net farming income was under pressure.²

¹ See Hill 1982, *op cit.*

² Capstick, C W (1983) 'Agricultural Policy Issues and Economic Analyses', Presidential Address, Agricultural Economics Society.

Capital gains cannot simply be aggregated with current incomes in order to produce 'full income' estimates for farmers. Capital gains differ from current incomes in terms of uncertainty, liquidity and measurement, and they are taxed differently and usually more favourably. Realization by sale may be both lengthy and costly and, in the case of farmland, could affect the future viability of the business, although some farmers may be able to realize part of a gain in this way by selling off outlying land and perhaps adjusting to a reduced acreage by changing their pattern of farming in terms of enterprise mix or intensity. Despite the apparent stagnancy of the land market, with only about 1½ per cent being sold annually, farmers apparently do manage to make many minor adjustments to their acreages over time, and fragmentary evidence suggests that those who reduce their farm areas by sale tend to be older farmers and less likely to have a son able and willing to take over the farm. Unfortunately the land market is insufficiently documented to give any firm indication of the extent of these gains realised by sale, how they are used by their recipients and the sources of finance for the land purchasers. Disposal of rights of ownership, however, does not necessarily involve loss of the right to occupy the land; various forms of sale-and-leaseback make this possible and have been used, sometimes as a rescue operation, but by a few in a more systematic growth-seeking way where they perceive greater scope for profits from employing more working capital (usually on a larger acreage) than can be achieved from the profits-plus-capital gains from their existing owner-occupied businesses. But for most farmers capital gain on farmland will be made liquid through the form of extra borrowing using the land as security, although credit institutions can be expected to generally favour spending on capital assets and to discourage borrowing for purely personal consumption. No doubt part of the additional credit taken by farming over the last few years to weather the decline in sector income has taken the form of realising past gains on landholding.

In the United States and Canada the importance of capital gain in contributing to well-being is widely recognized.¹ Over the 1960s and 1970s capital gain presented an increasing challenge to agricultural economists for its explanation as it rose in size relative to current income and posed a growing problem to policy-makers in their interpretation of the 'farm problem' where low current incomes may be combined with great wealth. Including real capital gain has been shown to greatly reduce or even reverse the farmer/non-farmer income differential in the US.

So far the causes and implications of capital gains to British agriculture have been sadly neglected by economists but there is a strong feeling that agricultural policy

¹ See *American Journal of Agricultural Economics*, 1979-81 (Vols 61-63) and *Canadian Journal of Agricultural Economics*, Proceedings of the 1980 Annual Meeting.

which attempts to support farm incomes through raised produce prices is responsible for much of this gain. Work in the UK¹ suggests that a 1 per cent increase in support prices is capitalized into land values which are seen to rise by about 10 per cent in the long run.

But it is not only the real capital gains which must be brought into consideration, but the stock of wealth held by land owning British farmers too. In attempting to assess their economic status, thought of as the potential command they hold over goods and services, it would be foolish to have regard only to farmers' incomes, even if broadly defined to include capital gains, and ignore their wealth. Agricultural policies to counter low incomes could hardly be justified on grounds of the alleviation of poverty if the beneficiaries are already the owners of substantial assets which represent considerable spending potential. For the UK Peters² pointed out (albeit with reservations concerning the data used) that all the owner-occupied farms in the 1977-8 FMS, even those small ones requiring only one or two men to operate them, had net worths which put their occupiers among the richest 6 per cent of the population, and occupiers of most sizes and types of farms were in the top 2 per cent or less. Both income and wealth are important determinants of farmers' economic status, and the question is how to incorporate them into some unified measure which has validity for aspects of intersectoral comparisons and public policy, both with respect to the relative earnings of those engaged in farming and for the alleviation of poverty. Efforts to do this have concentrated on converting part or all of farmers' wealth into an annuity, with the predictable result of greatly reducing the number of farmers who fall below some arbitrary level of low income; in England and Wales about half the farms with incomes of less than £2 000 were lifted above this line if the annuitized value of the land was added, taken at tenant-land prices, and the all-farm level of income raised by one third.³

Conclusions

Concern over farmers' incomes remains a fundamental constituent of agricultural policy, yet it seems that a failure to specify more precisely the aims of such policy has led to a particularly unsatisfactory situation in which existing data sources do not enable many of the most basic issues to be explored. Questions should be asked, such as what level of farm family income is an acceptable minimum and what proportion of the farming population is living below this level? What is the

¹ Traill, B (1982) 'The effect of Price Support Policies of Agricultural Investment, Employment, Farm Incomes and Land Values in the UK', *Journal of Agricultural Economics*, Vol 33.

² Peters, G H (1980) 'Some Thoughts on Capital Taxation', *Journal of Agricultural Economics*, Vol 31.

³ Hill 1982, op cit.

appropriate way to measure income for this purpose? If there is poverty among UK farmers the existing agricultural income measures, ignoring as they do non-farm income and couched in terms of aggregates or group averages, cannot reveal it. And when comparability of longer-term rewards between agriculture and other sectors is discussed, how can such comparisons be made sensibly unless both current incomes and changes in net worths are brought into consideration? Are there grounds for excluding some farmers from income aids, particularly because of their wealth associated with land ownership? It has long been observed that it is the large-output/high-income producer who has benefited most from the farm price supports provided by consumers who are generally of lower income and wealth, and this applies under the Common Agricultural Policy as it did before entry into the EEC. If sectors of farming can be shown to require income assistance, then instruments which support incomes directly would seem preferable in many ways to product price support or to subsidising inputs. Improvements to the present unsatisfactory situation are clearly called for in terms of a more critical assessment of the longer-term aims of policy for income and the development of appropriate income measures by which problems can be assessed and the effectiveness of policy instruments measured.



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