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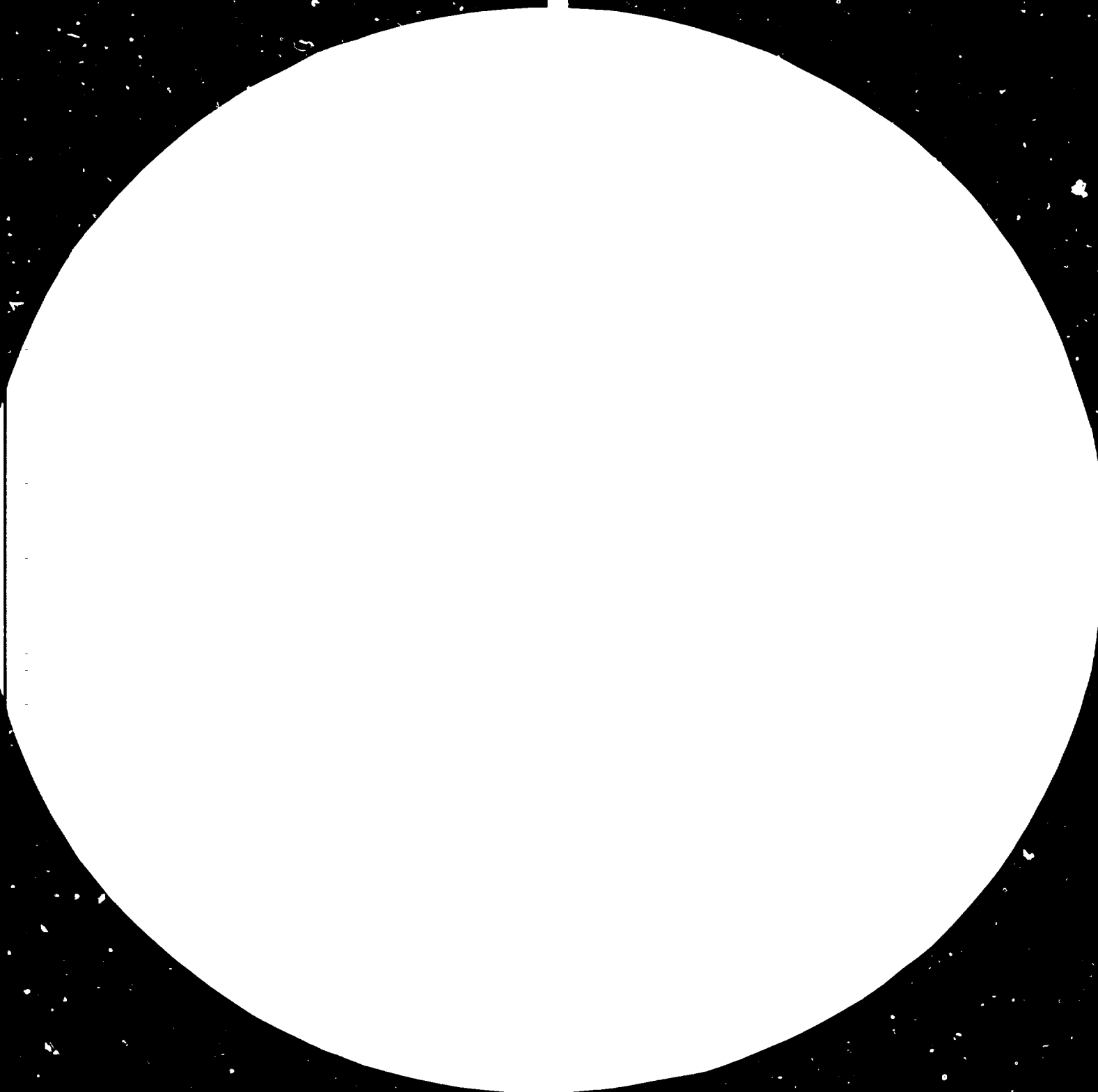
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THE SOCIAL AND ECONOMIC POTENTIAL
OF SMALL-SCALE INDUSTRIAL PRODUCER CO-OPERATIVES
IN DEVELOPING COUNTRIES*

by

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ABSTRACT

The paper reports on a pilot research project carried out in India, Peru and Senegal into the factors which account for the success and failure of small scale industrial producer Co-operatives (IPCs). The conclusions (which must be tentative in view of the pilot nature of the research) are that most IPCs in each country suffer from serious problems in financial management; they may also experience problems of raising capital but in view of their problems of financial management provision of capital on easy terms is not likely to improve their average performance. IPCs appear to have inferior value-added/capital performance to similar capitalist firms but superior value/labour performance. Relative high levels of solidarity (and assumed motivation) can offset poor management performance leading to relatively high levels of IPC performance.

INTRODUCTION

The research reported in this paper comprised a pilot study inquiring into the factors which account for the success and failure of small scale ($n < 100$) industrial producer co-operatives in developing countries. Co-operatives were studied in four countries: India, Peru, Senegal and Indonesia though only those examined in the first three of these are represented in this paper (1).

The research as originally conceived was to provide case material on successful and unsuccessful industrial co-operatives with 'high' and 'low' production technologies. Thus four co-operatives were to be studied in each country. In the light of experience these objectives, though substantially fulfilled, were, of necessity, somewhat modified. In particular - apart from the problems mentioned in Indonesia - the distinction between 'high' and 'low' technology proved difficult to sustain given problems of access and comparability. Furthermore, in Senegal, due to difficulties encountered during the research, it only proved possible, in the time available to study two co-operatives in depth. In all countries, however, a number of industrial co-operatives were inspected in less detail than those comprising the case studies. The methods employed in the study were a mixture of interviews, participant observation and analysis of accounts and other documents.

DEFINING AN INDUSTRIAL PRODUCER CO-OPERATIVE

Traditionally an IPC has been construed as an association of fellow 'workers' who themselves provide the initial risk capital. Thus, provision of capital (often in practice at entirely nominal levels) entitles one to membership and to participate democratically in the running of the enterprise. According to an alternative view the entitlement to membership and its associated rights and obligations is not tied to the provision of capital (even at nominal levels) but rather with the requirement that the individual 'works' within the co-operative. On this interpretation the co-operative association hires loan capital on which, ideally, it pays a limited rate of

interest. The 'risk' and 'control' of the co-operative is then, on either interpretation, in the hands of the worker/members. Since in practice tying membership to capital is often merely a nominal procedure the distinction between membership based upon 'capital holding' and upon 'work' is often only of academic interest. But it can have important repercussions - if membership is associated with capital holding then, unless there are specific laws precluding the possibility, IPCs can possess external members (ie non-working members) with "voting rights". There is some feeling amongst many of those who favour co-operatives (Vanek 1977) that membership of this sort is undesirable, the 'ideal' situation being one where control (voting) is distributed on the basis of one person one vote only amongst members 'working' within the co-operative. However, to restrict research to such co-operatives would be to exclude many enterprises from consideration and we have, therefore, included enterprises with external members and asked the question as to whether such membership is a factor which account for success or failure. Similarly, despite some disapproval amongst co-operators, many co-operatives employ non-member workers (or even managers) - we took entirely the same attitudes to this situation also including enterprises with non-member workers within the ambit of the research.

DEFINING THE ECONOMIC PERFORMANCE OF IPCs

Most of the statistical summaries concerning the performance of IPCs adopt profitability as the yard-stick of their success. However, it is our view that in so doing one can seriously underestimate the actual economic viability of IPCs. This is for the simple reason that the members of a co-operative can, for one reason or another, manipulate the profit level downwards by paying themselves a 'high' wage or salary. Thus, residual profitability bears no necessary relationship to the underlying viability and performance of the enterprise. It seems, therefore, that in assessing the performance of co-operatives an emphasis on value-added is more appropriate.

There is, of course, also theoretical justification for so doing in the work of Ward (1958) and Vanek (1970) though, in his turn, Horvat (1975) has cautioned against these authors' models.

The co-operatives studied were also summarily categorised in a qualitative way as either very successful (VS), successful (S) moderately successful (MS) or as failures (F); this categorisation deriving from the criteria for inclusion in the research. It was an attempt to capture the 'average' performance of the co-operatives over the period of the study.

Table I lends support both for our emphasis on value-added measures and the accuracy of our qualitative categorisation. Firstly, there is a clear though not perfect association between the qualitative categorisation and average value added per unit of labour (column 1); secondly the correlation between recorded profit and this latter measure is rather low (column 3) especially in India (2). Value added per unit of capital does not, however, seem to bear a systematic relationship to either the qualitative categorisation or to value added per unit of labour (see below).

THEORIES ACCOUNTING FOR THE SUCCESS AND FAILURE OF IPCs

Co-operatives are often deemed to possess a comparative advantage over, say, capitalist enterprises, as their members are essentially 'working for themselves' and are it is purported more highly motivated (Meade 1972) and thus their labour productivity, comparatively speaking, is enhanced. Reduced need for surveillance is also supposed to lead to the same conclusion. Alchian and Demsetz (1972) have, however, quite rightly posed the question to the effect that, if this is correct, why is the historical record of IPCs so clearly inferior to capitalist enterprises? Why are so few formed? Why do they have such a high failure rate? Why are they so small? and why do they tend to degenerate into capitalist or quasi-capitalist forms?(3). Surely they urge the postulate of enhanced motivation as inconsistent with the historical evidence or in addition there must be more than compensating diseconomies associated with Co-operative production. A number of 'theories'

have been proposed in this latter respect.

First, the theory of co-operative financing (Vanek 1977, Furubotn 1971 Pejovich 1969); IPCs, it is argued, will in most circumstances, underinvest to the degree that they rely upon internally generated funds which are saved collectively. This is because such savings do not allow for the redeemability of the principal sum invested except under exceptional circumstances or on winding-up. Members will, thus, prefer to take funds out of their co-operative and invest elsewhere. Similarly, the co-operative principle of limited returns to individual share capital will have an identical effect. Only if the rate of return within the co-operative is 'high' and/or the investment time horizon long will the rationally self-interested member find internal investment in collective or individual shares attractive (4). IPCs will, therefore, when compared with their capitalist counterparts, underinvest, be small, have low capital labour ratios and if they do invest tend to rely on borrowed funds and thus incur an overly high gearing. Vanek believes these arguments are sufficient to account for the poor showing of IPCs though Stepan (1979) has queried his model which he calls the Furubotn-Pejovich effect.

Second, it is also sometimes argued that because IPCs are usually populated by those of a lower socio-economic status they will exhibit a marked consumption preference - again leading to underinvestment.

Third, (Webbs 1920) it is also suggested that the co-operative principle of one person one vote comes into conflict with effective management. IPCs will not be able to attract the best management and those managers they do attract will be unduly encumbered by the democratic principle. Poor management will show up in slow and indecisive decision making, lack of clear accountability, poor appreciation of market conditions and so on.

Fourth, IPCs are deemed to fail mainly because of an unsympathetic socio-economic environment. The accusation here is usually directed to the credit

institutions whom, it is claimed, are either downright prejudiced or extremely cautious given the, historically speaking, poor average performance of IPCs.

These various 'theories' are subject to a more lengthy analysis in Abell and Mahoney (1980). We will now, using the evidence from our case studies, review the case for and against them and then go on to suggest a tentative theory of our own. It should be borne in mind, however, that the evidence, being derived from a pilot study, can only be taken as indicative and not definitive.

FINANCE, INVESTMENT, AND CONSUMPTION

IPCs can generate funds internally:

- by collective savings
- by member loans and deposits
- by the issue of individually owned share capital.

They can also obtain funds from external sources - loans, bank overdraft, trade credit etc.

Collective Savings

The co-operatives studied did, to some extent, invest through collective savings (Table 1, column 4) - savings which generally took the form of a Reserve Fund created out of profit. The propensity to save in this way seems higher in Peru than in India, except for the unsuccessful co-operatives, but then the levels of profit (though not necessarily value-added) were higher in Peru too.

It is, of course, imperative from a theoretical point of view to distinguish those collective savings which are made voluntarily by the members and those that are enforced by statute⁽⁵⁾. In Table 1, column 5, we have also given the average percentage of capital in use deriving from statutory redundancy/retirement funds. Clearly in one sense these funds are ear-marked for individuals in the case of retirement or redundancy and they are thus not quite on the same footing as the reserve funds.

Not surprisingly by comparing in Table 1 columns 1 and 4 we can detect a positive association between the propensity to save in collective funds and the economic performance of the co-operative (measured either qualitatively or in terms of value-added per unit of labour)⁽⁶⁾.

Member Loans and Deposits

Although member loans and deposits are not in the strict sense of the term 'collective', in the co-operative studied they are in practice similar to the extent that they rarely bear a direct dividend return to the individual saver⁽⁷⁾. Where they are made, they are regarded as mandatory sacrifices which members make for the sake of the co-operative. Inspection of column 6 of Table 1 shows that such savings are by no means universal but that they do occur; it is noteworthy that Cobblers' Co-operative (VS) made significant savings through loans and deposits as well as collectively. The average figures in column 6, however, underestimate the use made of member loans and deposits, for the co-operatives often used loans in times of distress to a much higher degree than the averages would indicate (Abell and Mahoney 1970).

Individual Share-holding

Inspection of column 7 in Table 1 indicates that all the co-operatives generated savings and investment through the issue of share-capital. We found, however, that in most of the co-operatives studied the direct dividend returns to share capital were either negligible or non-existent. Moreover, in most co-operatives it was extremely difficult for members to redeem their shares or withdraw their investment. In practice and from the point of view of the individual member therefore, there was little to choose between collective savings and individual shares since neither bore an immediate direct dividend to the individual member.

Total Internal Savings

It seems reasonable therefore to consider all the 'internally' generated

savings together and this is accomplished in column 8 of table 1. Inspection of this column seems to indicate that, in Peru, the average percentage of internally generated capital in each co-operative is to some degree associated with its success, but that in India no clear relationship seems evident. If one studies the average yearly increment in internal savings (again as a proportion of total capital in use) then there is no simple relationship. In Peru, Cobblers Co-operative and Peru Print have figures of 12 and 15% respectively though the corresponding figure for Metal Furniture (a failure) is 19%; in India Commerical Co-operative (a failure) has the highest figure (9%) for all the co-operatives there.

The tentative conclusions we can draw from these figures seem to be twofold:

First, that IPCs do seem to show a propensity to save either in general collective funds or quasi-collective funds, but

Second, there is no simple relationship between this propensity and the performance of the co-operatives.

It appears, therefore, that under most circumstances members will invest in their Co-operatives even though there is little likelihood - at least in the moderate term - of any direct dividend. Are they behaving irrationally? Depending upon the productivity of invested capital and the best rate of return available external to the Co-operative and members time horizons in their commitment to the enterprise then internal investments can be a perfectly rational choice. When investing in their own co-operative, members will, in so doing, be providing themselves with employment and their investment is, thus, quite explicable on these grounds. Members are joining their labour and capital in making investments - they are as it were putting themselves to work ⁽⁸⁾. A reading of the qualitative evidence in our case studies certainly bears out this interpretation of their behaviour - the provision of employment was once of the reason in the forefront of many member's minds in starting a co-operative. This is of course not surpris-

ing given the endemic unemployment and underemployment in most developing countries. Furthermore, unsuccessful co-operatives will continue to make investments in the vain hope of preserving employment. This reasoning seems therefore to account for the propensity of both successful and unsuccessful co-operatives to make internal investments. It should, nevertheless, be emphasized that it may not be extendable to all those co-operatives which have completely failed or never really got off the ground. These 'exist' in very significant numbers especially in India and whether or not their failure is attributable to lack of internal investment must remain a moot point. In one sense even our failed (F) co-operatives are successful in comparison with these other co-operatives as they have managed to limp along for a significant period of time.

Consumption Preference?

Do members of IPCs have a disproportionate tendency to consume at the expense of investment? In Table 1 column 9 the average proportions of value-added going to 'Labour' are given for each Co-operative. It should be pointed out, however, that this data is not a definitive test of the consumption preference thesis as members could conceivably take high returns to labour ('wages') in order to invest elsewhere. Furthermore, column 9 overestimates the 'true' consumption, for some of the value-added distributed to members was made available by them to their Co-operative as loans and deposits. Where comparisons with Capitalist firms (of the same size) can be made the evidence seems to suggest only a marginally greater tendency to allocate value-added to labour by the IPCs⁽⁹⁾. Unfortunately we have no comparative data for India though the average allocation in IPCs is significantly higher than in Peru; this may or may not be a national difference across the board. The unsuccessful Co-operatives do not appear to consume on the average a greater proportion of value added than the successful ones. Indeed, if anything the reverse is the case, this presumably reflecting the

former's success and, thus, latitude for increased consumption whilst maintaining economic viability. Needless to say, the Co-operatives may well have expanded in size more rapidly if they had consumed less though one cannot in all fairness detect a 'consumption preference' in these figures. Our conclusions here probably find an echo in our earlier observations concerning members propensity to invest in a job. The picture, therefore, which appears to be emerging is not one of high consumption and low savings with Co-operatives, as a consequence, starved of capital. Thus if this reasoning (to be more fully explored below) is correct then we will not be justified in looking in the direction of capital starvation as a major contributory factor to the poor performance of Co-operatives⁽¹⁰⁾.

THE CLASH BETWEEN DEMOCRATIC PRINCIPLE AND EFFICIENT MANAGEMENT?

We found no evidence to suggest that IPCs invariably suffer from this phenomenon only three of them did so (Peru Print, Metal Furniture and Clothing), seven seemingly able to evade serious conflicts. Furthermore, one of the Co-operatives (Peru Print) experiencing a significant level of conflict was one of the more successful we studied. However, a conceivable consequence of the possible clash between the rights and duties of line management and democratic governance might well be found in an unclear lines of production control. Seven of the Co-operatives experience unclear lines, the remaining three being clear (Cobblers, Weavers and Shuttlemakers). There is thus some support for the contention that success goes with clear lines of command in production control. This whole analysis must, of course, be rather subjective given the nature of the data but our experience with other IPCs studied less intensively, would tend to support this view. There, thus, might well be legitimate grounds for concern here; IPCs may well experience disproportionate problems in getting their line control right. We have, of course, no comparative data for capitalist firms nor for large IPCs but it may well be that as the size of an IPC increases the problems are exacerbated.

One particular area of concern relates to the problem of shedding labour

if needs be. How does one expel a worker if he also happens to be a shareholding member and where perhaps the Co-operative is committed to providing jobs for members? This dilemma, if it arises, is, of course, partly avoided if the Co-operative takes on non-member workers (though even here there may be some residual ideological commitment and laws may provide for job security). The majority of the IPCs studied did, in fact, employ non-member workers. Sometimes this was because of seasonal or other fluctuations in demand for the product but in other cases it is clearly to exclude 'new workers' from the privileges of Co-operative membership. Shedding-labour is thus for most of our Co-operatives not as acute a problem as might appear at first sight. Although it is difficult to be certain here we do not feel that the inability of the IPCs to shed labour was a significant factor in accounting for their failure or of their performance when compared with Capitalist enterprises. Or at least in so far as it was it is dwarfed into insignificance by other issues.

MARKETING

All the Co-operatives we studied operated in circumstances where there was effective demand for their products. Indeed we made this a requirement for the study - we did not wish to examine Co-operatives which failed due to a lack of demand for the goods they produced. Some Co-operatives, however, faced more stable demand than others. Though there is not a perfect correspondence between 'fluctuating' demand and poor performance there is (Senegal apart) some suggestion that the more successful Co-operatives operated in relatively stable product markets. There is a further important dimension, namely personalised market relations. By this we mean a situation where contracts in the product market are established largely on the basis of personal contact. Indeed trading in India - particularly in textiles - was dominated by such markets, and confining our attention to this country we noticed that the two most successful Co-operatives did not operate in highly

personalised markets whereas the two least successful did. In all probability contacts in personalised product markets depend upon the overall social standing of the salesman of an enterprise. There is some reasonable assumption that IPCs are on the whole at a comparative disadvantage in this respect in relation to capitalist enterprises in so far as they are populated by members of fairly low social standing (in the case of India Caste is an important formal dimension of this problem). Co-operatives as we shall see below generally experience problems in effective management of their marketing activity and this can become compounded if the markets are highly personalised in nature.

HOSTILE ENVIRONMENT

We start with external credit; if it can be established that IPCs are comparatively speaking starved of financial resources by the various credit institutions then this could reflect either (a) some sort of undefined prejudice against IPCs or (b) a rational disinclination on their behalf to invest in what they deem to be risky enterprises.

All the IPCs we studied did at some stage in their career manage to secure some form of external credit⁽¹¹⁾. This is no guarantee that it was in sufficient amounts or appropriately given, but it does indicate that the IPCs we studied were not entirely starved in this respect. Further, since we found no systematic relationship between the internal savings and performance nor can there be any relationship with external savings or gearing - the data bears this out (Abell and Mahoney 1980). The conclusion we have drawn is that it is not the shortage of capital (internal or external) which besets IPCs but their ability to use what they have wisely (see below). Although we did in our research repeatedly encounter suggestions from Co-operative members to the effect that external finance was difficult to obtain - even from Co-operative credit institutions - we incline to the view that any disinclination by such institutions to invest in IPCs should not be counted as prejudice but rather as acceptable commercial prudence. As long as IPCs

suffer from deficient financial management they must constitute a significantly higher risk than other forms of like investment. Whether or not there is a more general unsympathetic ethos detrimental to Co-operative viability in a 'capitalist environment' is, at the moment, largely beside the point. This will only be proved one way or the other if IPCs can find some way of overcoming their other deficiencies.

It does remain true, nevertheless, that the number of loans made available to the Co-operative sector appears very modest and the question naturally arises as to whether if more were forthcoming the aggregate failure (and dormancy) rate would be lower. Presumably it would - it does not seem unreasonable (and we have much informal evidence to this effect) to suggest that many of the outright failures may suffer from capital starvation. The point remains, however, that if our argument concerning deficient financial management holds, then in the round IPCs will remain a significant risk. We cannot, given the data available, conclusively establish that they are more risky than 'capitalist' enterprises (given the same level of financial provision would the mortality of IPCs be identical or less than for capitalist enterprises?). Nevertheless, such evidence as we have on the comparative performance of IPCs and like capitalist enterprises would not lead us to be optimistic in this respect, at least given present management practices (see below).

MOTIVATION AND SOLIDARITY

Although it is impossible to document quantitatively, the most striking finding of the research was the perfect coincidence of success and high solidarity amongst the members; high solidarity goes with success, low solidarity with failure (recall that our qualitative categorisation also correlates with value-added per unit of Labour). What is the significance of this correspondence? Firstly, it is worth noting that there are usually factors extrinsic to the actual working of the Co-operative which account - at least

initially - for the high levels of solidarity in the successful Co-operatives. In Peru this tended to be conflict with a previous employer driving a group of workers together; in the Weavers Co-operative in Senegal the solidarity derived from a religious attachment, and in India it was related to the extended family. But why should solidarity be so significant to the success of IPCs. We earlier noted the comparative advantage of IPCs postulated by Meads (1972) namely:

- (1) altruistic motives may be enhanced by feelings of solidarity - so members become committed to their Co-operative
- (2) such commitment may increase the time horizon over which the member sees himself associated with the Co-operative (see footnote (4)). The pieces of the jigsaw, therefore, begin to fall into place. Solidarity, and commitment, go together and contribute to high motivation (self interest and perhaps even altruistic) and thus ceteris paribus to "high" productivity. There is indeed a certain amount of evidence in the literature for this general syndrome Bernstein (1976) and the theoretical underpinnings of such factors have also been demonstrated by Abell (Hierarchy and Democratic Authority in Work and Power ed T. Burns et al, Sage 1979).

In the absence of any independent measures we must assume that solidarity can stand proxy for motivation and our general conclusions would be that any factor generating feelings of solidarity (Bernstein participatory consciousness (?)) is likely, other things being equal, to contribute to the success of IPCs. This conclusion when taken in isolation is not at all startling - after all one assumes that any sort of enterprise can benefit from high levels of member motivation. There are, however, a number of points in relation to IPCs which call for special comment. First, let us look at the other side of the coin - lack of solidarity. Though it is difficult to quantify these matters there is a certain amount of evidence from our case studies that when internal conflict breaks out in an IPC, it can have rapid deleterious effects. We feel this effect is disproportion-

ately evident when IPCs are compared with Capitalist enterprises. Because of the democratic structure of IPCs a 'local' conflict can easily escalate and engulf the whole membership whereas in a capitalist enterprise, given its traditional authority structure, it might well be able to encapsulate the conflict. Solidarity (ie lack of conflict) may be a much more sensitive factor in IPCs than in other non-democratic enterprises. Putting it another way IPCs may have to rely upon mutual trust to a much greater degree than its capitalist counterpart for the same performance (see below); the diseconomies of lack of trust and solidarity may be greater in an IPC.

Clearly high motivation is only one element in the story concerning overall efficiency and performance - motivation without the requisite skills is not likely to bring returns so we now turn in this direction and then return to speculate on comparative performance.

MANAGERIAL SKILLS AND ENTREPRENEURSHIP

Thinking a little formally merely to facilitate easy presentation we may view the performance of an enterprise (any enterprise) as an interactive function of the motivation of Labour (M) and the skill of Labour (S) so⁽¹²⁾:

$$P = k M^{\alpha} S^{\beta} + u_1 \quad \dots (1)$$

We found that the production skills in IPCs are on the whole adequate and we have considered general motivation in the last section. This leaves the skills of management and any special features associated with their motivation. Of course, particularly in an IPC, the distinction between managers and production workers is to a degree blurred but nevertheless we may assume there are returns to managerial skills and motivation just as there are to those of production. We may then wish to replace (1) by

$$P = K_1 M_p S_p + K_2 K_m S_m + u_2 \quad \dots (2)$$

or even $P = K' M_p S_p M_m S_m + u_3 \quad \dots (3)$

where M_p = motivation of production workers

S_p = 'skill' of production workers
 and S_m = 'skill' of management.

We don't intend that these equations be taken too 'literally' but they will make the presentation of the argument that much easier. The Concepts of Managerial Skill and its close twin entrepreneurship are controversial. For instance, Stephen Marglin (1979) has largely dismissed the importance of Management. On the other hand varying interpretations of its importance have informed a number of theoretical approaches to the organisation of production. We have already encountered Alchian, and Demsetz (1972) and we may cite Knight (1957), these authors have in their differing ways pointed to the importance of entrepreneurship and management in effective economic development.

If we examine equation (2) or (3) it is clear that managerial skill has a role to play and its importance vis a vis labour skill depends (in equation 2) on the value of K_2 compared with K_1 (the marginal returns to management and labour). The important point to note though is that 'skill' and 'motivation' (both for Labour and Management) are in a compensating (interactive) relationship. The same level of the product $S_m M_m$ (or $M_p S_p$) can be obtained by 'low' S_m and 'high' M_m or the reverse state of affairs, and of course in the absence of one no matter how 'high' the other is there would be not effective performance.

It is the major conclusion of our research that deficiencies of Co-operative Management are the major factor in explaining the failure of IPCs. However, there is little to be gained from making blanket statements about poor management. What precisely are the aspects of management which are deficient in IPCs? We will consider a number of functional areas and then relate them to our foregoing analysis.

FINANCIAL MANAGEMENT

We have already discovered that for small scale IPCs (though this may

not be true for larger ones) capital starvation is not normally the prime problem⁽¹³⁾. Rather we indicate it is a matter of the effective use of Capital (ie adequate investment decisions given market potential etc.)

These observations are underscored by columns 10 and 11 of Table 1. The first of these shows that when comparing the Peruvian Co-operatives with similar capitalist enterprises (for 1977) the former tend to have a lower value added per unit of capital. the second column shows that, nevertheless, co-operatives uniformly have higher capital/labour ratios.

Why should IPCs suffer from poor financial management? The answer to this question seems fairly straightforward; IPCs are almost invariably established and run by individuals with little or no training pertinent to financial decision-making. Indeed many members of the IPCs we studied were not even numerate and one was often amazed how well they managed given their level of expertise and education.

MANAGERIAL SKILL AND MOTIVATION

We are now in a position to more clearly appreciate the significance of 'solidarity' for the effective functioning of IPCs. It is in effect required to offset the diseconomies of poor management and, thus, to the degree that this latter deficiency can be overcome 'high' solidarity is not necessary for the same level of performance. Or to put it another way, our 'theory' would predict that given the same managerial inputs a capitalist enterprise's performance would be outstripped by an IPCs because of the higher level of solidarity inherent in the social arrangements in the latter. Our theory thus provides an answer to the often posed question - why given the supposed comparative advantages of IPCs in terms of motivation etc. do they not have, in the aggregate, a better performance record than capitalist enterprises? (Alchian and Demsetz, 1972). The answer is (if our theory is correct) because the enthusiasm and motivation is more than offset by lack of managerial skills - partially in the stewardship of capital. This is evidenced by the poor comparative returns to capital of IPCs - even the successful

ones. Thus, though we find what we might term the need for 'abnormally' high levels of solidarity to maintain the successful operations of IPCs - something it may, even with this form of enterprise be difficult to maintain especially if they grow in size this is not necessary to the form if it can attract appropriately skilled and committed management. IPCs have two compensatory ways of maintaining a performance comparable with similar capitalist enterprises. First they can rely upon abnormal levels of solidarity (ie their motivation); second they can attract or train good management. Much Co-operative education seems to have been directed towards the former but, however desirable this may be we suggest that the latter should receive equal emphasis. Of course, high solidarity and managerial skill should produce a situation where IPCs outstrip capitalist enterprises (eg Mondragon in Spain). Given the necessarily tenuous nature of a factor like solidarity and commitment (will they survive a downturn in the market demand and a period of failure?) it may be wiser to reap their benefits where one can but to centre policy on improving the quality of management.

We might ask at this juncture why IPCs do suffer from poor (financial) management? Here certain features of IPCs may well be the problem. Consider a potential entrepreneur (assumed self-interested) with either his own capital or access to loan capital and what he believes to be a marketable idea. Why should he chose to establish an IPC when he faces (a) limited returns to his capital (b) no guarantee or control of the enterprise and (c) a situation where the benefits of his idea become a bounded public good within the co-operative? (Abell, 1981). Surely he will rather be attracted to a partnership or traditional private firm. Thus, in so far managerial skills and entrepreneurship coincide there will be little or no incentive for those with managerial skills to enter into the Co-operative sector. This incidentally explains the low incidence of IPCs (internationally speaking) - very few get established in a spontaneous manner and when they do they are characteristi-

cally established by groups of individuals with roughly equal capital endowments and few ideas for innovative products or processes. Our conclusion must be that in an economic system where there is a choice between IPCs and private firms IPCs will normally only be established by those with less entrepreneurial flair and of limited managerial skill. In a society dominated by self regarding motivations it is difficult to see what can be done to redress the balance in favour of IPCs without surrendering some cherished principles. It has been suggested some dilution of the principle of limited returns to capital (at least at the outset) but it may well be the loss of control through democratic decision making is the real disincentive to establishing an IPC. Alternatives seem to be (a) improving the managerial standards of IPCs, thus improving their record and general attractiveness or (b) reserving a sector for IPCs only so those wishing to operate in the sector are required to establish an IPC. This latter may smack of compulsion and still not attract the best entrepreneurial skills.

NOTES

- (1) It was found that there were no industrial co-operatives in Indonesia which adequately fulfilled our criteria of co-operative production. The industrial co-operatives registered as such were in fact marketing and buying co-operatives.
- (2) This, we suspect, is because of an imposed profit tax offering a disincentive to record a profit.
- (3) The evidence, such as it is, seems to support the view that IPCs (when compared with capitalist enterprises) have a low birth rate, are skewed towards the small and tend to degenerate but the evidence for high mortality is not established.
- (4) Internal investment in collective funds will only take place if $(1 + i)^t < (1 + r)^t - 1$ where i is the external rate of interest r the internal rate and t the time horizon.
- (5) Legally obliged collective funds could not, of course, lead to capital starvation.
- (6) The average figures derive from the time series data for each co-operative (the dates in brackets in Table 1). Attempts to calculate correlations etc. on the disaggregated data give positive results but because we suspect there are rather complex time lagged effects a full analysis of this sort must await a better data base. Average figures will be used through this paper which, in effect, give an overview of the co-operative for the years studied.
- (7) In all the co-operatives which made use of loans the rate of interest paid was either zero or extremely marginal.
- (8) this will of course boost r (see footnote (4)) in relation to i .
- (9) Comparative figures were available for Peru only. In 1975 capitalist firms of the same approximate size as the co-operatives distributed proportions of value added in wages as follows: Print (38%) Shoemaking (59%) Metal Furniture (53%) Clothing (28%).
- (10) Again we must raise the caveat concerning dormant and defunct co-operatives.
- (11) This can be deduced from column 8, Table 1.
- (12) With suitable exponents and multiplying by capital and letting the product MS stand for 'Labour', we have a Cobb-Douglas production function.
- (13) See footnote (10).
- (14) The similar capitalist enterprises are of approximately the same size as the co-operatives and in the same sector. Data available for Peru only.

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	1	2	3	4	5	6	7	8	9	10	11	
Co-operative	Average Value Added/Labour	Average Value Added/Capital	Cor.Profit: Value Added/Labour	Average % cap in use from collective savings	Average % cap in use from Reserves Fund	Average % cap in use from Member loans	Average % cap in use from individual shares	Average % cap in use from internal savings	Average % value added to consumption	Value added/capital compared with capitalist (19 enterprises 77)	Capital Labour ratio compared with capitalist (19 enterprises 77)	
	PERU PRINT (S) (1970-77)	68,000	0.67	0.58	17.3	9.8	0.1	46	51	59	0.95:1.8	-
	COBBLEERS (VS) (1969-77)	69,000	1.17	0.62	16.2	10.5	3.0	37	45	52	1.8 : 2.3	1.5
PERU	MEYNA, FURNITURE (F) (1971-77)	51,000	1.07	0.67	0.00	0.00	1.0	19	37	43	1.7 : 1.8	2.5
	CLOTHIERS (F) (1975-77)	21,702	0.23	-	0.00	2.7	1.0	25	25	-	0.08:2.2	2.6
	WEAVERS (S) (1976-77)	396,913	-	-	-	-	-	-	86	78	-	-
INDIA	DYERS (MS) (1975-77)	10,426	3.2	-	-	-	-	-	72	-	-	-
	SHUTTLEMAKERS (S) (1962-77)	4,330	0.74	0.18	3.5	0.00	0	56	79	77	-	-
	ENGINEERING (S) (1970-77)	5,137	0.36	0.20	9.4	0.00	2.5	29	45	66	-	-
INDIA	VILLAGE (MS) (1971-77)	4,664	0.55	0.00	0.00	0	68	91	58	-	-	-
	COMMERCIAL (F) (1966-77)	1,494	0.62	0.10	2.6	0.00	0	70	70	61	-	-

In local currency units () Indicates period over which data was collected; averages are computed over these periods

