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THE

Robin Murray

UCS
THE ANATOMY OF
BANKRUPTCY

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Bankruptcy

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Contents

Chapter I	Page
Bankruptcy and 'Inefficiency'	9
Chapter II	
Effects of the Bankruptcy	25
Chapter III	
'Efficiency' and the Shipbuilding Industry	61
Chapter IV	
Workers' Control versus Market Rationality	75

Introduction

In attempting to measure the likely consequences of the run down of Upper Clyde Shipbuilders detailed assessments¹ have been made of the social costs and benefits which do not enter into the calculations of a private company (external economies and diseconomies, employment and other welfare considerations), and which should be taken into account when considering the actions of any private concern from a social point of view. Yet apart from these external factors, does the fact that UCS went bankrupt reflect the fact that it was inefficient within its own private terms?

The traditional view is that any individual capitalist in pursuing his own good is also pursuing the good of society. An efficient firm will realise profits, an inefficient one will suffer losses and be pushed out of business. The workings of the market will ensure that anyone who is not producing what society wants, or is producing inefficiently will be penalised by losses, and ultimately by bankruptcy. The threat of bankruptcy is indeed a constant spur to all those who advance their capital in business. Bankruptcy is the stick, and profit the carrot which moves production along a socially efficient path.

In this work I want to examine how this doctrine of bankruptcy stands up to the facts of the situation at UCS. I want to suggest that the hidden

hand which we find operating at UCS is not that which Adam Smith envisaged (ensuring that public good was reflected in private profit and public harm in private loss), but one of a somewhat different kind. The first chapter asks whether bankruptcy does indeed reflect economic inefficiency. The rest of the book looks at the possible consequences of the UCS bankruptcy in the light of the claim that it will lead to a (socially) more efficient use of UCS's current resources.

I

Bankruptcy and 'Inefficiency'

To begin with we should be quite clear that going bankrupt is not the same thing as making an accounting loss. An accounting loss results from an estimate of the value of work done and costs incurred over a given period. The work done may not yet have been sold on the market. The costs may not have involved any outpayments (for example the use of machine bought in a previous period). The accountant guesses at these revenues and costs whose value has not been settled by the external market. As the period of production lengthens (the RB 211 for example) and the proportion of long lasting machinery grows, an increasing part of any annual account will involve these guesses at value.

Bankruptcy on the other hand involves current cash. A firm will go bankrupt if it cannot pay its bills. Over the long run, even over the year, it may be in a position to show an accounting profit. But if creditors require cash and the firm cannot produce it, then it will go bankrupt.

Working Capital Difficulties

The diagram below illustrates a number of aspects of the cash problem. I have taken a simple case of a product which takes two years to produce, and whose costs are spread out evenly over the period. The goods are sold immediately production has finished. During any year when the firm is in

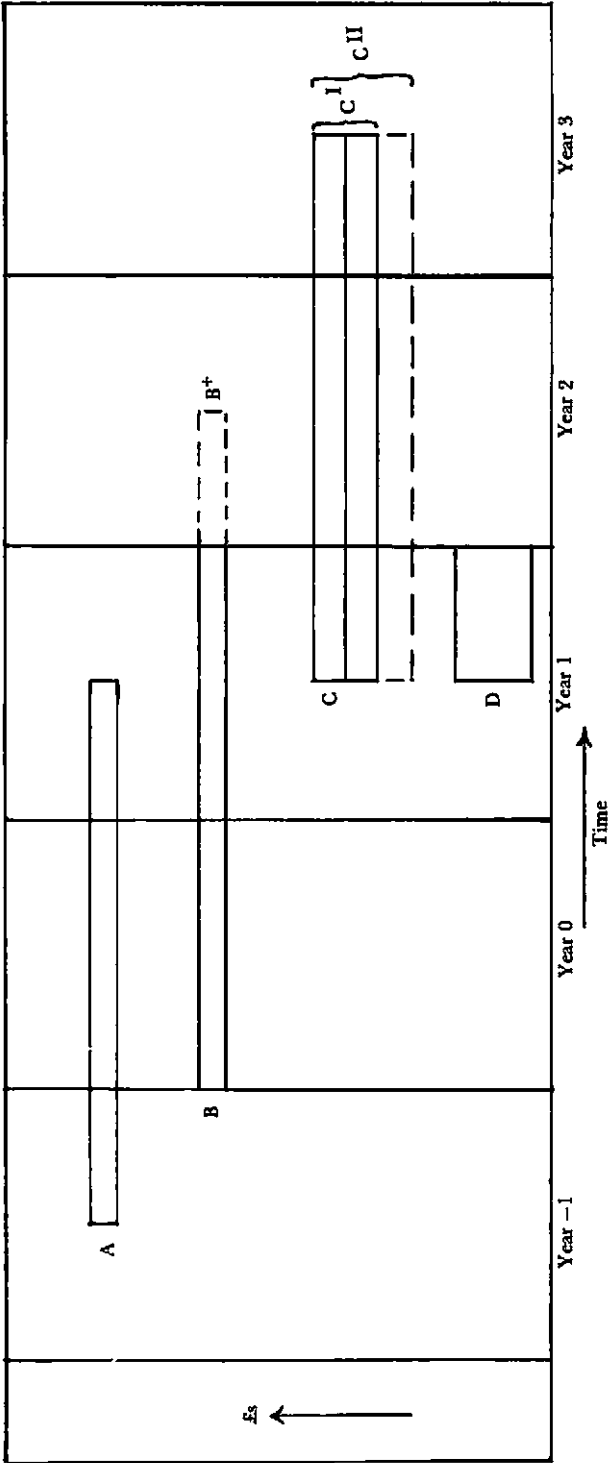
full production, say year 1, costs will relate to three products: the completion of the last quarter of A, the last half of B, and the first quarter of C. Revenue will be derived from two products: the sale of all A and all B. Costs are assumed to include a sum for normal profits, and under normal conditions, the revenue of a product is expected to cover its costs.

During the first two years of the operation the firm will have had to borrow capital to finance the production of all A and $3/4$ of B. After that new production can be financed out of revenue from the sale of past products. Now to the extent that the firm has been unable to pay back the initial capital out of its profits, it will always remain vulnerable to a sudden withdrawal of funds by its creditor. A credit squeeze forces banks to make this type of withdrawal, consequently raising the incidence of bankruptcy.

A second cash difficulty may occur with a sudden drop in prices or rise in costs. If prices fall, sales of A and B in year 1 will no longer be sufficient to cover costs. If costs rise, again there may be a squeeze on cash if the prices of A and B cannot be raised to cover the increase in costs on their own production (as in the case of fixed price contracts). Even if prices of A and B can be raised, this will still not be sufficient to cover the rise in costs of C in year 1. C may still ultimately earn a normal profit, but the increase in costs (to say, C^1) in year 1 can no longer be covered by the revenue from A and B. This is, of course, a characteristic problem in a period of inflation.

Thirdly, cash outflow can increase (to, say, C^1) for other reasons. An expansion of the market may lead to a doubling of output. In an oligopolistic

Figure 1 — Cash outflow streams by product over time



(Vertical breadth indicates size of cash flow in £s.)

industry, where the expansion of the market is a once and for all matter (a sudden drop in tariffs, creation of a Common Market, improvement in transport costs through containerisation for example) a firm may have to expand to secure or maintain a particular market share. Many British firms have strained their liquid positions by investing in the Common Market for this reason.

Alternatively products A, B and C may all be different products, each of which earns the same rate of profit, but on the basis of an ever increasing cash outlay, C becomes C^{II}. In the industries of advanced technology we know this to be the case. In the aircraft industry, new models have required an increasing capital outlay to bring them to the point of sale. Coupled with this has been a tendency for the gestation period between initial capital outlay and first sales to lengthen. B becomes B+. British Leyland is known to have spent 3½ years and £45m. on the development of the Marina, a pressure on liquid resources which almost bankrupted it at the beginning of December 1970.

Finally, revenue may not cover costs in year 1 because of re-equipment, modernisation and other fixed investment as in block D. Up to now we have assumed that costs are incurred in a continuous flow, but this is rarely the case. A cash outflow diagram will show fluctuations over time. In some industries it may be possible to synchronise new cash outlays with a period of surplus (farmers restock after their autumn sales) but in others increasing international competition, for example, may force a large scale re-equipment at a time when profits are falling. Indeed the re-equipment is required precisely because profits are falling, or, put in another way, because the industry is becoming uncompetitive. To stay in business in the

long run new investment is required now, whatever the current liquidity situation.

I have mentioned a number of reasons why a company may face cash flow problems:

- a withdrawal of credit for reasons unrelated to the profitability of the firm;
- a fall in prices for reasons external to the firm;
- a rise in costs for reasons external to the firm;
- a tendency for the cash outlay for each succeeding product to grow over time because of: inflation, expanded production, larger scale production;
- a tendency for gestation periods to lengthen;
- periodical renewal of fixed capital (again possibly on an increasing scale, so that past depreciation funds do not cover new fixed capital investment).

Two of these, the fall in prices and the rise in costs where costs cannot be passed on in the form of higher prices, will affect current profits, but not future ones (assuming the firm is of average social efficiency). The other points are all compatible with rates of profit being maintained and even increased. This is a very important point. Cash flow problems are not necessarily linked to the future profitability of the firm. They often occur precisely to ensure that future profitability.

Nor do cash flow problems necessarily reflect corporate inefficiency. It could be argued that a firm is inefficient if it does not forecast costs and prices correctly: but all forecasting is subject to errors, and negative errors can produce the situation we have been discussing. Certainly inefficient

firms are likely to face cash flow problems all the more severely. But this does not alter the fact that cash flow problems, profitability and efficiency must all be kept analytically distinct.²

The Money Market and Working Capital

The market economy is held to solve this problem via the money market. If firms get into cash flow difficulties while at the same time looking forward to sustained profitability, cash will be available from the money market. If a firm cannot raise cash on the market it is therefore a sign that the firm is, and will continue to be, unprofitable.

Certainly the money market is staffed with bankers, stockbrokers, and investment analysts whose concern it is to assess the future profitability of individual companies. Their judgement does carry weight in this limited area. If the money market does not provide cash and a firm goes bankrupt it may well mean that bankruptcy implies long term unprofitability. But the action of the money market faces limits and exceptions which are becoming increasingly significant.

First, as we noted above, a credit squeeze may mean the recall of bank loans and the bankruptcy of firms with quite adequate profit prospects.

Second, for large concerns, the size of the cash deficit may be such that banks and the stock market may adopt a conservative attitude towards risk in the project, and they will adopt their own touchstones for assessing risk. According to a recent survey by the stockbrokers Wood, Mackenzie and Co., in 1969/70 out of 181 major British companies, 85% had a deficit in their liquid position (cash less bank overdrafts, less quick liabilities) and 38%, or 65 companies, had a deficit of over 15% of their total capital employed, (the figure is 47% for

the capital goods sector companies taken separately.) Of these 65 companies, 27 had high gearing, over 30% (a high proportion of prior charges to capital) and at least 17 of them had heavy future requirements. In the view of the survey "a company will find it extremely difficult to maintain a deficit of 15% or more of capital employed and. . . such deficits will almost certainly have to be funded." But the trouble about funding was that the capital market was difficult at the time, and the report felt that those 10 companies with a liquid position of over 25% deficit vis à vis capital employed would find it almost impossible to fund overdrafts in the usual way. They would have to cut back expenditure, realise assets or issue equity by way of rights or by acquiring other companies. Overall they conclude, "the entire future development of these companies might be affected by the tight liquid position they are in at present."³ The point I want to emphasise is that these categorisations and comments on financial weakness are made without reference to the profit prospects of the companies concerned. There are a range of cash flows, liquidity, and gearing ratios which the banks and money market does not like to see exceeded without good reason.

Third, an increasing number of firms in difficulty have turned to the state, either directly or via public bodies such as IRC. Public funds have been provided in the form of equity, loans, grants and guarantees. The important point here is that the money market becomes no longer an independent arbiter. In the cases of significant state support, the decisions of the state have been taken as the criteria for the re-enforcement or loss of money market confidence. The reactions of the money market can no longer be taken as independent judgements on the question of whether state assis-

ted firms in working capital difficulties are or are not likely to make a profit in the long run.

The above points should be particularly born in mind in times of increasing international competition and/or of general economic stagnation. International competition may simultaneously demand rationalisation and expansion of existing processes, and the development of new products with longer gestation periods or heavier outlays. This kind of pressure has been felt by all Western European economies in the period since the return to full convertibility in 1958. If on top of this are added the problems presented by inflation, and domestic economic restrictions, we are in a position to understand why liquidity is one of the most critical concerns currently facing British companies. I will cite Michael Shanks, formerly of British Leyland, speaking recently to the Centre for Business Research:

“Many firms last year came close to bankruptcy because their costs rose much faster than anticipated, and much faster than prices. This particularly hit firms with long lead times, especially those who were working for the Government. Even those firms which avoided near bankruptcy faced a severe profit squeeze. Among costs which rose steeply were costs of capital, yet at the same time most firms had to increase bank indebtedness to meet commitments which could not be met out of squeezed profits. In consequence, after years of underinvestment, most firms had to cut back on capital investment — at the worst possible time from the point of view of competitiveness, at the moment when we are posed for EEC entry with all that implies.”⁴

It so happens that this liquidity crisis is closely linked to the falling rate of profit experienced by British industry over the last twenty years.⁵ From the point of view of the whole economy there is a link between the liquidity crisis and profit prospects. But at the level of the individual firm there is no such necessary link. Many of Wood Macken-

zie's 27 weakest firms were no doubt due for rationalisation and restructuring (one of the 27 was Rolls Royce), but others are partly in their present position because they have been involved in this process.

My arguments have been that the market is not necessarily a good judge of the long-term profit prospects of an illiquid firm. In firms with significant state support, the decision cannot be subcontracted to the money market. The decision is the state's, and that decision cannot be based on the current cash position (nor justified by a re-iteration of the extent to which liabilities exceed current assets). It must be based on long-term prospects.

It is important, therefore, to distinguish the financial from the 'real' side of a firm's operations (by 'real' I mean the organisation of the material side of production and circulation). While there clearly will be a close relationship between these two spheres of corporate activity — inefficiency in the 'real' sphere may well be reflected in falling profitability and tightening liquidity in the financial sphere — the relationship is not one-to-one. The current financial position accurately reflects inefficiency neither in the real sphere as it has been operated in the past, nor in the real sphere as it is likely to be operated in the future. In other words a bankruptcy through illiquidity can be said *a priori* to be neither 'deserved' inasmuch as the firm has been ill-operated, nor 'socially-wise', in that the firm is likely to be ill-operated in the future.

Causes of UCS insolvency

How does all this relate to UCS? The so-called four wise men, and the Minister John Davies, while acknowledging working capital problems, put the main emphasis of their analysis of the liquidity

difficulties on real factors: a mistaken industrial structure, ill-advised marketing policies, no improvement in facilities, poor management particularly in the control of wages and other costs.⁶ On the other hand J.H.F. MacMichael, a director of the P.E. consulting group and one of the three man working party which advised on the formation of UCS, emphasised financial difficulties. While he saw a demanding labour force and internal conflicts within the management as two 'real' factors which worked against UCS succeeding, his main conclusion was that UCS was brought down by the lack of working capital. Working capital requirements were inadequately assessed at the beginning in the initial 3-man working party report.⁷ They were then inflated by the losses on inherited contracts and on those orders which were contracted in the first months of UCS's operations. Finally the situation was further worsened by the failure of the government to create confidence in the concern, so that normal commercial credit terms were denied to the group. All this meant that the extensive investment to improve productive facilities which was initially envisaged did not take place because of the lack of cash. Thus, according to MacMichael, the company was dogged from the start by its lack of working capital. This financial problem had 'real' effects which were in turn reflected in the financial difficulties which immediately led to the collapse.⁸

MacMichael's point is worth elaborating. The only published set of audited accounts cover the first 29 weeks of UCS's effective operations. Using the old methods of valuation, the profit and loss account showed a loss of £10.6m. Of this, £8.4m. consisted of provisions made for contract losses £3.5m for inherited contracts, and £4.8m on con-

tracts entered into by UCS. These contract loss figures have since risen to £1.2m and £9.8m respectively. In addition, it appears that profit was foreseen on some of the inherited contracts. Good-will payments of £1.5m on behalf of expected profitability in the merged companies were allowed in the merger. These profits did not materialise. As a result much of the available liquid capital of UCS was used to pay off these items. Public funds were used almost entirely to finance day-to-day operations, or put in other terms, to fund losses. With an issued capital of £5m., an unsecured loan of £0.9m., and bank overdrafts, bank loans, and other short-term loans totalling £4.2m. in August 1968, the working capital situation of the company was clearly fragile from the beginning.

The results of this fragility involved not only the absence of new fixed investment as MacMichael pointed out. It led to hold ups in supplies by suppliers concerned with payment. On one occasion a vital crane was not repaired because the supplier of the parts refused to deliver until all its accounts had been paid. Painters and woodworkers were put on short time because of lack of materials from an unpaid supplier, and so on.⁹ There is also some circumstantial evidence to suggest that UCS deliberately limited their order book because of their concern about working capital availability from 1972.¹⁰ Finally, the continued return to the banking sector and the government for funds, and the gradual loss of creditors confidence particularly from October 1970, must have involved a considerable expenditure of working time.

If we look back at Figure 1 we will find that UCS suffered from most of the financial difficulties we discussed. Given the shortage of working capital from 1968, the company was always dependent on

external credit, from banks, suppliers and the government. When the Conservative government withdrew their guarantee to provide 'long-stop' credits in October 1970 (a withdrawal based on cash flow rather than profit considerations) other credit stopped. By the time the guarantees were restored in February £53m worth of credit had been blocked, and it never picked up again. Prior to the blocking there was a £165,000 deficit in the cash flow. As a result of the blocking this deficit increased to £6.4m. Potentially profitable orders had not been completed.

Two of product B's problem applied to UCS, the inflation of costs on fixed price contracts, and the lengthening of the production period (though not for technical gestation reasons). The latter problem was particularly serious after the suspension of credit: the hold up of supplies until payment was made on delivery meant a slippage in the whole production programme and the postponement of the shipowner's payments — particularly those made at launching and delivery.

There were also difficulties created by the expansion of the production programme as in product C. Early in his time of office the UCS managing director Ken Douglas secured £67m worth of orders. This was partly to fill the order book, but also to help the working capital situation by taking in the deposits on the new contracts (usually around 5% of the value of the ship). Given that the shipowners pay in five instalments, and that the later payments follow work done, the expansion of the order book to help the liquidity situation in the short run led to increased working capital difficulties when the building got under way. Inflation compounded the problem.

These difficulties were enough to ensure that the

situation depicted in cash flow D did not arise. Although UCS required new fixed capital investment (the figure was in the region of £5m), working capital difficulties were such that they could not afford it. Another link was created in the vicious circle in which financial difficulties led to real difficulties which worsened the financial difficulties.

The history of UCS shows how significant the 'real' effects of financial weakness can be. There is something of the self-fulfilling prophecy about the process. It would be wrong, however, to derive all the 'real' difficulties from those of the financial sphere. The 'old' managerial tradition at UCS was, and in some areas still is, alive and well. We will discuss this more fully in section II. While I argued earlier that the financial situation of bankruptcy and the real efficiency of production and circulation must be kept distinct, I did not suggest that there was no connection between them. In the pre-Douglas era in particular, the connection was probably strong.

But it is one thing to say that the current financial situation at UCS would have been mitigated by better management in the past (i.e. that there is a strong relationship between the current 'financial' and the past 'real' sphere at UCS), and quite another to say that UCS should be liquidated (i.e. that there is also a strong relationship between the current financial and the *future* real sphere of operations at UCS.) After offering their 'real' analysis of the failure of UCS, the four 'wise' men conclude that "any continuation of Upper Clyde Shipbuilders in its present form would be wholly unjustified and, indeed, could cause serious and more widespread damage." (para 2.1.) If anything is unjustified it is this conclusion. It is based on the past and not on the future and it is the latter which counts.

Further, it fails to come to terms with evidence to suggest that some upturn could have been expected.

We have from the liquidator's report figures for losses over the lifetime of UCS:

Table 1

	Recorded loss (£m)	Annual equivalent (£m)
1968	9.5	17.0
1969	12.1	12.1
1970	4.1	4.1
1971	2.4	3.2

Source: Upper Clyde Shipbuilders (in liquidation) Statement of Affairs at 15th June 1971, p.iii.

The major part of the total £28.1m. loss that UCS incurred since February 1968 related to the period prior to the adoption of a policy of standardisation following the appointment of Ken Douglas.

Further, as we noted above, losses on contracts inherited or negotiated in the early months of the merger amount to £21.8m, to which should be added a £1.7m loss on the subsequent sale of the 51% shareholding in Yarrow (Shipbuilders).

Recently, we know that productivity has increased (and the four 'wise' men acknowledge this without comment).¹¹ Steel throughput has risen. Standardisation has meant that already some economies have been realised in design and in 'learning'. It also appears that in spite of the current difficulties in ship demand there were prospects for increasing orders of the standardised UCS vessels. Alistair Crawford, the UCS finance director, in his report of May 1971 revealed an acute liquidity position but optimistic profit forecasts. Given the

trends in costs, it was expected that UCS would be profitable within 12 months, provided the liquidity problem could be eased. Support for this optimism has come from the latest Shipbuilding Industries Board report for the year ended March 31st 1971. It writes of UCS, "there were signs of improvement at the beginning of 1971: old and troublesome contracts had been completed; the labour force had been brought into line with future requirements; settlements had been reached with the unions; and the company's order book was such that new orders for early delivery could be taken on satisfactory terms. . . . The company has been successful in obtaining notable assistance from its customers, and with the end of loss-making orders, more settled industrial relations and improved production, the company should make the long-awaited turn to profitability." More recently there are reports, stemming from the liquidator, that the company was being operated on a profitable basis since June 15th when the liquidator took over.^{1 2}

In the case of UCS the deep involvement of the state in the operation meant that the money market was in the position of a dependent rather than an independent judge. The main responsibility for judgement lay with the state. When the government took its decision to bankrupt UCS it had before it the above mentioned reports of Alistair Crawford and the Shipbuilding Industries Board. If we accept the statement of the General Secretary of the Scottish TUC, James Jack, (and he has not been gainsaid) that the four 'wise' men themselves admitted to him in private that UCS were "on the road to viability"^{1 3} then it is clear that the government gave little weight to future profitability as a criterion for judgement. Whatever the limita-

tions of the money market, it can, in general, be said to follow the principle that it is the future not the past which counts. The above evidence, the absence of any discussion of future profitability in the White Paper, and the statements of John Davies himself all suggest that the Government in the case of UCS have not even followed the elementary principles of their own market ideology, and the elementary practice of the money market, that capital must always look forward and not back.

At this point I do not intend to discuss what other motives lay behind the Government's decision. I have merely been concerned to establish that neither the fact of bankruptcy nor the existence of past inefficiency *justifies* the liquidation of a firm. Only the future can justify in this narrow sense. In the second chapter I shall consequently look at the *results* of the bankruptcy so that we can compare them to what might otherwise have happened.

II

Effects of the Bankruptcy

In the past economic development has followed a cyclical pattern. Periods of 'normal' economic activity are followed by depressions, slumps, crises, which in turn give way to 'normal' conditions once again. These normal periods have usually been characterised by falling rates of profit. One of the results of crises is to restore these rates of profit, if not to the level found at the beginning of the previous normal period, at least to a level considerably higher than that which existed immediately prior to the slump.^{1 4}

This restoration of the profit level comes about through three main mechanisms. First by devaluing the capital stock — for if the amount of profit remains the same before and after the slump and is produced by the same capital, the rate of profit will rise if the value of that capital has been marked down. Instead of getting £1m profit from £10m capital, the post slump firm gets £1m profit from £5m capital, even though the material nature of the capital (in contradistinction to its money value) remains the same.

Second, a slump will usually decrease the power of labour by increasing unemployment. It will therefore lower the real cost of labour. Prior to an economic crisis labour commonly increases its share of the national income proportional to profits. Real wages may even rise. A crisis has tended to reverse this trend.

Third, productivity increases. This is partly because the slump liquidates some relatively inefficient firms (even if it also liquidates some, though not as many, efficient firms by dint of our argument in part I) and partly because the falling rate of profit and increasing competition encourages a rationalisation process.

All three of these factors which go towards restoring profit rates can operate outside a major slump. Firms will be forced out of business even in 'normal' conditions. The material capital of a firm may be devalued (or alternatively be expanded materially with a constant value) by virtue of the state selling its holdings beneath their value, by cancelling debts, or by grants or subsidies. Rationalisation processes and growing unemployment are similarly not confined to crisis periods. As rates of profit fall during the normal period, so firms will seek ways of maintaining their profit through any of these means.

While these mechanisms are therefore not confined to crises, crises do concentrate the process, and one of the main means by which they do so is bankruptcies. Bankruptcies simultaneously devalue the capital stock, displace labour (both immediately during the liquidation, and over the longer term by virtue of the rationalisation process as it relates to the bankrupt capital), shift the capital supposedly from less to more efficient hands, and encourage the formation of larger and more concentrated capitals.

We noted above that the rate of profit has been falling in the British economy over a twenty year period. We discussed the point in relation to the liquidity crisis, but there are other aspects which are striking: the great merger boom since 1958, the extension of state subsidy to this process of

industrial re-organisation, the rationalisation of production and circulation within individual firms and the growing concern with modern management techniques and management education. Finally on the labour front, not only have wages been rising relative to profits,^{1 5} but there has been a consistent attempt to weaken the power of labour; by the prices and incomes policy, by the Industrial Relations Act, and along with the last, by the creation of growing unemployment.

The bankruptcy at UCS should be seen against this background. Market theory would suggest that the main issue was the third: increasing profit through moving the material items of production to more efficient hands — whether in shipbuilding or elsewhere. Resources will be allocated more efficiently. I want to suggest that the result of the bankruptcy is unlikely to be this. Rather the main effect will be the devaluation of capital and the reduction of the power of labour. Indeed so pronounced are these effects likely to be, that they may outweigh any negative consequences in the field of rationalisation, and actually raise the rate of profit. I will discuss in turn these three aspects of the bankruptcy: the devaluation of capital; the effect on labour; and the prospects for rationalisation.

The Devaluation of Capital

Bankruptcy devalues capital. The material form of capital remains unaffected: buildings and plant, stocks and work in progress continue to exist as before. Each item of material capital has been effectively financed by someone, by those who contributed equity, who contributed to a fixed interest loan, by banks, by suppliers who provided goods without demanding immediate payments, by purchasers who advanced money before receiving

material goods, and so on. Each of these advances constitutes a capital claim of a particular value (equity shareholders claim the residual value of the firm and the profits) and total claims should match the capital value of the material assets. In a bankruptcy, the capital value of the material assets is marked down when the assets come to be sold. Total capital value now no longer equals total claims. Total claims therefore have also to be marked down and this is done not by a proportional devaluation of all claims, but by settling claims at their full value until the money runs out. Claimants are strictly ordered, they queue as it were, to re-receive the settlement of their claims at full book value. First come the preferential creditors, then the secured creditors, then the ordinary creditors and finally the shareholders. Given that assets are sold up below their value what effectively happens is that there is a transfer of value from the creditors at the end of the queue to those who have bought the material assets at bargain prices. It is this transfer which, while impoverishing some, will allow the new holders of the material capital to restart production/circulation at a higher rate of profit: "Liquidation wipes out the old debts and allows any re-organised company to start with a clean sheet, and it lowers the price of the remaining assets for anyone who wants to buy them because of the 'lame duck' nature of a bankrupt concern."¹⁶

How does the market allow this devaluation to happen? According to traditional economic theory the value of a capital asset is determined by the discounted value of its future earnings. For example, the current value of a tree which was due to be cut down in ten years time and sell for £100 would not be £100, but say £60, because if I invested £60 now at the going rate of interest it would be worth £100 in ten years time when the tree was due to be

cut down. If the price of the tree was over £60 there would be no buyers for everyone could make more money by lending his capital out at the going rate of interest. If the price of the tree was less than £60 everyone would want to buy it because the yield would be more than that offered on the money market. Hence the price would be bid up until it reached £60. The same, says traditional theory, holds for all capital assets, a machine, an office, even a human being. Competition among would-be purchasers will ensure that the price will be bid up to that point where it equals the future earnings discounted at the going rate of interest.

How then can bankrupt capital stock be sold below its value? Is it not that it was previously over-valued, rather than that it is being sold below its value? I would like to make three points about this:

1. this theory makes capital value dependent on the rate of profit, which from the point of view of the practical businessman is fine since he cannot affect the general level of profit (or rate of interest) in the economy and has to adjust to it. But for those who are trying to understand how the fortunes of individual firms fit into, and are affected by, the general process of economic development, no such isolation of the individual capital is legitimate. We cannot derive the value of capital of the macro economy from the rate of profit because the rate of profit has itself to be explained. It is not an independent variable. It, too, is determined by other factors, one of which is the value of capital. So if we explain capital values by rates of profit we come round in a full circle. We are forced to look for a measure of capital value independent of the profit rate. Some alternatives have been suggested which come down to a measure based on the time taken by labour to produce the

material form of the capital stock (production to dated labour). Such a measure allows us to talk of a capital value which can be compared to the value which that capital stock realises in the market after a bankruptcy.¹⁷

Devaluations in this sense will occur when developments in the macro economy make it *temporarily* impossible for individual capitals to continue operations because of low and even negative rates of profit. A general economic crisis is then necessary to restore the economic conditions in which it is once more possible for individual capitals to resume the accumulation process.

2. Even if we work with the traditional theory of capital value, we may see how bankruptcy leads to 'bargain prices'. The capital value of a firm is likely to be greater as a going concern than if each individual item of the capital is sold separately to other sectors. Many of the supplies in UCS for example would be almost worthless (scrap value) unless fitted into a nearly completed ship, (just as many of the skills of the workers will be devalued if they cannot find work in other yards). The use value of these material items may be higher if they are used in shipbuilding than if they are switched elsewhere, just as the use value of all the capital (and labour) taken together may be higher than if they are all broken up and sold separately. Now if there are many other shipbuilders bidding against each other for these assets the price is likely to rise, as envisaged in traditional theory. But if there are only a few, even one or two, then imperfections will appear in the market. Furthermore, there is always risk attached to a new investment. A businessman's attitude towards this risk will affect the price he is willing to pay. If he is conservative, and unwilling to chance the possibility of failure, then the price

he will offer will be lower. Commonly times of bankruptcy are times of strain for the industry as a whole, times, in other words, when prospective buyers are liable to be particularly conservative in their assessment of risk. Finally, we must remember that a bankruptcy is always a buyer's market. The liquidator is pressed for time. He cannot wait for higher bids. He must sell to whom he can, as quickly as he can. As shoppers know, there are bargains for those who come across a sale of bankrupt stock.

3. An important curiosity remains to be dealt with. It may be that the seller of the bankrupt stock actually wants to sell at the lowest price he can get while still allowing the disposal to appear as a market transaction. This indeed is a curious seller, but there is one such who appears quite often in this guise, namely the state. For the state, in some forms, under some governments, may remain a profit maximiser (or loss minimiser) — but a maximiser not of its own profits but of those to whom it sells.

This third point brings us straight back to UCS. The Ridley Report drawn up by the Conservative front bench spokesman on Trade and Industry in 1969, is nothing else but a proposal to devalue UCS's capital for the benefit of any capitalists who are lucky enough to be in a position to come to the market. His proposals included the following: (i) to let the Yarrow yard leave UCS (on favourable terms); (ii) to "put in a Government 'butcher' to cut up UCS and to sell (cheaply) to Lower Clyde and others the assets of UCS" (allegedly to minimise upheaval and dislocation); (iii) "after liquidation or reconstruction . . . (to) sell the Government holding in UCS even for a pittance."¹⁸

This is a quite astonishing document, remarkable

Table 2
Assets of UCS

	1968	1971 Book Value	1971 Estimated Realisable Value
<i>Fixed Assets</i>			
Land and Buildings	5,833,472	2,504,000	2,100,000
Plant & Equipment	3,474,168	4,154,000	1,000,000
Total Fixed Assets^a	9,307,640	6,658,000	3,100,000
<i>Other Investment^b</i>	50	70,000	50,000
<i>Goodwill</i>	1,199,026		
<i>Current Assets</i>			
Stocks and Work in progress, less instalments on account ^c	7,881,418	350,000	250,000
Debtors and Bills Receivable ^d	5,271,310	340,000	340,000
Grants from S.I.B.	5,500,000		
Short term deposits	500,000		
Cash	13,657	4,000	4,000
Total Current Assets	19,166,385	694,000	594,000
Total all assets	29,673,101	7,422,000	3,744,000

NOTES

- a. the estimated realisable value of the fixed assets in 1971 is based on two valuations, one assuming the sale of the assets as a shipyard, the other assuming a break-up sale.
- b. The 1968 figures covers a 50% holding of the issued share capital of Simons-Lobnitz (Alluvial Dredgers) Ltd. The 1971 figures cover "investment in and balances due by operating subsidiaries and associated companies", excluding the non-operating, wholly owned subsidiaries.
- c. In terms of shipbuilding contracts, the property in a vessel under construction, and all material and equipment brought into the company's yards appropriated to a contract, is vested in the shipowner, subject to the shipbuilder's lien for unpaid instalments. For the 1971 statement no excess of subsequent receipts over subsequent expenditure was included; the figure given in the table for 1971 is for stocks which are substantially usable in the completion of the work in progress.
- d. The Trade and other Debtors figure for 1971 is £636,000 but this has had deducted from it £261,000 against accounts available for set-off by creditors, and a further £35,000 as an allowance for bad debts.

SOURCES: Upper Clyde Shipbuilders. Accounts 1968 (Companies House, Edinburgh)
Upper Clyde Shipbuilders (in liquidation). Statement of Affairs as at 15th June 1971.

for its unashamed use of state economic power to prop up the profit rate of a hard-pressed private capital.

What has happened in practice? The sale of the assets has not taken place at the time of writing, but we do have the estimates of the liquidator. His figures, together with those from the 1968 Balance Sheet for comparison are presented in Table 2.

In examining these figures we should bear in mind that the estimates of realisable value are conservative. The receiver announced on August 31st that the final price may be higher. "I would not contemplate selling at £3m, but I am unlikely to look for more than £6m." Be that as it may, he clearly sees the largest devaluation applying to plant and equipment. This item accounts for most of the difference between total book value and total estimated realisable value.

There has also been a sizeable depreciation of the land and buildings between 1968 and 1971, even though the depreciation rate used in the 1968 accounts was only 5% p.a. The selling of the share in Yarrow's assets may have accounted for some of the reduction, but some further explanation is required from the liquidator on this.

Further, the liquidator has made a conservative ('prudent') estimate of the value of work in progress (quite properly from his point of view). It is believed that there are a number of ships where work in progress stands in advance of instalments paid (this is one of the reasons for the liquidator to continue production), and that at least some of these ships will show a profit if recent productivity rates are continued. The extent to which this additional value will be subject to devaluation will

depend on how much of the work has been completed (and profit realised) by the time of the sale.

Some part of the capital value of a business lies in the way in which material capital is organised, and the way in which working people in all departments of the firm relate to each other and the process of production. These are less tangible assets than a building or machine but no less real for that. They are likely to be particularly important in an industry like shipbuilding where profitability depends so much on working skills and the way in which the production process is conducted. They are partially reflected in balance sheets (along with other intangibles in the sphere of circulation such as consumer loyalty) under the heading of goodwill.

Now in as much as the product, the process of production and working relations have changed at UCS (we will discuss these more fully later in the paper), and in as much as these changes would have reflected themselves in the achievement of profitability in the near future (as we suggested previously), then some allowance should be made for goodwill in the valuation of assets. One can quite see why the liquidator does not do this, but this does not alter the fact that these intangibles should be taken into account for the purposes of the present argument. Indeed, in some ways they can be seen as the fruit of the capital advanced by the government to maintain the company in being during the period of the reconstruction.

The Beneficiaries

We are concerned at the moment with the question, to whom is capital value being transferred? Some of the capital values we have discussed above will be transferred to purchasers. But there is another aspect of the bankruptcy which is con-

cerned with completing a transfer that has, from the point of view of the beneficiaries, already taken place.

It has been suggested for example that the ship-owners who had their ships produced below cost price have thereby benefited from a hidden transfer. In as much as the prices of the ships in question were below what might be called the socially necessary costs of production, or below the minimum price which the owner could have enjoyed elsewhere, then undoubtedly the owners gained. A good deal of the excess of costs over price at UCS was, however, socially unnecessary cost, relative inefficiency.

A second group who have already received a value transfer are the owners and creditors of the yards which were consolidated to form UCS. The case of Yarrow has been particularly striking. In the original merger in February 1968 Yarrow gave up 510,000 'A' shares of £1 each (a 51% holding) to UCS in return for 1 million ordinary £1 shares in UCS and £1m cash (the goodwill of Yarrow was valued at £1,199,026 in the 1968 UCS accounts). During their association with UCS Yarrow received an SIB loan of over £1 million, with which it built one of the most modern covered yards in Europe. In February 1971 Yarrow bought back UCS's 51% holding for what is known to be a nominal sum, far less than the original down payment it had received. It also kept on its 1 million ordinary shareholding in UCS, and received a £4.5m. loan from the Ministry of Defence. In the first set of UCS accounts the Yarrow yard is recorded as having contributed approximately £150,000 to UCS profit. We do not have later UCS figures, though we know that for the ten months up to June 30 1971 Yarrow made a loss of about £3m.

For this reason it seems unlikely that Yarrow contributed anything like what it took out of UCS; indeed the liquidator revealed a £1.7m loss by UCS from the sale of its 51% share in Yarrow.

As to the other yards, Sir Ian Stewart, former chairman of Fairfields and vice-chairman of UCS described the position in this way: "I think that without the merger John Brown's would have gone bankrupt, and Connell's and Stephen's were probably heading for bankruptcy, too. That was why they were in such a hurry to get into the merger. If you look at how quickly John Brown's produced £1.7m. to underwrite the rights issue for the investment in the merger, you can see how damned keen they were to get out with the QE2 sitting there. They had no orders ahead which carried any profit at all."¹⁹ Stewart is not, of course, an independent witness, but there is other evidence to support his conclusion that the prospects for the three yards were not good. I refer to the 1968 accounts which we discussed in the previous section. Not only were the goodwill payments of £1.5m written off in the accounts, but further provisions for losses on inherited contracts had to be made of £3.5m rising to £12m. Some of this sum might be attributed to declining efficiency in the yards since the merger. With the exception of Fairfields, I have seen no evidence for this.

Valuations are of course tricky things. What is a loss to one accountant may be profit to another. Accounting costs are subject to wide degrees of variation. If there is a wide divergence between two sets of accounts (as there was in the GEC/AEI merger) it need not be because one side has fiddled them (as GEC claimed), but because different and defensible valuations have been put on the assets and liabilities (as AEI argued).²⁰ Much business

bargaining revolves round valuations of items for which there is no immediately agreeable measure. However, this does not mean that there is no base standard. Businessmen will have a set of accounting principles and will assign probabilities to future events which will allow them to judge offers, deals and so on, against their own valuation.

In the case of UCS, the valuation of the three companies we are discussing was almost certainly extremely favourable to them. (I will deal with Fairfields later.) These firms did not contribute to the new group anything like sufficient capital to cover the losses on inherited contracts. John Brown's, with the QE2 problem hanging over them, came out particularly lightly, while Connell's received not only shares in the new group (like the other companies involved — see Table 2) but also a payment in cash of £150,000. However, with the exception of the cash payment to Connell's the three firms have not benefited directly. Their equity holdings have been rendered valueless by the bankruptcy, and indeed, John Brown's and Stephen's had already virtually written off the value of their equity holdings before the bankruptcy. The main gainers from the generous provisions of the merger are rather those inherited creditors who stood to lose had the three companies been left to go bankrupt.

To sum up, the liquidation of UCS will bring about a devaluation of the (exchange) value of liabilities and, more problematically, of equity holdings. Part of this devaluation will involve no transfer since it represents value liabilities created by inefficiency (the liquidation represents the cancelling of accounts created by the expenditure of socially unnecessary labour). But the other part of the devaluation will involve transfers of value: the

transfer of material goods of a given (use) value at a lower (exchange) value.

The Losers of Value

If transfers have already taken place or are shortly to do so, from whom do they come? Who, also, will bear the cost of social inefficiency? Who stands to lose?

I shall distinguish four groups of potential losers:

(i) The state. The Government had the largest stake in UCS and is likely to be by far the greatest loser. In Table 3 I have set out an estimate of the capital injections which the government has made to UCS up to and including June 15th 1971.

The liquidator has estimated that the government will lose over £14m. from the liquidation (this may be slightly reduced if UCS' assets fetch more than the liquidator's provisional figure of £3,744,000). This figure of £14m includes the outstanding loans and the recent £1.07m grant; it does not take account of the SIB grant or the loss in equity value. Even if we only included the equity figure, it would mean that the government by their decision to bankrupt UCS, were effectively writing off £18m worth of capital. This is half the value of the uncovered liabilities and roughly half the value of the equity. If we take the SIB grant and the Yarrow yard into consideration as well, the figure rises to over £24m

(ii) Equity shareholders. The shareholding in UCS are given in Table 4.

We have previously argued that of these shareholders the government has lost, Yarrow gained, and that Stephen, Connell and John Brown have been largely unaffected by the financial history of

Table 3 (£m)

	Equity	Grants	Loans	Total
Direct				
Government	0.88 ^a	1.07 ^b	8.82 ^c	10.77
S.I.B.	3.00 ^d	5.50	4.84 ^e	13.34
Total	3.88	6.57	13.66	24.11

Notes:

- a. the Government contributed £700,000 in respect of its shares in Fairfields and £175,000 in cash — its share of the cash payment made to shareholders in Fairfields.
- b. this figure is a grant of £1,068,000 given by the government to discharge liabilities on wages, salaries and holiday pay which were due on 15th June 1971.
- c. the government had two loans outstanding with UCS: the first, a 7% unsecured loan stock issued by Fairfields (*Glasgow*) and take over by UCS; the second a £7m loan made in December 1969, the interest on which had accrued to £877,000 by June 15th 1971.
- d. this represents 12,000,000 5/- ordinary shares subscribed by the S.I.B. in August 1969.
- e. The Liquidator has given a figure of £3,641,000 outstanding S.I.B. loan (with accrued interest) up to 15th June 1971. In addition, the S.I.B. advanced £1.2m. to Yarrow (Shipbuilders) for the construction of their covered yard.

Sources: Upper Clyde Shipbuilders. Accounts 1968.
Upper Clyde Shipbuilders (in liquidation). Statement of Affairs as at 15th June 1971.

Table 4
U.C.S. Shareholders as at 15th June 1971

	Ordinary shares of £1 each
John Brown & Co. Ltd.	1,656,840
Yarrow & Co. Ltd.	1,000,000
The Solicitor for the Affairs of H.M. Treasury	875,000
Alexander Stephen & Sons Ltd.	500,000
Charles Connell & Co. Ltd.	250,000
Thompson Scottish Associates Ltd.	198,113
Barclays Nominees (Branches) Ltd.	132,075
Amalgamated Union of Engineering Workers	82,547
H.K., M.E. and T.N.F. Salvesen	79,245
General & Municipal Workers Union	66,038
Stenhouse Investments Ltd.	66,038
H.K. and M.E., Salveson & L.M.H.Gow	52,830
The Amalgamated Society of Wood- workers	33,019
Clerical & Administrative Workers Union	<u>8,255</u>
	5,000,000
Shipbuilding Industry Board – 12,000,000 'A' Ordinary Shares of 5/- each	<u>3,000,000</u>
	<u>8,000,000</u>

Source: Upper Clyde Shipbuilders (in liquidation).
Statement of Affairs as at 15th June 1971.

UCS (since the value of their UCS equity represented overvaluations at the time of the merger). Fairfields (whose shares were held 49% by the government, 10% by unions, and the rest by private shareholders) remain a more difficult case. At the time of the merger there were two profit forecasts for Fairfields. The first, a conservative one, suggested that the yard would be making a small profit within a year. The second saw that profit as being much larger. The S.I.B., and the merchant banks representing the other parties to the merger stood by the conservative forecast. On this basis Fairfield shareholders were paid £350,000 in cash plus a holding in UCS. Given the favourable profit forecasts, it is quite possible that the cancellation of the value of the UCS equity held by Fairfield's shareholders has meant that they have come out as net losers from their participation in UCS.

(iii) The suppliers. The liabilities to suppliers of goods and services totalled £6,164,000 plus a further allowance for half a million pounds for goods received and subcontractors charges not yet invoiced. A breakdown of the major creditors under this heading is given in Table 5. In all there are some 2,400 creditors, but the distribution of the debt is, as we would expect, uneven. The top 25 creditors account for over half the total, and the top 100 for about three quarters. What is striking about these major creditors is first that public bodies have suffered considerable losses. BSC is by far the greatest loser (£1,177,000) but also the Shipbuilding Industries Training Board (£72,000), the South of Scotland Electricity Board (£34,000), the Post Office (£29,000) the South Scottish Gas Board (£16,000) and the Lower Clyde Water Board (£15,000). Second, foreign suppliers have been notably hit. Among the top 25 creditors

Table 5
Top 25 Ordinary Creditors for Goods and Services

	£
1. British Steel Corporation	1,176,785
2. Hagglund & Soner (Sweden)	200,235
3. GEC—English Electric	115,286
4. Clarke Chapman	110,922
5. Navire Cargo Gear G.B.	104,807
6. International Computers	100,874
7. John Brown Engineering (Clydebank)	98,167
8. Siemens (U.K.)	89,792
9. Thompson Shipcranes	88,847
10. McGregor and Co. (Naval Architects)	85,112
11. B.I.C.C.	84,503
12. A.B. Karlstads Mekaniska (Sweden)	81,466
13. Cunard Lines	79,953
14. Stone Platt	78,724
15. Shipbuilding Industry Training Board	71,574
16. Alfa Laval	68,006
17. McEwan Insulators	63,290
18. Markland Scowcroft	57,489
19. Hamworthy Engineering	56,907
20. Newalls Insulation and Chemicals	51,162
21. British Oxygen	51,145
22. A/S Hydraulik Brattvaag (Norway)	49,782
23. Brissonneau (France)	48,300
24. Fred Olson and Co. (Norway)	47,166
25. J. Kincaid	46,899

Total liabilities to top 25 ordinary creditors for goods and services, £3,106,593 out of total liabilities for this class of creditor of £6,164,000.

Note: some of the above figures in the table are the result of consolidating liabilities owed to subsidiaries of the same company (B.S.C., Hagglund & Soner, GEC—EE including AEI, Stone Platt, Brissonneau, Fred Olson).

Source: Upper Clyde Shipbuilders (in liquidation) Statement of Affairs as at 15th June 1971. p.p. 1—59.

ment of Affairs as at 15th June 1971. pp.1—59.

there are not only the five registered abroad (whose nationality is included in brackets in the table) but also the British subsidiaries of foreign companies, Siemens and Alfa Laval. In all, the top 25 foreign creditors have lost nearly £1m. Among the top 100 creditors, foreign and public sector creditors account for more than half.

(iv) The shipowners. In the liquidator's accounts shipowners are ordinary creditors to the value of £6,274,000. Of this £3.1m is in respect of claims on completed contracts, £2m being the Cunard claim which is also subject to a counter claim being prepared by the liquidator. The remainder covers instalments and contributions paid by shipowners in respect of contracts not to be adopted by the liquidator. There are 14 contracts on which no physical work has been done since the liquidator took over: the liquidator has said that he is willing to delay formal repudiation of the contracts until the future of the yards is settled, and it is probable that the holders of these contracts will not lose anything like the full sum involved.

The loss that remains only partly falls on British shipowners (four of the ships for 1972/73 delivery are for the Eire based Irish Shipping — see Appendix I), and may be partially compensated for shipowners as a group by any effective transfer which owners received by sub-competitive price contracts in the first round of UCS orders in 1968.

These, then are the main losers. Of the shareholders the government and the Fairfields shareholders (predominantly the government and trade union) are likely to have been net losers. Of the creditors roughly half of the outstanding liabilities of £28.158m stands effectively in the name of the government. Of the remainder, £2.5m at least is

likely to be lost by public bodies and foreign firms who have supplied goods and services, and £1.5m represents the companies share of redundancy payments which will not be paid. Of private British capital, suppliers stand to lose between £3m and £4m, with a further £887,000 for claims for supplies on unfulfilled contracts (mainly engines), and shipowners (the majority of whom are British) up to £6.3m. Taking the liquidator's counter claim on the QE2 into account, we may estimate that British private capital represents about a quarter of uncovered liabilities. Individual losers will be shipowners (whom we have seen may appear as a group at the other side of the transfer process), and engine suppliers (Clarke Chapman, Kindcaid, Harland and Wolff, George Clark). But much of the debt is distributed among small firms with relatively little power.

Overall it is the government that has born the major burden of the devaluation. Whether or not John Davies read the Ridley report is immaterial. The decision to bankrupt UCS was fully in line with the principles spelled out in the plan. Quite apart from the Yarrow accounts, and the £5½m sunk in UCS as government grants, the bankruptcy has, at the stroke of a pen, written £18m off the face value of public capital.

The Weakening Power of Labour

The second result of a bankruptcy is to weaken organised labour. A bankruptcy will not only throw men on the labour market – commonly at a time of rising unemployment – but it also allows the new operators of the bankrupt assets (as well as other potential employers in the same sector of production) to set more stringent conditions for the re-employment of the displaced workers. Sudden mass redundancy threatens to undermine the consoli-

dated power of labour in the bankrupt concern. If bankrupt assets are taken over as a going concern, jobs in the reconstructed company are likely to be less in number than redundancies, and the viability of the reconstruction will be made to appear contingent on re-employed labour accepting a variety of employers' demands which they had previously resisted.

There have been four main points of conflict between *shipbuilders and shipyard labour on the Clyde*: wages, double shift working, redundancies, and changes in work and payment structures to improve productivity. In UCS the first three of these overshadowed the fourth.

First wages: at Fairfields, new payments systems relating pay more closely to performance resulted in higher wages, and this led to wage demands elsewhere on the Clyde where new work and payment systems had not been introduced. The Ridley report commented, "U.C.S. wages are 20% higher than Lower Clyde. Lower Clyde men are on strike to achieve parity. A decision to save U.C.S. would have very serious repercussions indeed upon Lower Clyde, with £100m order book."

As far as double shift working is concerned, this has been a matter for negotiation for many years. Fairfields were at the point of agreement on a double-day shift agreement with the Boilermakers Society in September 1967, but UCS were never able to offer terms acceptable to the unions.

Thirdly, UCS managers had negotiated a reduction in the workforce from 13,500 to 8,000, but a further reduction was still sought in conjunction with improved productivity in the yards.

On all these points (as well as the fourth men-

tioned above) Fairfields had shown it was possible to work towards an agreement with labour without reducing the organised power of labour. They argued that a re-organisation of the production process would yield a surplus sufficient not only to restore profitability but to meet the conditions which labour required to make this new productive organisation acceptable. UCS failed to achieve this.

The Government has now said that the unions must meet all these requirements if shipbuilding is to continue on the Upper Clyde. The White Paper speaks of the need for "competitive wage rates" in any reconstituted operation on the Upper Clyde. It argues that an "essential contribution" towards securing long-term viability would be "a commitment by the Unions to accept certain changes in working practices including in due course, a change to a 2-shift daily working, say from 6 am. to 2 pm. and from 2 pm. to 10 pm. with night working limited to maintenance." Finally it calculates that employment in the new venture would have to be reduced from 8,000 to 2,500, (this implies the selling off of Clydebank and Scotstoun altogether). The White Paper concludes that its proposal (including the "full co-operation of the Unions" as one of the three major conditions) "represents the one and only effective alternative to a total cessation of shipbuilding on the Upper Clyde."

As a result of the bankruptcy the working men at UCS are in a weak position when it comes to bargaining over these conditions. They are led to believe that their acceptance of these demands is a necessary condition for the viability of the yards. Undoubtedly an agreement to double shift working would increase the rate of utilisation of fixed capital, and an agreement to lower wage rates and to

accept a cut in employment would of course lower the total wage bill.

But that these are necessary conditions for viability is quite another matter. To begin with, there are doubts about whether double shift working would make any significant difference to profitability. K.J.W. Alexander and C.L. Jenkins (the former was one of the directors of Fairfields and of UCS) have calculated that, assuming a shift premium on wages, the cost of a ship would be reduced by only some 4% by such a scheme, and against this reduction would have to be set the increased depreciation of the fixed capital.²¹

Secondly a reduction of wages by 5% would lead to a cost reduction on a ship of only 1% (if we accept the upper figure quoted in the Geddes report for shipyard labour as 20% of total ships' costs.)²² This should be set against the cost reductions of 15–20% required to restore international competitiveness.²³

The savings, if they are to come, will originate in changes in the product and the production process whose control at the moment lies in the hands of the employers.

Now coming to our third point – the question of redundancy – the four 'wise' men have necessarily had to make assumptions about the effect of improved efficiency on costs in order to calculate which yards should be kept open and how many men should be employed. Their only explicit reference to these assumptions is that, for long-term viability, productivity should increase by 50%. In this case production can be profitably carried on at Govan/Linthouse with employment in the region of 2,500 (para 3.3)

The argument is shown in Figure 2.

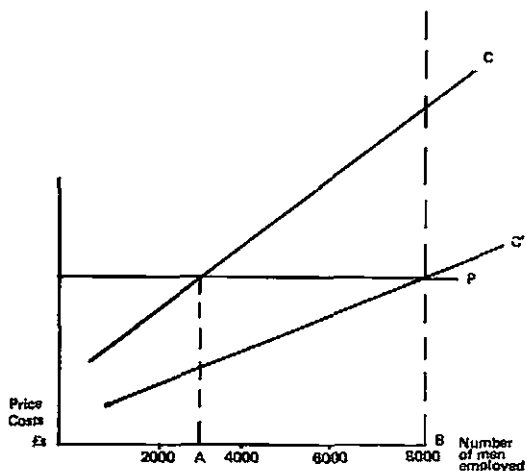


Figure 2

We measure costs and prices up the vertical axis and the number of men employed at UCS along the horizontal. The horizontal line P represents the average price of a ship. The line C represents the cost of building ships as calculated in the White Paper (economists would call it the supply curve.) If the number of ships produced in any one year rises (employing more men) costs rise, because, among other things, the facilities which are brought into use to build the extra ships will be increasingly expensive (because they contain outdated equipment). If only one ship was produced in the year we might assume that it would be built in the most modern part of the Govan yard. As more ships are built, older parts of UCS would be drawn into use until one came, for example, to the East Yard at Clydebank. As we have drawn it (and as the 'wise men' have calculated it), it is only worth producing ships up to that point where 2,500 men are employed, all of them at Govan/Linthouse. Up to

point A the price at which a ship can be sold will cover the costs incurred in building it. Beyond that point, the extra cost of building a further ship will exceed the price. In as much as these ships would have been built at Clydebank/Scotstoun those yards (on these calculations) represent unprofitable capacity and should be sold off.²⁴

The question is, are the assumptions of the four 'wise' men justified? The only one that is made public does not encourage confidence. There is still no satisfactory overall measure of productivity for shipbuilding, nor does the White Paper specify which productivity measure it is using. If it is steel throughput per man, then a 50% increase would be a significant achievement, but this measure takes no direct account of improvements in efficiency in other parts of the shipbuilding process, design and development, fitting out, purchasing, marketing. Nor, of course, as John Davies himself pointed out, does this or any other measure of productivity reflect costs. Steel throughput per man may increase with cost per steel ton handled remaining constant. It is costs which matter.

Further, there is the evidence we cited in the first part of the paper to suggest that UCS was in the process of becoming profitable. This followed from economies derived from standardisation, economies which affected all the yards (including the relatively more costly). The line C in Figure 2 appears to have been shifting to the right, towards C¹. The cost of producing an extra ship with a given number of men would move down and it would become profitable to bring the yards which had been unprofitable under previous calculations back into co-ordinated operation.

I use the word 'appears' because it is impossible

with present information to be more certain. On a calculation which forms the basis for the loss of 4,500 jobs, much public money and the probable commitment of yet more public funds to the reconstructed concern, it is quite outrageous that the Government have kept their assumptions hidden in the way they have. They should go on being pressed to open their books and for two reasons.

First, of course, more information of this kind would allow a much more fruitful public discussion. Second, the publication of assumptions would, simultaneously, be the publication of a set of specific targets, and of requirements which any new management would have to meet. Up to now it is the workers who have been presented with detailed demands. What should be done, with more justification, is to make specific requirements of any new group that takes over: requirements that are phrased not in terms of overall generalities (more productivity, more profit,) but in detail (the speed at which a flow process of production would be adopted, detailed methods of inventory control, the reduction of wage and salary differentials within the firm to 1:5 initially and then to 1:4, and so on.)

Some would no doubt complain that this type of management schedule does not fall within the Government's sphere of responsibility (let alone expertise). It is meant to be the capitalist's job. To this complaint there are three replies:

- (i) British shipbuilding capitalists have shown themselves incapable of performing the job;
- (ii) the calculations contained in the White Paper necessarily imply assumptions on all these points of detail; if the calculations are to carry the weight assigned to them (the loss of 4,500 jobs, the writing off of

£18m of public funds), particularly in the face of contrary assumptions by those most closely involved in the recent turn around at UCS, then the White Paper's assumptions must have been discussed in detail and be in a form to present to any future group(s) who takes over;

- (iii) detailed requirements of the type we envisage are made by the government, of the workers. If they can be made of the workers they can be made of the owners.

To a Government whose primary function is to regenerate and service the profit rate of private capital these replies are of course beside the point. Management is the prerogative of private capital, and if, in the case of UCS, a private capital cannot be relied on to obtain the necessary reduction of costs through improved organisation of the production process, the reductions that can be won through a bargain with labour become all the more significant. Cost reductions of up to 4% may be small compared to overall requirements for British shipbuilding to be competitive with Japan. But from the point of view of the individual, comparatively well capitalised yard, it may make all the difference between profit and loss. If capital's ability to manage cannot be relied on, production should be restricted to those yards where concessions from labour would secure profitable operations. But as the experience of Fairfields shows these uncompensated concessions by labour are not *necessary* for successful operations. They are only necessary when there is incapable management. Labour is being asked to pay for managerial incompetence. In normal circumstances British labour is strong enough to resist such a proposal. Bankruptcy undermines this strength.

Prospects for Rationalisation

Market theory suggests that the main effect of a bankruptcy will be to transfer the bankrupt resources into hands which will use them more efficiently. The resources may be taken over and run as a going concern under a new management. Or, they may be broken up and transferred piecemeal to companies in the same or other sectors. By implication the bankrupt resources were either in the wrong industry, or in an ill-structured concern, or under inefficient management.

Certainly UCS has been criticised on all these grounds. It has been suggested that the market for ships on a world wide basis is on the decline, and that shipbuilding resources should therefore be moved to sectors where demand is growing. Further, it has been argued that, quite apart from the sector and the management UCS was wrongly structured. The White Paper for example says that there was "a totally mistaken initial structure which forced together into one rigid and prestigious group five companies whose shipbuilding competitiveness was exceedingly doubtful unless major improvements in facilities and methods were brought about urgently and whose financial strength was fragile." Finally, many people including the four 'wise' men and John Davies, have criticised the UCS management.

I will take these points in order:

International Overcapacity

The overcapacity argument suggests that world demand is inadequate and that resources should move elsewhere. The shipbuilding industry is subject to wide fluctuations of demand, not only because of fluctuations in the final market which it ultimately serves — the demand for shipping space,

but also because ships are durable goods and durable goods are particularly subject to sharp falls in demand — replacement orders are postponed at times of financial stringency or poor general economic expectations.

There is evidence of a prospective recession in the demand for ships in the near future. Ship-owners have reported surplus capacity in their fleets, particularly in dry cargo vessels. A recent report by the Shipbuilders and Repairers National Association (published July 1971) reported a downward trend in freight markets. Further, the Board of Trade among others have suggested that the demand for new dry cargo tonnage may fall in the longer term as well, because of the developments of giant ore carriers and containerships. These points clearly lay behind John Davies' statement in the August 2nd Commons debate that prospects for improvements in orders at UCS were very remote because of the considerable difficulty being experienced in the shipbuilding industry.

The prospects for UCS type vessels over the long term have been discussed in Michael Barratt Brown's submission to the Inquiry (p.24). He suggests that there may be a growing demand for smaller ships to feed the big carriers. I would only add that the aforementioned Report by the SRNA reports both that the number of ships being built in the world was a record for the sixth successive quarter and that in the long-term the overall growth in the freight market would be satisfactory.

It is of course the long-term rather than short-term demand prospects which should determine policy with respect to UCS, but in either case the question is the same. Even if it could be shown (with all Geddes' provisos in mind — see his Report,

pp.42-3) that there was or would be, world-wide overcapacity in shipbuilding what would this imply for UCS?

If the international economy was based on planning rather than the market, it would clearly make sense in a situation of long-term overcapacity for the working men in the less capitalised part of the industry to switch themselves to other sectors. This would not be done through bankruptcies and redundancies but by planned reconversion and re-training. An international market economy imposes a different 'rationality'. It sets nation against nation, capital against capital, and worker against worker. The nation is the fortress, the institution which supports its capital in world-wide competition. If some are to go to the wall, each capital, each workforce, supported by their state will try and ensure it is not they.

Market rationality still dominates planned rationality. In an immediate and narrow situation as faced by labour at UCS, actions will be bound by this rationality. If there is a chance of re-establishing UCS as an internationally competitive yard then it is right to press for it. But it should be remembered that, like other limited demands in a market economy, it is fundamentally an ambiguous one. For if there is over-capacity (and this is far from proved) and if UCS can be re-established as an efficient unit, it means that workers somewhere else in the world will be thrown out of work. Others will become the marginal workers. The re-employment of some will mean the unemployment of others. This is an inescapable fact as long as the market system continues to dominate.

From this point of view it is quite wrong to dissolve UCS on the principle that it represents world over-capacity. It is still capable of becoming com-

petitive. Nor would dissolution benefit other British yards by redistributing demand. Geddes put it in this way: "The closure of yards will not in itself solve the problem of competitiveness since shipbuilding has no protected home market and the competition is international." (p.59)

A competitive market can be characterised by the ease with which it can be entered. Shipbuilding cannot be entered as easily as taxidiving. There are economies to large scale production. There will be a minimum capital, know-how and skill necessary to build a ship competitively, and this minimum will act as a barrier. Yet the barrier is not nearly so high as it is say for aero-engines. In the latter field once a firm has fallen behind it is extremely difficult to catch up. But in shipbuilding the costs of setting up or re-equipping are not so large as to preclude even underdeveloped countries from running their own industries (Yugoslavia and India are examples), particularly when it is possible to produce some market imperfection through protection, preferential agreements and so on. When there is a fund of skill and traditional shipbuilding know-how as there is on Upper Clyde, not to speak of a good deal of modern equipment, the barriers to competitiveness become even less forbidding.

Sir Ian Stewart recently said of shipbuilding, "If its viable in Japan it should be viable on the Clyde."²⁵ To this should be added, in relation to the question we have been discussing, that the restoration of competitiveness on the Upper Clyde would have an insignificant effect on world shipbuilding capacity. As in all competitive situations, the actions of one firm would not significantly affect the total market. It is for these reasons that it is unjustified to argue that UCS should be broken up because of a still unproven long-run world-wide overcapacity.

Ill-Structured Capital

A second reason why UCS as an organised unit of capital might be inefficient from an economic point of view is that it is either too large or too small. If it were too large the diseconomies of large organisations would not be compensated by other economies of scale. If it were too small the available economies of scale would not be exploitable.

In a limited sense UCS might be considered to have been too large. There were considerable costs involved in the merger and much rivalry between the merged units. Furthermore, in as much as the initial management at UCS justified the strictures put on it, the effects of its mismanagement may have been even more serious for a large consolidated unit than it would have been for the constituent yards left separate. As Alexander and Jenkins point out, "A mediocre management will make a worse job of a large-scale enterprise than of a smaller scale one. The evidence suggesting that smaller British yards are more efficient than the larger ones may be explained by management's inability to cope with the problems of scale."²⁶

If on the other hand mediocre management is not a constant, if it can be replaced or improved, then it would appear that shipbuilding is subject to significant economies of scale.²⁷ These economies relate partly to indivisibilities in overheads — i.e. overheads which require a minimum scale for their efficient operation but which can then be spread over a number of ships (development, drawing and design, marketing, production engineering, and some welfare services would be examples). Partly they relate to economies of scale within the production process itself (balanced building programmes helping to limit fluctuations in the demand for labour by trade, or yard specialisation

together with benefits of, what marketing literature calls, a full product line). Financial strength and the prompt delivery of inputs are other areas where scale would be likely to be of advantage (in relation to the latter, small yards have frequently experienced very long delays in waiting for a steel rolling at the mills.²⁸) The Geddes report is particularly firm in its emphasis on such economies. It concludes its section on the elements of costs in shipbuilding as follows "The resources necessary for competitive shipbuilding . . . in general . . . cannot be provided or supported unless yards are grouped." (p.162)

Such grouping in order to achieve economies of scale was the principal recommendation of the Geddes report. I have not as yet seen any major theoretical or applied challenge to this conclusion. Geddes noted that there were six Japanese groups with annual launchings of 250,000 gross tons or more, (accounting for 71.3% of total launchings), and 2 Swedish groups in that category (accounting for 75% of Swedish launchings.) There were no British groups in that range. He was suggesting groups comparable in size to the Japanese and Swedish groups. For the Clyde the report suggested not more than two groups — possibly even one depending on the issue of tradition and travelling time.

In the light of the foregoing, the current probability that UCS will be broken up as the result of the bankruptcy is to say the least regressive. Only if all or part of UCS was incorporated in the Lower Clyde group could Geddes' recommendations not be completely contradicted, and such an amalgamation would raise other issues dealt with elsewhere in this paper. At the moment of writing it seems most likely that Govan and Linthouse will

be reconstituted on their own. Even with an output of eight ships per annum this unit cannot possibly be in a position to achieve the required economies. Amalgamation does not of course ensure competitiveness. It is only a form within which competitive production may be more easily achieved. It is not a sufficient condition — the early history of UCS confirms this. But from most of the evidence we have, grouping on the Upper Clyde does appear to be a necessary condition for competitiveness. If the current structure is to be criticised it might be that the grouping is still too small. That the units may now be made even smaller is further to reinforce the conclusion that the bankruptcy will achieve the opposite of economic optimality.

'Efficiency' and Management

The question of managerial efficiency is, like some other points we have discussed in this work, an ambiguous one. The market economy has its own definitions of efficiency and rationality which, when looked at from a vantage point other than that of private capital, appear both inefficient and irrational. We have to ask of these concepts the same question as we ask of other traditional economic aggregates. For whom? For whom is the improvement of a production process efficient? For whom is it rational? For private capital certainly, but for the worker? A new production process commonly leads to a reduction in labour requirements, a change and even a reduction in skills, a challenge to some if not all of a worker's long standing negative powers. Of course there may be potential benefits but whether workers receive them will depend on how they use their negative powers. Efficiency has different meanings to those at either end of the chain of command.

The argument of this chapter, however, remains

intentionally limited. I want to suggest that, even on the market's definition of efficiency and rationality the bankruptcy of UCS is unlikely to lead to any improvement in the organisation of production and circulation. But at the same time I do want to indicate, in the course of the discussion, the pressures which the market brings to bear on the economic process, moving it towards the market's own definition of efficiency and rationality even when complete or partial control of the individual yard or plant lies in the hands of those who do not share this definition.

We noted above the attacks that had been made on management at UCS. The White Paper and the *Government have called for new management of any regenerated concern*, The White Paper in its final paragraph runs: "The success or failure of this venture will depend fundamentally on management. It is rarely possible to produce a satisfactory management structure at the drop of a hat. Efficient operation of the unit on a day-to-day basis must be secured; executive responsibility must be precise and unblurred. It has been suggested that this could be achieved under the overall policy direction of a Temporary Management Committee, to be set up immediately and to include representatives of others engaged in the shipbuilding industry in Britain. Such representatives would have to be chosen very carefully to ensure that this is not just a paper solution but is a body capable of taking action and monitoring action."

What strikes one most about this and other similar statements is their vacuousness. They are entirely lacking in any discussion of the *substance* of shipbuilding 'efficiency'. We are back to the point we made earlier. Whereas there is detail given of the concessions required from labour,

there is no equivalent detail with regard to the employers.

Substantive detail can only be provided by those with a close knowledge of the industry, workers, economists, technologists, operations researchers and so on. But as a background to detail and to the assessment of whether UCS assets will be transferred to more 'efficient' hands it is useful, I think, to set the developments in shipbuilding against the more general background of industrial change.

III

'Efficiency' and the Shipbuilding Industry

Productive 'efficiency' and the accumulation of capital are driven on by the desire for profit. What constitutes efficiency and the ability to increase profit in a non-trivial sense? It is essentially the ability to economise on time: to minimise the labour time embodied in any product, to minimise the time which labour must spend in providing its own subsistence, to minimise the time between the initial advance of capital for the purpose of production and the ultimate sale of the commodity produced. Economics in the end comes down to a question of time economy. It may be a question of speeding up a production process through mechanisation (consider a sewing machine for example), or speeding up the flow of material from one machine to another by improved factory layout or new communication devices (consider the architecture of a textile factory or the introduction of the conveyor belt) or it may be through the more intensive use of fixed capital which lessens the time between the initial outlay and the return of all the original capital advanced (both the variable capital to be embodied in a single product and the constant capital which can be spread out over many products). To the businessman the problem will always present itself as how to speed up the turnover of his capital, how to use any material capital more intensively. To him, time is money. Witness the development of clocks with the growth

of commodity production, particularly in the 14th century.

Let us distinguish industries which transform from those which assemble.²⁹ Among those which transform we would include chemicals, glassmaking, brewing, textiles, food processing, most agriculture and forestry. Under the heading of assembly industries would come engineering, clothing, shoe manufacture, construction and, the automobile industry. In a transforming industry there is a natural flow process: ploughing, discing, harrowing, rolling, sowing, harvesting, threshing, feeding. The material which is being transformed is passed from one process to another never to return. In agriculture the speed of the process is limited by climate — there are gaps in the utilisation of the capital, machinery stands idle, barns are empty, labour — overworked at harvest time — may be underworked in winter. Many of the transforming industries are not limited in this way and, under normal conditions, have a continuous flow of a necessarily standardised product, leather, bitter beer, a particular drug.

Assembly industries on the other hand have often been bespoke commodities, one-off jobs, made to measure: this applies not only to clothing and building, but also to engineering and machine building. As a result the nature of the work gave rise to a wasteful pattern of communications, bringing the part to the product, trying it, going back to the bench, returning, trying it again and so on. Not only does this involve wasted time in going backwards and forwards, it also means that it is difficult to time a particular part of the process so that materials and men can be gathered to start promptly on the next part. Co-ordination is difficult. This may present no problem if one man is

capable of every process, but one aspect of the imprecision is that assembly industries have historically been the home of craft trades, of skills which are not interchangeable. A further problem arises with the repetition of work: one bespoke house may take twice as much woodworking as plumbing, whereas the proportions may be reversed for the next job. There are no fixed proportions, and if crafts are not interchangeable, this is likely to involve overcapacity or long waiting times between different parts of the assembly. Assembly industries have for all these reasons been traditionally subject to delays, to the waste of time.

The response has been two-fold. The first was to develop a standardised product. This meant that a single part could be produced continuously, using the same method, the same material and taking the same amount of time. Parts became interchangeable, and though this meant conquering the enormous problems of precision (look at the revolutionary changes in machine tools, grinding devices and means of measurement in the latter half of the 19th century) it nevertheless allowed a large reduction in the waste of time, and/or capacity.

Second, and closely linked with the first, the labour process was de-skilled. It was broken down into simple operations which could be performed by machines attended by unskilled or semi-skilled labour. The labour process was atomised; the time taken to perform each atom could be measured; and a worker could be given an amount of work which it was known he could do in a particular time. The conveyor belt, the ultimate development allowed the setting of a common standard of pace for all parts of the operation.

The taking of the skill out of labour was inspired

not only by the principle of timing, but also by the practical necessity of working out by time and motion study what a worker really could produce in a given time. When the worker remained skilled the manager was often not in a position to judge whether a worker whose task he was measuring could in fact do more. F.W. Taylor, the father of the principles of scientific management came to these conclusions as a result of trying to speed up work at the Midvale Steel Company in Philadelphia in 1880. Describing his work he said that he found "that his efforts to get the men to increase their output were blocked by the fact that his knowledge of just what combination of depth of cut, feed, and cutting speed would in each case do the work in the shortest time was much less accurate than that of the machinists who were combined against him." He therefore proposed "to take all of the important decisions and planning which vitally affect the output of the shop out of the hands of the workmen and centralise them in a few men, each of whom is specially trained in the art of making those decisions and in seeing that they are carried out." Later he said that his system (transferred with great success to the Bethlehem Steel Company), "is aimed at establishing a clearcut and novel division of mental and manual labour throughout the workshops."³⁰

The shop thus became a factory, increasingly mechanised with a flow process of production replacing the former nodal organisation (around the commodity which was being assembled). With mechanisation came standardisation, the replacement of skilled with unskilled and semi-skilled, and the introduction of the division between head and hand. The new methods of assembly, which had been worked on for the relatively crude mechanism of rifles and pistols in the US at the beginning of the 19th century, were developed most signifi-

cantly in the production of the sewing machine, the typewriter, the bicycle and then the car. In engineering progress was much slower, and in larger constructions slower still.

The relevance of the above is I hope, clear to the matter in hand. Many of the problems confronting British shipbuilding capital now are the problems that confronted other assembly industries in their nodal, craft, untimed phase, that period prior to the introduction of 'progressive machining' as it was sometimes called.

This is how Sir Ian Stewart described one aspect of the delays: "When we went into the yard (Fairfields) the men were not really doing two hours work a day, not because they did not want to, but because there was not enough work for them to do. The materials were not arriving at the right time, the painters did not have any paint, the plumbers did not have any pipes and the steelmen did not have any steel. There was no control system, there was no flow of materials and there was no attempt to have the labour force in the right place at the right time."³¹ Alexander and Jenkins write similarly of Fairfields, "From technical investigations made at that time, it was noted that there was no standard sequence of work method, there was a high percentage of non-productive time (60%) and that approximately 10-20% was abortive (modification and/or rectification work which does not add to the value of the work done)."³²

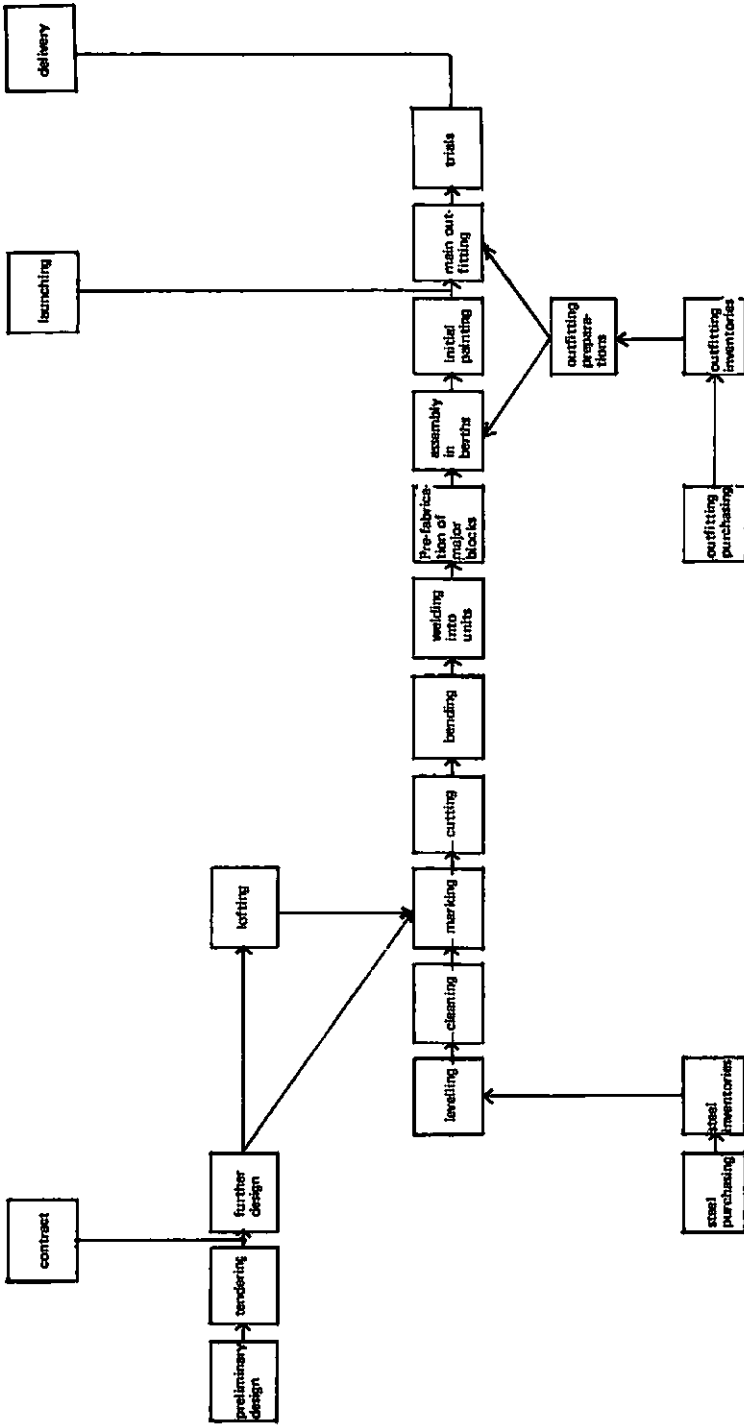
There is thus the delay of delivery of outside supplies (and opposite danger of overstocking inventories) the delay through imprecise work methods, and the delay from hold-ups in the production process — leaving men waiting until a previous stage of the process is finished. There is

the overall problem of the flow of work through the yards so that men finished on one ship have another one to start on. To avoid idle capacity, some yards have sub-contracted some of their work, particularly in outfitting, but this too is subject to delays when the work is needed. The natural delays of the working day were cemented by the single shift system. Labour is craft labour. Many of the jobs are strictly demarcated between skills. Labour is not interchangeable and this highlights the difficulties caused by the lack of a steady, standardised flow of production. Finally, each ship has tended until recently to be made to measure, thus involving not only a lengthy process of design, but also modifications as the work proceeds.

The average time taken for the building of ships in British yards (from order to completion) on a short order book was as follows: 24 months for tankers over 55,000 deadweight, 14 months for bulk carriers over 30,000 tons deadweight, and 13 months for cargo liners. On a long order book the respective figures were 27, 20, and 17. The compounded effect of the uncertainties of timing we have mentioned above means that ships often run over the contracted time for delivery, thus slowing down the turnover of capital (weakening the cash position) and subjecting the builder to penalty clauses (as was the case on Clydebank with the claim of £1m on the Swedish liner Kingsholm, and the £2m claim on the QE2.)

The proponents of rationalisation in shipbuilding focus on these problems of time and timing. At all points of the process of production and circulation time must be saved and co-ordination improved. The Geddes report has this as its constant theme. "It is through the individual effort to save a minute of time and thus an element of cost that, in the

Figure 3 – Production process of Shipbuilding



aggregate, the cost savings so essential to the industry will be achieved." (p.77). And here is his summary list of factors which allow these minutes of time to be saved: "Planning and allocation of resources; production control and progressing; investment in time saving capital assets; good labour relations ensuring uninterrupted and efficient individual work; influence on suppliers and contractors; availability of finance; availability of labour and staff; reliable suppliers and sub-contractors; absence of undue owners' modifications." (p.187).

These are the elements of time saving, and Geddes keeps us to these elements. How inventory control must be improved, how computers could help production planning and control through network analysis, or how a strengthened purchasing department would keep suppliers to their schedules in order to avoid delay. But if we go a little further and ask what these individual savings add up to, what such a bombardment of the production and circulation process with the principles of time economy implies, we find ourselves back with the principles we have discussed in relation to the mass market products in the latter part of the 19th century. The trend in shipbuilding now is as it was previously in sewing machines, bicycles and cars: towards standardisation, the introduction of the flow process, and, to use Sohn-Rethal's phrase, towards the 'measured atomisation of labour.'

In its most extended form standardisation has been advocated for ships as a whole. The Japanese have had considerable success with standard, or closely similar ships. So have Austin and Pickersgill, one of the few profitable British yards, whose policy has been transferred, along with the Managing Director, to UCS. As can be seen from appendix 1 Douglas has switched UCS entirely over to the pro-

duction of two standard commodities, the Clyde-type vessels, intended to replace the Liberty ships, and the bulk carriers. The current UCS order book of 31 ships contains 19 bulk carriers and 8 Clyde vessels, the remaining 4 all being inheritances of a previous policy.

Standardisation need not be taken as far as the completely standard product. The use of standardised steel plate and other bought-in equipment has been advocated on the grounds of economies of purchasing for example. The shipbuilding industry may indeed move straight to a system of modular production, i.e. the production of commodities a great number of whose part are standardised, but which are differentiated with respect to parts not subject to large economies of scale in production.

Standardisation is not necessarily linked to a flow process of production. Economies derived from the learning process and the spread of the overheads of design and purchasing over a number of ships stand on their own. But it is commonly linked to the introduction of the principles of the flow line. This latter has been an important point of emphasis of recent shipbuilding literature. The Patton report speaks of the importance of the 'straight-line flow', 'the principle of unidirectional material flow from stockyard to berth', the possible economies to be derived from cutting down fitting through increased time taken in drawing, and of course economies from production planning and control.³³

The main changes that have taken place in British shipbuilding in the 1960's have been in the area of the 'unidirectional material flow from stockyard to berth'. The Geddes report commented that "blocks for the hull can now be produced in a continuous flow with design and production planning

and control co-ordinated with a view to fast steel throughput" (p.72), and that was in 1966. Berth time has also been cut in some yards through a concentration of resources on a small number of berths, but outfitting remains very much the old nodal process. In general, given the relatively limited adoption of standardised (or even modular) ships and the small size of many yards, the advantages of co-ordination and resource economy through production line methods have not been achieved on the scale that they have been in Japan. The main economies have come through what Sir Ian Stewart called "a simple planning and network analysis", the co-ordination of production, and the increasing simultaneity of the production process where it had formerly been strung out (notably in the fabrication process but also to a limited extent in outfitting).

The slow development of the principles of flow-line production has meant that changes in the labour process have been similarly slow. But there have been some signs of the encroachment of the 'measured atomisation of labour' and the principles of F.W. Taylor. Here is Geddes writing on detailed production control, "Hull construction and fitting out should be divided into units chosen to serve as a common basis for planning work, for measuring performance against the budget, for assessing productivity and for controlling cost. . . We consider that it is essential that there should be more work measurement within the industry with a view to arriving at a position where the performance can be measured in terms of man hours against a pre-determined standard." (pp.77-8)

At Fairfields a modified system of measured-day-work and payment by results was introduced. The scheme ignored work methods, accepted current

methods of production, and concentrated on "work planning, measurements and estimating for the purpose of introducing a measured day-work scheme." Although work was not 'de-skilled' therefore, there was a loss of workers' control over the work process. "Given that shipbuilding is a work-process and combination of technologies in which shipyard workers have been in a position to exercise considerable control over the pace and even the ordering of production, it was rather surprising that the move by management towards a modified measured-day-work system did not induce either resistance or an attempt to substitute alternative controls to those which work-people would lose as a result of the new methods." This is Alexander and Jenkins on the Fairfields' scheme.³⁴ The lack of resistance he refers to no doubt owes something to the 'atmosphere of trust' in Fairfields, and the training of shop stewards in the work study methods. But the key lay at Fairfields, as it did at the Bethlehem Steel Company, in higher wages. One of Taylor's claims for his system of management was that it made higher profits compatible with higher wages. "High wages and low labour costs are not only compatible, but are, in the majority of cases, mutually conditional."³⁵

Fairfields did not introduce fully-fledged Taylorism, any more than they developed the timed flow processes of mass production. But by the application of some of the elementary principles which had been taken much further in other assembly industries over the last 100 years, they were able in a short time to improve productivity considerably. The two hours work a day which the men were effectively limited to at the beginning of Fairfields, became five hours in the space of two years. Austin and Pickersgill have likewise shown the immediate benefits which can be gained from

standardisation without carrying through the full logic of the principles involved.

Whether shipbuilding is open to the same extensive adoption of mass production techniques as pistols, or sewing machines is open to question. But on the basis of the Japanese experience at least, the British shipbuilding industry is still far from the limits that a restricted market might impose on the application of these principles of time economy and timing.³⁶ The Japanese have ensured that the battle between the bespoke and the mass produced (a battle that has had only one outcome wherever it has been joined — in beer, in biscuits, no less than in machine tools and cars) is now the major issue in shipbuilding today. Brian Singleton, the Editor of *Shipbuilding and Shipping Record* summarised the position in this way:

“There was for too long an assumption that the Japanese could be allowed to churn out utilitarian ship on a flow-line basis because when it came to ‘real’ ships owners would, naturally, place their orders in UK and Continental yards. Unfortunately, the past decade has shown that ship owners *want* the flow-line-produced ships and are less and less interested in the sophisticated vessels which were the speciality of so many yards in Britain and on the Continent. As a result European shipyards were, by and large, and with a few exceptions, unsuited to mass production of the ships most in demand and it is only in the last few years that a real swing towards Japanese style flow-line production has developed.”³⁷

The question we must ask about UCS is, therefore, whether the bankruptcy is more or less likely to lead to a further reconstruction of the process of production on the Upper Clyde. At the moment it looks probable that it will not. For quite apart from Fairfields which we have already covered, UCS has as the current managing director one of the few people who has effectively introduced some of the principles we have been discussing.

How effective he has been in putting these principles into practice I am not in a position to judge. As I noted earlier, there is evidence that the recent standardised ships at UCS are showing a profit. What one can question is the likelihood that the Government backed Govan Shipbuilders Ltd. would be any better. From what we know of other parts of the British shipbuilding industry, and of the performance of the 'old guard' at UCS it could well be much worse.

Further, if it is the case that some if not all UCS management is relatively poor, this would still not be an argument for bankruptcy. If there are better managers available than those currently in charge of UCS, then they could have been appointed under the old structure (and might well have been more likely to accept such an appointment before rather than after the liquidation).

This argument that bankruptcy was necessary to transfer resources to more efficient hands has now been completely undermined by the appointment of Ken Douglas to be deputy-chairman of Govan Shipbuilders which aims to take over the rump of UCS.

IV

Workers' Control versus Market Rationality

In this work I have wanted to establish two things, (i) that financial difficulties reflect in themselves neither short nor long-run unprofitability. In themselves they in no way 'justify' liquidation. The latest financial difficulties at UCS came in fact at a time when there were at least prospects of profit: (ii) that the main effects of bankruptcy, in the case of UCS, are likely to be in the fields of the devaluation of capital and the reduction of the power of labour rather than in an increase in 'efficiency' (whether by shifting resources elsewhere, by restructuring the group, or changing the people who control it). In fact 'efficiency' is likely to decline if the group is broken up as the White Paper envisages.

What the Conservative Government is doing is to socialise the costs of restoring a rate of profit. The individual crisis at UCS and its resolution, reflects the causes and consequences of a more general economic crisis. But in the case of UCS a new rate of profit is to be established less by pushing further the process of rationalisation, than by the devaluation of capital and the reduction in the power of labour. To private capital such a solution will be highly acceptable. From their point of view the actions of Ridley, Eden and John Davies show, in the end, perspicacity on how profit rates on private capital can be restored. But for the majority who do not share in capital holdings, who contribute to

the socialisation of these costs, the actions of the Conservative Government are a little less endearing. They have written off £18m of public money in the almost certain knowledge that the material capital of UCS will be less efficiently structured and less efficiently run than it would have been if it had been allowed to continue. They have threatened to make redundant at least 5,000 men (and at least double that indirectly) at a social cost exceeding that of keeping them employed at or in connection with UCS. They have done all this under the banner of the efficiency of the primitive free market mechanism when what it is is a device to transfer the costs of depression and capitalist inefficiency from those who have capital to those who do not. This is the hidden hand which is operating on the Clyde.

The experience of UCS has provided a case study of the working of private capital. It has been marked by a tradition of incompetent owner family management. The disruptions and costs which have been visited on this capital as a result of its inefficiencies (in market terms) have been born principally by the workers at UCS and the wider public via the state. Redundancy, the devaluation of skills, lower wages, transfers of capital from public to private hands, insecurities: this is one way to run a shipyard and a system.

But there are other ways. The shipyard at Split in Yugoslavia is one example.³⁸ This yard is 27th in the ranking of world yards. Its annual capacity is 200,000 d.w.t., it employs 4,500 men, it can make prefabricated sections up to 120 tons, and is planning a dry dock capable of taking ships of up to 100,000 d.w.t. It is therefore comparable to UCS.

The organisation of the control of the yard is represented in Appendix 2. Workers meet as a

Collective and elect 76 representatives to the *Workers' Council*. The percentage poll was 87% in 1966 and 91.2% in 1967. Each representative is elected as representative of a department for a period of two years, the number of representatives for any one department varying with the size of the department. The Workers' Council has six committees (Socio-economic, Personnel, Protection and Safety, Social Standards, Applications and Complaints, and Division of incomes) whose membership is not confined to Council members.

The Workers' Council elects the *Managing Board* of ten members (plus the General Director *ex officio*), for one year. No worker is allowed to be on the board for more than two successive years. The Managing Board has six committees, (Applications and Petitions, Executive Staff, Interviewing, Damage and Replacements, Inventories, Skill Assessment, Inventions and Technical Advances.) Meetings of the managing board are usually held every ten to fourteen days.

The *General Director* is appointed by the Managing Board for four years, as are the fifteen Heads of Department. His job is to run the yard in accordance with the decisions of the Workers' Councils, control the men and machinery, improve production, working methods, and the safety of the workers and to reduce costs. He is required to give all necessary information to the organs of management, report on progress to the managing board, respond to questions, and so on. He meets the Assistant General Director and the Directors of Finance Production, Design, Purchasing and Sales in the *Collegium* which is intended to be a forum of experts.

Each of the 15 departments in the yard has its own *Department Workers' Council*, elected at the

same time and on the same basis as the Central Workers' Council. Each such council has seven committees (Wages, Recruitment and Termination of Employment, Housing, Safety, Applications and Petitions, Damage and Replacements and Discipline).

There is finally a Supervisory Committee which is responsible for seeing that the yard is managed in accordance with its constitution ('Statut') and with the national law.

The shipyard at Split is not a democratic paradigm. As might be expected manual workers tend to vote for white collar workers for the management organs. In 1967 the Managing Board consisted of two engineers (one of whom was the chairman), two technicians, one economist, a female lawyer, three highly skilled workers and one skilled worker. The Central Workers' Council also had (in 1965) a disproportionate number of white collar workers on it (39% of the representatives although they constituted only 13% of the work force). On the Departmental Workers' Councils the disproportions were not so pronounced. Not only, therefore, were manual workers electing white collar workers, but the Managing Director and the Collegium did in practice have a considerable freedom as well as an influence as a pressure group within the yard. The yard is dominated by specialists and professional managers, and of course is subject to the over-arching discipline of the market, (over 10 years up to 1967, 72% of the ships built in the yard were for overseas owners.)

Split shows that a large shipyard can be run with formal and indeed some substantial workers' control over the organisation of production and circulation. Such control is in the Yugoslavian context,

a real achievement but limited. The rationality of the plan cannot be substituted for the rationality of the market by changing the formal control of production and circulation in one plant. The characteristic deforming features of the market system always tend to impose themselves: over-capacity, crisis, unemployment, spatial and social inequalities, the dessicated work process. The struggle is always to meet these deformations face-to-face: to resist their rationality with another.

Split comes out of the Yugoslavian experience of this struggle. It is specific; its strengths and weaknesses are rooted in that national history. I have cited it as an example of an alternative, not *the* alternative. There would be dangers in trying to imitate Split too directly at UCS.

Indeed the work-in at UCS has been the Clyde workers' own dramatic attempt to defend their definition of economic rationality. To the choices offered them by the market, between one set of owners and another, between the abandonment of their traditional craft veto-powers and redundancy, between lower wages and the dole, they have responded with their own way of putting the question. They have shown that the market itself faces as well as imposes limits, that the market system has to answer as well as ask questions. The UCS workers have put their questions moreover on the basis of their own institutions, their own crisis-authority — the shop steward's committee — and it is this which one might foresee gathering powers (over redundancy, work measurement schemes, shift arrangements, safety and speed of work, production plans, financial goals, movement of materials and equipment, appointments of managers) rather than a formalised and integrated

organisational model on the lines of Split. Dual rationalities are reflected in dual structures.

The principal concern of this book has been to discuss only one of these versions of economic rationality. Its purpose has been to question the clumsy logic of the market system as it relates to bankruptcy. Far from promising increased social efficiency, bankruptcy promises merely to restore the rate of profit on private capital by transfers from other parts of society. But I have also wanted to suggest that in the field of production, as in the broader field of social costs raised by Michael Barratt Brown, the restriction of discussion to the terms dictated by the market can no longer be accepted. For the question before us is not how to adjust ourselves to maintain this particular economic system, but how to organise the system to meet our needs. To answer this we shall have to look beyond the market and the Clyde.

FOOTNOTES

1. Michael Barratt Brown. *UCS: The Social Audit*. Institute for Workers' Control. Pamphlet Series, number 26. August 1971.
2. For a discussion of the inadequacy of profit as a measure of efficiency see: R.J. Ball "The Use of Value Added in Measuring Efficiency". *Business Ratios*. Vol.2 no.2. Summer 1968 pp.5-11.
3. Wood, Mackenzie & Co. *Corporate Liquidity*. November 1970.
4. Michael Shanks. "Inflation and the Firm". Speech to Seminar on Inflation and the Firm, organised by the Centre for Business Research in association with the Manchester Business School.
5. A. Glyn and R.B. Sutcliffe. "The Critical Condition of British Capital" *New Left Review*, no. 66. March-April 1971.

6. *Report of the Advisory Group on Shipbuilding on the Upper Clyde*. HMSO. 29th July 1971.
7. *Accountancy Age*. 25th June 1971.
8. *Glasgow Herald*, 5th August 1971. Michael Barratt Brown has pointed out to me how very different the UCS situation was to that of the Coal Board. When Robens became chairman the NCB was making heavy losses, and was therefore short of working capital. Robens first obtained a sum of £50m from the government. By the end of 1962 Parliament extended the Board's powers so that it "(a) might borrow temporarily from the Minister such sums as they might require for financing any temporary deficit on revenue account; (b) with the consent or general authority of the Minister, might borrow temporarily from any other person, by way of overdraft or otherwise, such sums as they might require for financing any such deficit or otherwise for meeting their obligations under the Coal Industry Nationalisation Act 1946." (Quotations from NCB Report and Accounts for 1962, Volume 1, page 3.) The Report and Accounts for 1963/4 contained the following: "The amount set aside for depreciation forms the Board's main source of internal finance and has enabled them to stabilise their interest charges by reducing advances from the Minister of Power to finance capital expenditure. The Board provide depreciation on vested assets at a faster rate than they repay the Minister in respect of the compensation paid for those assets." Lord Robens, one of the four 'wise men' of UCS, was no stranger to the distinction between the financial and real spheres of corporate activity.
9. *Sunday Times*, 20th June 1971.
10. *The Scotsman* of the 26th July 1971 reported that the order book had been kept deliberately short. That this was for reasons of future working capital availability was suggested in conversation at UCS.
11. A. Wedgwood Benn is reported to have said that productivity rose by 87% in one year. (*Scotsman* 15th June 1971). *The Times* (14th June 1971) put the rise over the last year at 100%.
12. *The Times*, 28th September 1971.
13. *The Scotsman*, 3rd September 1971.
14. For an excellent discussion of the nature of economic crisis see P. Mattick *Marx and Keynes*, Portar

- Sergeant 1969. English edition to be published by Merlin Press, Autumn 1971.
15. A. Glyn and R.B. Sutcliffe: *op.cit.* see also the article "The Wages Advance" by "A Socialist Economist" in *The Spokesman* no. 8 December 1970.
 16. Roysten Bull. "UCS: Damage worse than Rolls". *The Scotsman* 16th June 1971.
 17. P. Sraffa. *Production of Commodities by Means of Commodities*. Cambridge 1960. For a review of the debate on capital theory see the excellent article by G. Harcourt "Some Cambridge Controversies in the theory of capital" *Journal of Economic Literature* Vol.7 1969 pp.369-405, and the introduction by the same author (with N.F. Laing) to the set of readings "*Capital and Growth* published by Penguin Books 1971.
 18. The full version of the Ridley Report was published in the *Daily Record* 2nd September 1971. A shortened version appeared in *The Guardian* June 1971.
 19. *The Times*, 24th June 1971.
 20. A concise discussion of these points is presented in an article by Peter Kellner and Graham Serjeant, "How to give or take £1m" in *The Sunday Times* 6th September 1970.
 21. K.J.W. Alexander and C.L. Jenkins. *Fairfields: A Study of Industrial Change*. Allen Lane Press. 1970. p.38.
 22. *Report of the Shipbuilding Inquiry Committee 1965-1966*. (the Geddes Report). HMSO. 1970. p.48.
 23. Alexander and Jenkins *op.cit.* p.46 and Geddes Report *op. cit.* p.48.
 24. To calculate the curves drawn in Figure 2 would be extremely difficult, though some industries (notably the electricity industry) have made extensive use of this type of marginal cost analysis. It is also interesting to note that though the East yard at Clydebank is perhaps the least well equipped of the producing yards at UCS it is not necessarily the least profitable, because of its low depreciation charges.
 25. *The Times* 24th June 1971.
 26. Alexander and Jenkins. *op.cit.* p.46
 27. *ibid.* pp.45-49.

28. *Productivity in Shipbuilding (Shipbuilding Conference 1962) "The Patton Report"*. p.50.
29. The distinction and its elaboration is that of David Landes in his excellent sub-section "Mechanisation and division of labour" in Chapter 5 of his *Unbound Prometheus*, Cambridge 1969. pp.293—326.
30. The quotation, the point and a great deal more are taken from the inspiring paper "The dual economics of transition" by Alfred Sohn-Rethal, presented to the 2nd Socialist Economists Conference at Cambridge, October 1970.
31. *The Times* 24th June 1971.
32. Alexander and Jenkins *op.cit.* p.190.
33. Patton Report. *op.cit.*, pp.7, 24, 26, 38.
34. Alexander and Jenkins. *op.cit.* p.213.
35. quoted Sohn-Rethal *op.cit.* I should emphasise that as well as the pressure towards de-skilling and the measured atomisation of labour, there is also a counter-tendency to develop more skills so that one man can do many jobs (modular labour). Both tendencies are based on time economy.
36. For a useful discussion on the development of the Japanese shipbuilding industry see: S.A. Broadbridge Technical Progress and State Support in the Japanese Shipbuilding Industry. *Journal of Development Studies*, January 1965. pp.142—175. Commenting on the technical changes underlying the rapid growth of Japanese shipbuilding in the 1950's Broadbridge says: "the revolutions in technique can be summarised as block-construction on the conveyor belt system; in other words, the application of assembly line manufacturing techniques to the shipbuilding industry." p.159.
37. *The Times* 30th August 1971.
38. The material which follows and the organogram in Appendix 2 come from a report by F.H. Stephen, "Management Structure and Industrial Relations in a Yugoslav Shipyard", cyclostyled. 1967.

Appendix I

UCS ORDER BOOK

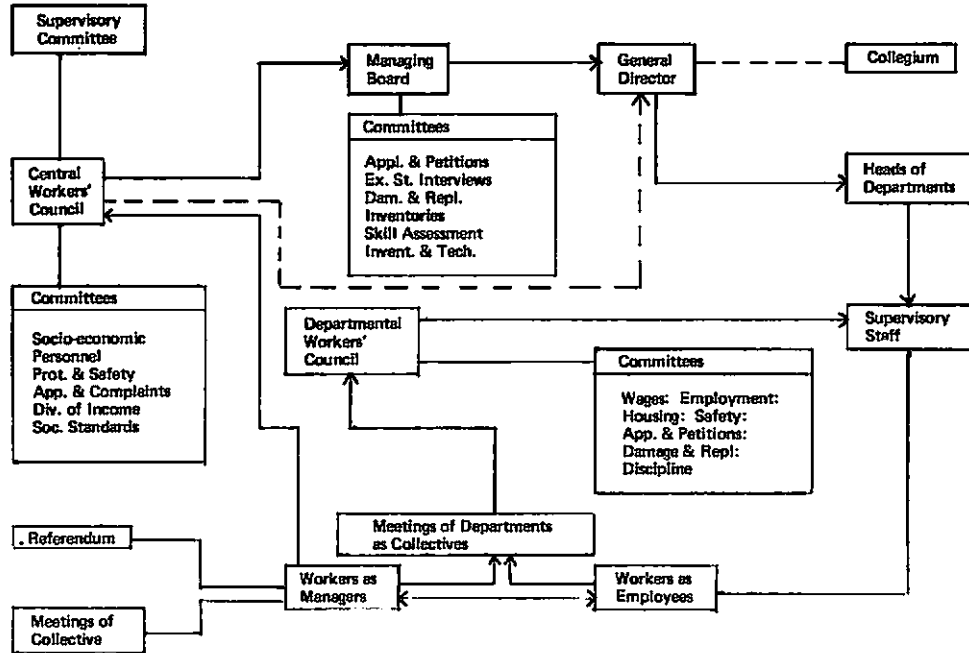
Owner	Tonnage (dwt)	Main Engine	Ship Type	Launched	Scheduled Delivery
<i>1. Clydebank Division</i>					
Rimrock (U.K.) Ltd.	5,500	Alco/GEC	Jack-up Oil Drilling Ship	16.1.71	—
New Zealand Government	—	Crossley-Pielstick	Train Ferry	—	Dec. 1971
Compania Naviera Assignianis S.A.	18,470	Sulzer	Clyde	23.3.71	Apr. 1971
Compania Naviera Asdimiiris S.A.	18,470	Sulzer	Clyde	—	July 1971
Haverton Shipping Co.	18,070	Sulzer	Clyde	—	1972
Haverton Shipping Co.	18,070	Sulzer	Clyde	—	1972
Haverton Shipping Co.	18,070	Sulzer	Clyde	—	1972
Gowland Steamship Co.	26,000	B. & W.	Bulk	—	1972
J. & C. Harrison	26,000	B. & W.	Bulk	—	1972
Reardon Smith Line	26,000	B. & W.	Bulk	—	1972
Hogarth & Sons	27,000	Ruston	Bulk	—	Late 1972
Hogarth & Sons	27,000	Ruston	Bulk	—	Mid 1973
Lyle Shipping	27,000	Ruston	Bulk	—	Late 1972
Lyle Shipping	27,000	Ruston	Bulk	—	Mid 1973

2. Govan Division					
Costain Blankevoort (U.K.) Dredging Co.	14,200	Mirrlees	Trailing Dredger	26.1.71	Jan. 1971
Brazilian Government	5,700	Vickers—MAN	Trailing Dredger	—	May 1971
Cardigan Shipping	26,000	Kincaid B. & W.	Bulk	22.3.71	1971
Cardigan Shipping	26,000	Harland B. & W.	Bulk	14.5.71	1971
Reardon Smith Line	26,000	Kincaid B. & W.	Bulk	—	1971
Reardon Smith Line	26,000	Kincaid B. & W.	Bulk	—	1971
Cardigan Shipping	26,000	B. & W.	Bulk	—	1972
Cardigan Shipping	26,000	B. & W.	Bulk	—	1972
Irish Shipping	26,000	B. & W.	Bulk	—	1972
Irish Shipping	26,000	B. & W.	Bulk	—	1972
Irish Shipping	26,000	B. & W.	Bulk	—	1973
Irish Shipping	26,000	B. & W.	Bulk	—	1973
3. Scotstoun Division					
J. & J. Denholm	26,000	B. & W.	Bulk	—	1971
J. & J. Denholm	26,000	B. & W.	Bulk	—	1971
Seafern Shipping	18,000	Sulzer	Clyde	—	1972
Haverton Shipping	18,000	Sulzer	Clyde	—	1972
Haverton Shipping	18,000	Sulzer	Clyde	—	1972

Total Value of around £90m.

Appendix II

The Relationship between the Management Bodies and the Executive Bodies of the Split Shipyard





**ELECTRICAL
TRADES
UNION**

**LONDON
PRESS
BRANCH**

**RIGHT
TO WORK**