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DEVELOPMENT
POLICY AND
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Markets, Society and the State:
Problems of Marketing Under Conditions of
Small Holder Agriculture in West Bengal

by

Barbara Harriss

DPP Working Paper No 26

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MARKETS, SOCIETY AND THE STATE : PROBLEMS OF MARKETING UNDER CONDITIONS OF SMALL HOLDER AGRICULTURE IN WEST BENGAL

1 INTRODUCTION

Underdeveloped agricultural markets are also undertheorised and underresearched. Four aspects of marketing recommended themselves for inclusion in an investigation into rural poverty and public policy in West Bengal:

- i) institutional diversity. What forms do actually existing markets take?
- ii) power. What is the modus operandi of power - of markets in relation to production and of agents in relation to the terms and conditions of exchange?
- iii) dynamic and determination. What has been the impact of agrarian reform and technical change in production upon markets and vice versa?
- iv) regulation. How are rapidly evolving markets regulated?

Since these topics are somewhat ambitious , certainly interrelated and cryptically summarised here , this report sets out to problematise them in a theoretical discussion of state, society and market. There follows an introduction to Burdwan district, in pockets of which the fieldwork was carried out. The bulk of the report presents substantive findings and the conclusion links these results to policy and politics.

" Our agricultural markets in West Bengal have cancer, TB, cirrhosis of the liver and ulcers. How can you begin to diagnose them?"

(Question from an agrocommercial magnate, Memari, 1990)

In writing about India's development the distinction between state and society has been found useful. Yet there is no consensus about the meaning of these categories. In fact, quite contradictory conceptions can be unearthed. By way of contrast 'market' has a very clear meaning. If only for the sake of explaining the particular methodological approach to state, society and market used in this report, it is necessary initially to clarify categories of state and society and deliberately to blur categories of market.

2 STATE AND SOCIETY

The state can be taken as a set of coercive and administrative institutions with a spatial territory, headed by an executive authority. Kohli (1987) would caution that these

institutions do not have to be complete, legitimated, or cohesive. The capacity of the developmental state to use its power to alter socio-economic relations (or to have the relative autonomy to resolve interests in the general interest), a capacity which is axiomatic to liberal modernisation theorists and practitioners but which has been problematised for different reasons by both political economists of rational choice and by Marxists, raises questions about the nature of that society supposed to be represented in the 'general interest'.

Civil society has been defined in relation to the state. It was first understood as a realm of freedom against the state under conditions where the individual accepts state power on condition that this power is enforced on those posing uncivil threats to the individual. This vision of civil society sees it as in opposition to the state. Development is a process of expansion of civil society. As Lipton (1989) comments, the state here is assumed to be in control of its agents.

An alternative view, attributed to Hegel, sees civil society as a historically produced plethora of institutions and interests in interplay in the social and political space between the family and the state. This notion is predicated on the enfranchisement of citizens and the existence of a legal framework for contractual relations between them. Civil society is not just a realm of freedom but can consist of elements in conflict, which may have to be uncivil. Here the state remains idealised, presumed capable of autonomous action, and of the resolution of conflicts of interest in the general interest.

Marx in *Capital* and in the *Grundrisse*, equates civil society with bourgeois society, defining it as "different forms of social union confronting the individual as a mere means to a private end". Individualism is seen here as an inescapable adjunct to the spread of both commodity relations and civil society (Mamdani, 1990). On this basis, contemporary political scientists of India can deny the existence of civil society in the recent past. Kaviraj (1990) for instance talks of 'proxies for civil society' at Independence, but is coy about specifying what these are. His 'vernacular society', at odds with institutions of the secular state, is also strikingly unspecified.

By contrast, Mamdani argues with historical evidence for Africa that there is no necessity for the congruence of civil society with bourgeois society. The two happened to be historically contingent in Europe. "Like other historical constructs - democracy, nation - civil society did and can arise under other and different conditions", he concludes. On these grounds an examination of forms of civil society as they pertain to the market in a state "in the midst of its bourgeois revolution" (Attorney General, Gout of West Bengal, Oxford November 1991) is quite justified.

In the same way idealised notions of the state can be challenged. For Marx, the contradictions of civil society were reproduced within the state. Conflicting institutions of civil society can penetrate the state. The state is thus an arena of struggle for forces springing from civil society. Simultaneously it can shape them. But for Marx the state was only capable of autonomy under conditions of social flux when there was no hegemonic class.

Thus civil society is not only bourgeois society. It is not only class society with institutions which Mamdani calls 'structural', based on common relations to the means of production but it is also composed of cultural institutions based on gender, locality or region, religion and ethnicity. The latter are not necessarily in antagonism with market based institutions but may help to constitute them. Looking at the relations and coherence between these two types of element is an empirical task and one to which aspects of this report is addressed (section 11).

Likewise, at the altar of high theory has been sacrificed the empirical task of specification of institutions of the state, their operation and their relation to society. Attempts have been made historically to typologise the developmental state (White , 1989) or to identify as does Jessop (1982) types of state according to their 'deep structures' (forms of representation, internal organisation and intervention). In his study of anti poverty policy and the Indian state, Kohli (1987) takes intervention as given and examines regime type, political representation, ideology, the organisational relations between the executive and the legislature, and alliances of the ruling party (participation and accomodation etc). By contrast Schaffer (1984) tends to take the process of representation for granted and to problematise organisation and intervention - the technocratised territory of policy. For Schaffer, policy is a process involving the simultaneous operation of agenda, procedure and allocation. Agenda - prioritised statements of intent - is the outcome of an intense political process involving technics, (party) politics and many other elements of civil society. Procedure is the process of law, custom, norm and its challenge and enforcement. Allocation is predicated on resource mobilisation and requires rules of access. It is this latter Schafferian framework which informs the analysis of policy presented here and , as will be seen, provides insights enabling an alternative refinement to Kohli's explanation for the success of anti poverty policy in West Bengal.

3 MARKET

Market, in economics, is normally understood as an autonomous and flexible mechanism of exchange based on choice, where prices are formed as the result of supply and demand. The institutions of the market are assumed to be independent,

atomistic and impersonal, effecting the exchange of property rights or behaving as if these rights were being exchanged. It is Smith's invisible hand. Its efficiency and developmental outcomes are axiomatic. It is the conceptual coinage of contemporary international institutions of aid and development finance (Mackintosh, 1990).

This is despite the fact that in formal economics three types of market structure and transactional conditions have been rigorously theorised (monopoly, oligopoly, perfect competition). This is despite a chorus of warning about these abstractions:

The market is " an extravagant abstraction relying excessively on shaky foundations of timeless equilibrium" (Joan Robinson). It abstracts exchange from the relations of power in production and it abstracts this ideology of market from historical forms of exchange (Bernstein, 1990). Market discourse according to Bharadwaj (1989) involves a double reductionism : of markets from production relations, and of prices from markets. We would add a third - of spot price from the price dispersion resulting from a variety of exchange relations.

At best, actually existing markets have been approached with caution by anthropologists and geographers. At worst, they are anathema even to new institutional economists, cursed and avoided because of their complexity.

3.1 Complexity in Markets

Instead of a simple layer between producers and consumers, real markets present a bewildering diversity of institutions, organisational forms and functions. Common organisational forms include :

- self employment, on a petty scale or in a family firm. Petty trading can be seen as a commercial analogue to petty commodity production, and not a capitalist form for lack of wage equivalents and for lack of the capacity to engage in expanded reproduction;
- private firms, with combinations of family and wage labour, with private or corporate ownership, with national or international capital;
- co-operatives commonly with, but sometimes without, wage labour;
- state trading institutions whose ownership varies from complete dependence on the state to partly privately owned, joint stock companies independent of the state.

Common contractual forms range from spot contracts through advance and/or futures agreements, through attached, repeated or relational forms to internalised transfers.

They may effect the transfer of rights of control not only over tangibles (commodities) but also over intangibles (reliability, 'quality', loyalty) (see Jagganathan 1987)). Contracts may be written or verbal. Rules of adherence may be formal and legal, or customary norms (Basu, 1985).

The functions performed by firms constituting actually existing markets are not confined to buying and selling. At the very least, trading firms may buy, sell, broker, store, transport and process, produce, finance the production of others and finance trade. There are $9!$ (362880) possible combinations of these activities. From the simplicity of vernacular classification systems of trading firms it is assumed that activity combinations are highly patterned. But this is not so. Wherever activity combinations have been analysed diversity, complexity and tendencies to uniqueness emerge, qualifying the very basis of a notion of market as consisting of firms which can be compared and inviting reconceptualisation as a chaotic system.

The objects of market exchange require problematisation. Frequently they are far from homogeneous. One hundred and twenty varieties of rice are traded in South India, with somewhat constrained substitution possibilities.

Real markets are therefore far from the archetypes of theory and reveal its ideological nature. Real markets do not reduce to firms with comparable organisational forms and more controversially with comparable objectives. The activity of firms in markets is contingent. Markets are not devoted to trading, but to trading and many other activities. Accumulation from trade cannot be distinguished from accumulation generally. Lastly markets for a given commodity are actually bundles of separate economic markets.

The terms and conditions of exchange relations are also complex. Attempts have been made to theorise them in two ways. Bharadwaj (1974, 1985) has located exchange in production relations, modelling its terms and conditions for four agrarian classes. At the apex, prices are created by the speculative, voluntaristic exchange of the class of large farmers who are not only subsistence producers par excellence, but who also dominate the marketed surplus. Middle peasants are modelled as self sufficient and engaging in sporadic marketing. At the base are two classes - small peasants and landless labour who are compulsively and coercively involved in markets in order to obtain the means of subsistence. The implications of such exchange relations for supply and price schedules have been modelled by Sarkar (1989). The distinction between normal or voluntaristic marketing and that under conditions of coercion provoked Bhaduri (1983, 1986) into theorising forced commerce wherein relations of debt cause producers to part with subsistence requirements immediately post harvest on

disadvantageous terms of (disguised) interest and price only to buy it back preharvest using loans on terms and conditions where the risk of default is transferred to the borrower. Distress commerce of this general type has been widely observed empirically coexisting with normal commerce under a variety of agrarian structures in South Asia (Nadkarni, 1980; Harriss et al 1984; Crow and Murshid, 1991 ; Olsen, 1991). 'The market' in such models remains unproblematised however in Bharadwaj's formulation; and consists of a strategic alliance between landlords, moneylenders and traders (whose antagonisms are further explored) in Bhadhuri.

It follows that resource appropriation via 'the market' is far more complex than a mere redistribution resulting from buying and selling. The terms of buying and selling will be affected by those of interlocked markets. (Commonly, agricultural commodities are interlocked with money in ways which can sometimes be shown to depress commodity prices below levels resulting from unconstrained transactions and to raise interest above 'market' rates. It is clear however that interlocked commerce makes it difficult to define equilibrium or identify a competitive alternative for a subordinate party deprived of choice, or to separate interest and price.). Buying and selling on class specific terms and conditions may also be further affected by opportunistic speculation and hoarding. Resources may also be appropriated through interlocked rental contracts involving land and/or water and commodities, through triadic exchange involving these and money (Janagarajan and Subramaniam, 1991) and through capitalist relations between wages and production in agroprocessing and other productive activities necessary to the post harvest commodity system abstracted as the market. Resources are also commonly appropriated in underdeveloped agricultural markets in primitive ways through crime and co-ercion (via fraud on weights and measures, arbitrary deductions, misinformation about price etc) as well as through the corrupt subversion of regulatory interventions of the state (see Janagarajan 1986, and Harriss , 1984, 1991 for South Indian examples).

Underdeveloped agricultural markets are clearly radically different from the abstraction of theory. They have an ambivalent developmental role. Detailed institutional analyses are called for.

3.2 The Institutional Analysis of Markets

Several types of systematic attempt have been made to remedy the reductionism involved in representing markets by prices alone, as is conventionally done.

The first was borrowed from the economics of industrial organisations where J.S Bain and his school set out to establish regular predictable relationships between market

structure and behaviour (Bain, 1959). This methodological theft enabled an instructive application to the study of underdeveloped agricultural markets using the method of "structure, conduct, performance". In essence, institutional conditions for perfect competition (and therefore allocative efficiency and price integration) are hypothesised and operationalised as a framework for evaluation (see Cummings, 1967; Lele, 1971; and Jasdanwalla, 1966 for India and Gilbert, 1969; Illori, 1968 and Jones, 1972 for Africa).

Problems with this method have included the evaluation of a deviation from an idealised norm, and the interpretation of irregular deviations of large numbers of variables, plus the historically contingent lack of comparative analyses and the ideological deployment of the method to justify a minimalist role for the state. In addition the project has failed in another important way. It has not proved possible to predict real performance from real structures. Nor the reverse. Price behaviour was not relatable to structures. This failure, however, may have been the product of the flawed analytical methods used previously to evaluate price integration together with an inadequate specification of structure.

The second attempt addresses this latter point. It arose from the empirical recognition of the greater institutional complexity of markets than of production. Markets are here conceived in systems form (Diagram 1). In its Anglo Saxon incarnation the commodity systems approach has tended to focus on the rationale for vertical integration, upon economies of scale and on institutional responses to market imperfections (Goldsmith, 1985; Jaffee, 1990; Minot, 1986). The Francophone version ("filieres") traces descriptively the organisational, contractual forms taken by a commodity system, their costs and profits (CIRAD, 1990; see also Ellis et al 1991). Markets are seen as multiple and interdependent sequences of industrial and trading activities, decisions, transfers of ownership and price formation.

There are also some problems with this approach. In both cases the costs and profits of a variety of organisational forms are in practice reduced to a priorised archetypes - private firms, MNCs, co-operatives or marketing boards. Then it has proved hard empirically to distinguish structural and relational elements in a marketing system and between exogenous and endogenous sources of change (Garcia, 1984). Thirdly this approach historically has ignored certain key features of institutions.

Diagram 1: Commodity Systems and Transactional Conditions

1a: Matrix of Simple Transactional Conditions

buyers Sellers	one o	few f	many m
one o	oo	of	om
few f	fo	ff	fm
many m	mo	mf	mm

1b: Simple Commodity Marketing System

oo	of	om ^x
fo	ff	fm
mo	mf	mm

Stylised Transactions

processor to retailer

oo	of	om
fo ^x	ff	fm
mo	mf	mm

wholesaler to processor

oo	of	om
fo	ff	fm
mo	mf ^x	mm

producer to wholesaler

The third approach has been stimulated by this neglect to draw upon insights of the new institutional economics. Institutions of the market are conceptualised as responses to problems of the organisation of information, of transactions and of property rights, under conditions of environmental and biological lags and uncertainty and regulated by states. Under certain conditions : either of specialisation in production and marketing and informational opacity , or of lack of specialisation and underdevelopment of information infrastructure, information may be costly to obtain, to control and transfer. It may also be insufficient to enable calculations of the results of alternative actions. Information asymmetry and impactedness are argued to lead to "opportunistic behaviour" and to high monitoring and enforcement costs. Such information and monitoring and enforcement costs are components of a broader set of costs necessary to the making and protection of contracts now known as transactions costs. These costs include the costs of search and screening, of negotiation and of transfer of property rights, of co-ordination, and safeguarding (Jaffee, 1990; Marion et al 1986; North and Wallis 1987). Property rights may not be perfectly individualised or excludable as when ownership is by a social unit greater than an individual (e.g.a household) or when an individual cannot detect an unauthorised alteration (e.g.adulteration). Property rights may not be freely transferable by dint of being transferred under conditions of co-ercion or of transfer's being prevented by laws or customary rules prescribing locations, timings and restricted terms and conditions (as under the Indian Regulated Markets Acts (Harriss, 1981). Exchange is always institutionalised. It is the state which is the institution assumed to safeguard property rights, to prevent opportunistic behaviour and to implement the framework of regulation the enforcement of which will determine the outcomes of market exchange (North, 1989).

Institutions will therefore reflect these costs, uncertainties and economic relations and are conceptualised as a means of minimising such costs and uncertainties (Bardhan, 1989; North, 1989; Williamson, 1985). North has concluded that changes in institutions may affect productivity and efficiency "as much as" technical changes (1989). To date however research on contractual arrangements in agricultural markets has shown these cannot be related to behavioural outcomes in a deterministic way (Jaffee, 1990).

Other problems include unhistorical treatments of institutional change, explained functionally (via norms and ideology, population, prices, and technical change) as though such changes were themselves independent of institutions, costless, flexible undisputed and unaffected by either contingency or by externalities (Bates 1989; Bardhan 1989)! Institutional structures also have been analytically wrenched from their contexts of property distributions, accumulation and economic power. The institutional

inertia derived from the specificity of assets locked in operations such as those in agro processing and marketing has been underaddressed. Prices feature variously as causes of institutional change and as dependent manifestations of feedback relations between transactions costs and institutional forms.

In short, causality, inertia and complexity are not well theorised yet.

3.3 Power in Markets

Of the 17 definitions for power given by the OED, perhaps the most relevant concerns the ability to do or act: to cause by reward or penalty another's behaviour even against opposition. This does not connote harm or imply that the exercise of power can always be perceived as constraining choice or harming. It is not necessarily an individualised capacity either because capacity or threat can be vested in social norms (Bardhan, 1989; Basu, 1985). It is thus a behavioural concept, but, in company with exploitation, utility and other central concepts in economics, it has proved impossible to measure behaviourally. It is easier to measure in terms of the economic structures giving rise to its practice - in terms of unequal access to assets, information, organisational capabilities, rooted in the ownership of the means of production. The concentration of economic assets proxies for bargaining advantage because of differentials in fall back positions (see Sen, 1988). It proxies for the capacity to bear risks, hold decisions or hold stock.

It is brought into the study of agricultural markets in a number of ways mediated by theory. In neoclassical economics power is conceived structurally in archetypal forms of monopoly or oligopoly as a concept of market share. Theory focusses on the consequences of such structures in terms of prices and quantities but ignores the causes - the historical evolution of circumstances giving rise to them (see Nickell et al, 1991). Likewise in the new institutional economics, behavioural theories of informational asymmetry and bilateral contracts (interpreted by Bardhan (1989) as power relations) can be shown to rest on assumptions of voluntarism, mutual interest and mutual safeguarding commitments. Theories of market interlocking generally ignore its commonest empirical form: the locking of preharvest money with post harvest commodities. In examining land/ labour/ product relations the share contract is explained in terms of costs and risks (Stiglitz, 1986). Power is not necessary to this theory and the implications of asymmetrical information on the prices faced is not addressed. Marxian theory has power up front, vested in the capacity of capital to appropriate a portion of the product of labour. Thus Bharadwaj (1974, 1985) models the terms and conditions of exchange as nested in the structure of agrarian property ownership, and determined by it. Her 'market' is unproblematised, and, as Olsen

(1991) has shown, the class based terms and conditions of market involvement and locking under monopolised local markets vary from those under more competitive structures. Bhaduri has modelled both structural and behavioural power under conditions of market interlocking of land, labour, money and commodities. Here power is class power and the results of tensions between the constituent interests of the surplus appropriating class are identified, with their implications for technical change predicted. Yet as Stiglitz points out (1986) reasons for differences in the degree of exploitation are not theorised. Neither is class power where control over land, money and commodities is not so congruent. Power is not defined. Nor is it measured, and it has proved difficult in practice to operationalise (Sen,1985).

The problem with power is that theory either ignores power, or uses it as a residual explanand, or has far outstripped our capacity to verify and therefore to assess relevance.

Yet power does not side away. Empirically it can be approached in structural terms via assets distribution, specificity and concentration and their historical evolution (Chattopadhyay and Spitz, 1987). Assets in markets in turn can take the form of physical plant, land, stocks of commodities and money. Power is manifested behaviourally in control over people - in production, in the labour process internal to trade, and in the reproduction of market exchange; in control over commodities via the economic and non economic (coercive and/or criminal) control over the choices of others with respect to quantities, prices, locations, timings, intermediaries, contractual forms, contracts in other markets and non market exchange (Harriss, 1991 b). Political structures of control may be manifested in organisations, networks and other social institutions defending interests within markets, in political relations across boundaries - with producers, labourers and consumers in the process of class formation, and in politics with the state associated with regulatory interventions and associated with state participation in markets (White, 1991).

3.4 Determination and Change in Markets

The dynamics of market institutions has also been gall and wormwood to theorists. To date, it has not been possible to relate internal institutional structure to performance (though see Palaskas and Harriss forthcoming). A little more success with predictive power has been obtained from ideas of technical determination. Here technical qualities of commodities, most notably their perishability and their post harvest technological requirements, are argued as shaping market characteristics such as contractual forms and firm size (Jaffee, 1991). But, pace Banaji , there is nothing 'essential' and much

that is political about both contractual and technological aspects of markets (see Harriss and Kelly, 1983).

It is Marxian theorists who have approached the question of the historical determination of institutions of the market by examining their relation to forms of production: "a definite form of production logically determines the forms of consumption, distribution and exchange, and also the mutual relations between these elements" (Marx, (ed) McLellan 1971 p 33). Yet Marx also argued that changes in modes of distribution, which he attributed to both exogenous factors (such as the expansion of demand, or the locational readjustment of rural and urban populations) and endogenous ones (such as the concentration of capital) would change production in a process of "mutual interaction", hedging his bets both over the direction and the nature of determination (ibid). Contemporary Marxian theorists of South Asia have succeeded in analysing mercantile power as manifested structurally in property relations resulting from specific forms of production (see Blaikie et al, 1981, for Nepal; Chattopadhyay 1969; Chattopadhyay and Spitz, 1987, for North East India; Djurfeldt and Lindberg, 1974, for South India). More controversially, the property relations of commodity exchange have been theorised to be manifested in an indirect control over production via a variety of modes of surplus appropriation as well as via control over interlocked markets, such that production relations are determined by exchange relations and the direction of determination is reversed (Bhaduri, 1986).

While it may be possible to explain market forms by reference to institutions of production, this empirical practice has not moved below high levels of generality to the interesting details of institutions.

4 MARKET AND SOCIETY

The economic role of abstract markets is increasingly accepted as being ambivalent. Development policy discourse has witnessed cyclical fluctuations in market ideologies (from hostility in the early post colonial period to gung ho optimism or 'market romanticism' most recently, while an aggressive pro market ideology has been imposed on Sub Saharan Africa and has been welcomed with enthusiasm in Eastern Europe and among some groups in the USSR). We will set out and comment on first the positive and then the negative social roles of markets.

4.1 The Case for Markets

This argument follows logically from the conceptualisation of markets as mechanisms of allocative efficiency. Common to Smith- Ricardian- neoclassical economics on the

one hand and Marxists on the other is the recognition of both short and long term gains to trade. Free trade on competitive and allocatively efficient markets leads to specialisation according to comparative advantage and therefore to a deepening of the division of labour, to increases in aggregate production and interregional integration and finally to the development of the rural and urban non farm economy. The political advantages of the diversification and dispersion of ownership under market conditions and the benefits of the market as an environment for entrepreneurial initiative are also stressed. Lastly markets are associated with freedom. As Sen explains (1990) somewhat after Berlin, the existence of social norms which do not hinder or prevent exchange (thereby guaranteeing negative freedom) secure the capacity to choose and to transact (positive freedom).

These kinds of argument have provoked much comment (see for example : Lipton, 1985; Elson 1989; Sen 1990).

Taking the social argument first, markets are neither necessary nor sufficient for either conception of freedom. Markets do not guarantee freedom (Brus, 1972). Freedom of access to a livelihood in particular is not guaranteed. If one holds that freedom to live must be prior to freedom to choose, then one has to accept that a state not a market is the prior condition. And a state is necessary but not sufficient to guarantee freedom to live.

Markets simply relate supply to the rationalities and (sometimes costly) irrationalities of purchasing power. Markets may be moulded by information and advertising. They do not respond to human need. The normal operation of competitive markets may increase vulnerability, especially under conditions of inequality (Sen 1981). The medium and long term increases in productivity attendant on commercialisation and interregional trade may not actually benefit the poor. Lipton (1985) showed that static factor adjustment to commercialisation may lead to declines in the marginal productivity of labour ; that declines in the consumption entitlements of labour will result under conditions when increased interregional trade leads to increases in prices in a given producing region, that the compensating relationship between supply and prices may be of small benefit to small peasants and landless labourers who are net dependents upon markets for the means of subsistence. Sen (1990) generalised this point about trade. Trade between A and B may leave C worse off. Trade between producers of surplus and urban consumers left the landless much more worse off in Bengal in 1943. Von Oppen (1983) developed this argument empirically with respect to regions rather than classes or occupational groups. A spatial equilibrium model of three regions and two crops proxying conditions in central India showed that a ' free trade' scenario led to

drops in the production of all modelled crops in one of the three regions, while aggregate productivity went up. Just as there is comparative advantage there is comparative disadvantage. And for production to increase under comparative disadvantage, ironically, some state protection from the market is needed.

Thus the freedoms of certain classes to exercise choice on a market will be constrained by the results of the operation of exactly such freedom of choice by other social classes. So just as socialised distribution will not inevitably lead to equality or justice so markets do not necessarily lead to freedom.

Furthermore, markets absorb more resources than does non market distribution in the organisation (in specific ways) of (greatly more decentralised) information and in the enforcement of contracts. They are unable to distribute certain kinds of goods (so called public goods such as education, communications, health infrastructure etc). Markets are not responsive to externalities or to trade offs between the present and the future. (Just as Soviet commentators point to the deleterious effects of the command economy upon the environment, others have drawn attention to the malevolent effects upon the environment of some of the institutions and relations of market based commercialisation).

With respect to the agrarian economy, there is no institutional inevitability about increasing the proportion of production marketed on the one hand and either the number of market transactions or the number of locations on the other hand both of which operationalise conditions for competitive, allocatively efficient marketing. Nor is there any inevitability about the relationship between competition and entrepreneurship.

We have seen that markets need states to guarantee livelihood, and to protect disadvantaged regions. Markets need states in other ways, principally to regulate the terms and conditions of transactions and to provide physical infrastructure. In the absence of enforceable regulation for instance, increased competition can lead to declines in product quality and to dangers to the health and safety of workers (precisely such conditions currently being attributed to state monopoly and command economy in the former USSR).

Most of these comments pertain to competitive and abstract markets though some of the later points have involved real, historical markets which are always in some respect "imperfect".

4.2 The Case Against Markets

It is Marxian writers on development who have tended to stress this role. Their point of departure is that no perfectly competitive markets exists and that merchants are not, first and foremost, altruists. We have already seen how underdeveloped markets tend to be segmented, personalised, linterlinked (triadically), that information asymmetry, unequal income distribution, non maximising exchange behaviour and the partial non existence of markets can be called in to explain threats to the virtuous circle of comparative advantage theory.

A second aspect of the case against markets concerns the effects of economies of size and scale, of the concentration of control and of vertical integration upon relations and forces of production. To the extent that commerce contains tendencies to develop and reinforce dominating exchange relationships which may verge on monopolies, resources (surplus) will be appropriated and alienated not just from worker (direct producer) by the owner of the means of production but also from the owner by merchants. This double process in agriculture has been referred to as secondary appropriation of surplus. The relatively depressed prices characteristic of mercantile monopolies will thwart the development of production, upon which the increase in commodities traded ultimately depends, by thwarting accumulation in agricultural production and by shifting it to marketing.

The third aspect of the case concerns the lack of purity of the commercial firms which comprise real markets. We saw earlier that even modern trading firms are rarely pure traders and commonly embody a variety of modalities of surplus extraction which reflect the complexity of relations of production and circulation and the asymmetries of power. Such modalities range from redistribution through the market; through usury or finance; through rent on land, water, living or inanimate property; through surplus value appropriated via productive agroindustrial activity; through customary non market transfers right over to primitive accumulation. Such complex commercial relationships may resist transformations in production technology so as to preserve the economic hegemony of commerce; an aspect of marketing and trade which has been termed its "class efficiency" (Bhaduri, 1986). Class efficient markets will have exchange relations structured so as to perpetuate the domination over production of a mercantile or landlord/ usurer/mercantile class. Bhaduri specified the conditions under which they could constrain the technical transformation of production, though these are no longer common.

Any response to such kinds of arguments will also have to be based on the fact of historical complexity. As has become obvious and must be repeated, markets are not

pure institutions. Money used for buying and selling is intrinsically mingled with productive activities necessary to the circulation of goods; transport, processing and (quality maintaining or even enhancing) storage. Commercial capital is also interleaved with industrial and agricultural capital and other unproductive (but often necessary) activities. It is also historically mixed with usurers and with finance capital. The precise forms of these impurities in the sphere of circulation are highly diverse. It is perfectly possible for 'class inefficient' combinations to emerge under which the market evolves, as Marx described, into a passive wing of productive capital. There is no general or necessary role.

Debates in peasant studies have however focussed on the opposite issue : whether the control of small scale production by moneylending and merchants capital does, or only appears to, proletarianise producers dependent on such relations for their reproduction. Proletarianisation is not perhaps an appropriate description of relations which simultaneously preserve or expand forms of production (petty commodity, small scale producer, family or peasant forms) which used to be dubbed antediluvian by Marxists but which are now being positively revived as a developmental aim.

The varied nature of impure merchant's capital will interact on diverse institutions and relations of production in ways which have currently defied generalisation and high theory. The market as a concrete impure institution may function so as to promote unproductive accumulation, to preserve precapitalist production relations, to constrain the adoption of new technology or the reverse, to promote productive accumulation and unfetter production through the transformation of techniques (Bharadwaj, 1985). It can embody forces working simultaneously in opposite directions. There is nothing inevitable about commercialisation or commoditisation. It may be possible to observe a form of exchange and marketing complementing a dominant mode of production fairly uniformly over a region (Blaikie et al, 1980 in Nepal). More commonly, a range of exchange and trading relations within one commodity market, among markets in one town or among towns in one region can be observed (see Nash 1987 for Middle America). These relations can have contrasting, even contradictory, implications for social development.

5 MARKET AND STATE

The cases for and against the market were not cases against and for the state. Here we are not providing that discussion (as being outside the scope of the project) but we have to address state/market relations. The dominant neoliberal orthodoxy has it that markets and states are separate entities and further that they are antagonistic to each other, the

state compensating for market failure (World Bank 1981; see discussion in 1987). This has required challenge.

Markets and states can be usefully theorised as not separate. On the one hand states are necessary in order to regulate markets in the narrow sense of a legal framework of regulation (Lele et al, 1990). On the other hand state are deeply implicated as traders, in the classic sense of regulation (Brus, 1972). It follows that markets and states are not necessarily in conflict. At the level of legal procedure, the state is necessary to guarantee property rights, to specify acceptable terms and conditions of contract, to sanction lack of adherence to contracts and to provide physical infrastructure and other public goods for markets. At the level of practice state regulation does not only carry out the functions listed above, it also provides opportunities for bureaucratic rent (Bates, 1981; 1989). The common practice of regulation not only expresses a contradiction between rhetorical policy objectives and the private interests of individuals representing the state and endowed with discretionary power, but it also reveals the deliberate design of policies which maximise discretionary power.

Three kinds of state action have been legislated with respect to markets in India:

- i) the regulation of terms and conditions , locations and finance, weights and measures, information and dispute through participative, decentralised and democratic means under the Agricultural Markets (Regulation and Enforcement) Acts;
- ii) the creation of institutions of competition with private trade : co-operatives and storage corporations for example;
- iii) state institutions which partially or completely replace private trade : price policy, procurement, storage and trading by the state for the public food distribution system, for employment guarantees , for emergencies and for food reserves.

At the outset a clash of economic logic can be observed in these measures. On the one hand there are competitive rural agricultural markets, which need minimalist regulation. On the other hand there are unacceptably uncompetitive markets to be replaced. The apparent stated intentions of such interventions have been transformational and anti mercantilist (in the sense of curbing the power of private trade). They have also been populist in intention (justified repeatedly as of benefit to 'small producers'). The institutions of intervention have been administratively and territorially decentralised and

widely spatially diffused and have been phased but not co-ordinated through time (Harriss, 1984).

In implementation, in 'vernacular society', regulatory intervention has had conspicuous success according to original stated intentions only in historical conditions where

- i) agricultural marketing is separated from the lending of money for production and consumption and where
- ii) the relations of commerce were already quite competitive.

Elsewhere linkages between money and commodity markets, geographical inertia, economic power and extraeconomic coercion, and the regulatory activities of mercantile guilds themselves have rendered state regulation highly problematical, reducing it to the levying of fees and to merely another layer of petty rural taxation.

Institutions of competition have been frequently infiltrated by merchants and directed by them.

Interventions replacing private trade have had a mixed history, coping with famine but not with chronic rural undernutrition. Cities and politically sensitive rural areas are now comparatively well protected by state trading. Merchants also benefit in the process of translation of laws into rules, regulations and customary norms and in the process of their implementation. Price policy has tended to follow (with lags) the price relativities established on open markets and reinforced by both merchants' and producers' lobbies (Clay et al , 1988). Private traders also may act as agents for state trading corporations reducing risks of trading on own account and liberating financial resources for it. Procurement is carried out as a proportion of the interregional trade of private merchants and not levied directly from producers. Or it is translated into quotas or targets for individual firms. These targets become traded goods. Certain mills may specialise in procurement on behalf of others reaping economies of scale in transactions costs , paid for by firms thereby informally exempted. Certificates of permission to transport unprocured grain are dependent upon performance. But these may also be awarded as incentives at discretion. Levies or quotas are exacted at a price below ruling market prices. The latter are then legitimately hoisted to compensate for actual losses. Not only are open market supplies reduced in this way (and prices rise accordingly) but also such distortions may be progressively exaggerated over a post harvest season in an inflationary way to merchants' benefit (Harriss, 1977). This penalises those dependent on residual markets for the means of subsistence and ineligible for the public distribution system. The inspection of procurement performance and of stock (carried

out by the revenue and food administrations and the police) enables widespread evasion and is accompanied by customary bribery. It has been argued that the residual threat of prosecution is a sanction on procurement performance as well as an enforcement of an evolved system of corrupt payments (Mooij, 1991). Restrictions on interregional trade movements (monitored by checkpoint forces and the police) are implemented with a symbiotic combination of bribery to low level bureaucrats with discretionary responsibility for quantity decisions on one hand, and excess profit making by private traders, who take the difference between artificially low prices in cordoned off surplus districts and artificially high prices in cordoned off deficit ones, on the other.

We can therefore agree with Kaviraj (1990,p13) that " since major government policies have their final point of implementation very low down in the bureaucracy, they are reinterpreted beyond recognition". The conflict between the regulating state and regulated commerce is more apparent than real. Inadequate regulatory capacity (either in law or in practice) or the regulation of one market in the absence of others which are in practice interlinked may reinforce inequality in an antisocial way. There is to be supposed to be a strong mutual interest between merchants and the state bureaucracy in the secondary appropriation of surplus and in its distribution via combinations of excess profits and rents, via subsidies and the virement of state financial resources, via compromising ties of kinship and via the micropolitics of interest.

6 METHOD

In this study we shall develop a framework from industrial and institutional economics and examine the institutional diversity of agricultural markets by means of the following attributes:

- i) the economic components of the commodity systems
- ii) related markets (notably that for transport)
- iii) forms of property ownership
- iv) the organisation of the labour process
- v) the combinatorial complexity of trading activity
- vi) physical flows
- vii) price formation and behaviour

The second aspect of markets - power - will be assessed using

- i) economic structural indicators of power - the ownership and control of assets (including land) over time and space
- ii) the distribution, control and costs of information
- iii) behavioural indicators - contractual forms and the transfer of property rights
- iv) credit and finance
- v) non economic - political and coercive power

The third topic, that of institutional change and its determinants is analysed through

- i) age structure
- ii) the generation of trading capital
- iii) histories of expansion and of collapse
- iv) the development of commercial portfolios

Lastly, the regulation of rapidly developing markets can be understood by means of a comparison of the regulatory agenda of the state with the actual experience of implementation, by autoregulation and by the politics of collective action.

7 THE AGRARIAN CONTEXT

Burdwan district of West Bengal (population 4.8 million in 1981) has been a vanguard region for commercialised agricultural production, particularly for rice (Bose, 1987). Its very name means 'increasing' or 'developing' (UCO Bank, 1990). This district was selected in the early sixties for an Intensive Agricultural District Programme and again for the High Yielding Varieties (HYV) Programme. Its agricultural growth rate is 1.5 times that for West Bengal as a whole. Vast tracts of paddy land lying in shallow valleys of the Damodar and Ajoy river basins are irrigated from major canal networks. Of late groundwater has been exploited using private wells, and water markets are evolving. Multiple cropping of HYV rice has increased production, particularly in the boro (summer) season as a result. Rice production increased from 449,000 tonnes in 1966 to 1,409,000 tonnes in 1989 (Webster, 1989) with a 44 per cent increase in yields over the decade 1979-89 (UCO Bank, 1990, p7). Production has also diversified. Rice is rotated in the boro season with intercropped HYV 'joyti' variety potatoes and pumpkins, or wheat, or mustard according to prevailing water conditions.

Potato was introduced in the twenties, received a boost from army demand during the second world war, but settled into a pattern of erratic production and government neglect until the late seventies (AERC, 1969). Production of potato in Burdwan district shot from 137,000 tonnes in 1966 to 733,000 tonnes in 1980-1 and to 1.03 million tonnes in 1989 but with a mere 7 per cent yield increase over the decade (UCO Bank, 1990). More recently, in West Bengal as a whole production grew from 1.2 million tonnes in 1980-1 to 3.5 million tonnes in 1986-7, and predominantly on the holdings of smaller producers using family labour (Boyce, 1987, p210). HYV joyti potato is cultivated using relatively high levels of mechanised inputs (sprayers, seed drills, power tillers) with relatively high cash production costs (involving, as for rice, HYV seed, fertiliser, pesticides and water). Rates of return are ten times those for mustard, but the production process is fraught with risk, potatoes being vulnerable to uncertain water supply during growth and being perishable afterwards (Chowdhury and Sen, 1981).

Mustard production has increased from a low base in response to local demand. In West Bengal as a whole production has increased from 35,100 tonnes of seed in 1960-1 to 176,900 tonnes in 1986-7 (Govt of W Bengal, 1989, Table 5.6). In Burdwan, 46,000 tonnes were produced in 1989 with a 29 per cent increase in yield between 1979 and 89 (UCO Bank, 1990). It is grown on all sizes of production unit (Boyce, 1987). Production is at risk from pests and from the relatively high winter temperatures and moist weather conditions.

Historically the Burdwan region has been a showpiece of sharecropping. This tenurial form occupied 30 per cent of all land in 1940 and 13 per cent of the district's agricultural population was registered as a sharecropper as late as 1984. The distribution of land holdings remains highly polarised. While 6 per cent of operators with in excess of 4 ha control 23 per cent of cultivated land, 52 per cent of operators with less than 1 ha each are confined to 17 per cent of the land (Webster, 1989). Share cropping now co-exists with a variety of production forms including small scale peasant production, capitalist forms and (absentee) landlordism with cash rents. Despite the capital and scale bias of the new technology, it has been widely adopted in Burdwan and for a number of crops. Perhaps because of the structural (tenurial) and institutional reforms preceding the period for which we have price data (expansion of co-operative credit, administrative decentralisation and so-called antipoverty policy) there is no further polarisation of land control and these complex agrarian relations seem to have remained stable (Kohli, 1987; Webster, 1989).

The incidence of rural poverty in West Bengal remains obstinately above the All India average (58 per cent against 51 per cent in 1980-1 (Vaidyanathan, 1992)). Staple crops are produced and marketed under conditions of great absolute inequality.

Exchange relations have been characterised historically by coercive conditions. Markets have behaved in ways so removed from text book conditions of competition that rigorous attempts have been made to model them (Bhaduri, 1983). Models of semifeudal production and of forced commercialisation have stressed the interlocked control over a number of input and product markets of a small dominant class of land controllers. Consumption loans on terms and conditions created by such dominant parties force the post harvest sale of the means of subsistence, which then has to be repurchased on adverse terms preharvest, when it can be shown that there would be gains to onfarm storage for unindebted producers (Bhaduri, 1983; 1986).

Exchange relations characterised as "distress commerce" are thought to have a tenacious hold over the region. Historical descriptions for the 19th and early 20th century depict the marketed surplus as sporadic and secured through combinations of rent and money advances at usurious rates via dependent hierarchies of trading intermediaries (Robb, 1990). Other interpretations have however stressed the rareness and the productive nature of the money advances, and the independence of the trading capital comprising the "highly inequitable product markets" (Bose, 1987).

Contemporary research, while having demonstrated that the conditions specified by Bhaduri for configurations of landlord/moneylender/merchants to be able to constrain technical change in production are far from common (Crow and Murshid, 1991; Olsen 1991; Rudra and Bardhan, 1983), nevertheless points to the survival of coercive marketing conditions. Sarkar's analysis of the Bardhan-Rudra data set shows how different agrarian classes a) tend to market produce through different intermediaries b) market in different locations c) market under different contractual arrangements and d) tend to receive different prices (under ceteris paribus conditions) when trading with a given intermediary. Under these conditions larger size producers stand significantly greater chances of higher prices (Sarkar, 1981, pA107). The AERC study of rice marketing in Burdwan district and others in the early eighties put distress sales at 10 per cent of the production of those holding under 2 has, but also showed how the volume of marketed surplus was dominated by larger producers who may be supposed not to be selling under duress (Ghosh and Chowdhury, 1983). Webster finds crop marketing in Burdwan in the mid eighties (despite a massive infusion of co-operative production credit) still associated with complex exchange relations between poor peasants and small and medium sized landlords in which preharvest paddy loans at money interest

rates of 10 per cent per month could also commonly be interlocked with forward contracts for produce, as well as with land and labour contracts (Webster, 1989).

The expansion of potato cultivation has meant that the "old market mechanism under which 90 per cent of the crop was immediately disposed" (AERC, 1969), and a major proportion was said to have perished, has been replaced by a new system, an "oligopoly of cold stores" whose locations are highly concentrated. By 1981, Burdwan and Hooghly districts together had 70 per cent of the state's cold stores and could store half the entire crop (Chowdhury and Sen, 1981). This study observed the perpetuation of forced sales but noted that the floor post harvest price, at which forced sales were made was rising and that physical wastage was declining. However "allowing for necessary charges for transport storage and handling and interest on capital blocked on inventory, offseason price rises should not exceed 30 per cent" (op cit p70) while in fact in Burdwan district they were 108 per cent in 1960-1, 147 per cent in 1970-1 and 70 per cent in 1980-1. Wide price fluctuations between the post and preharvest seasons were concluded to be due to stock being captured by cold stores owners who evaded the statutory limits to traders' ownership of stored stock and whose speculative practice posed enforcement problems. Recently interregional flows on a national scale have altered trends in seasonality. Price patterns of the late eighties have deviated suddenly from historical ones. The price system has appeared to have lost what stability it ever had.

Paddy and rice has been marketed through a highly polarised system featuring an oligopoly with local spatial monopolies at its apex and a crowded and growing (illegal) petty trading sector at its base. The apex has been protected historically by its statutory monopoly over the wholesaling of paddy by agents accredited and attached to a small number of large battery huller rice mills. A process of capital-biased technical change to rubber roll sheller milling and an associated modernisation of parboiling machinery (Harriss, 1976) has been accompanied by concentration of ownership and of control over capacity. Capacity utilisation has been chronically low (at 21 to 45 per cent over the years 1965-1983). Wider distributive margins than in Southern India are attributable to three factors: i) collusive oligopoly, ii) a larger proportion than in the south of traded rice procured at less than open market prices by state trading institutions for the public distribution system, resulting in a compensating hoist to open or residual market wholesale prices, and iii) interregional trade restrictions depressing prices in surplus districts and raising them in deficit districts (see Subbarao, 1978). This has provided an open invitation to enter the market to lower capacity, technically efficient, employment-intensive huller mills. Between 1966 and 1982, an estimated 13,000 were installed in rural Bengal, all but 1,000 of which were unlicensed and illegal. The

process of agricultural accumulation in the small scale sector has provided capital for petty scale milling and trading. The concentration of control over commodity marketing has been concluded to be being reduced over the last decade (Ghosh and Chowdhury, 1983; Harriss, 1982).

Lele's zero order correlation analysis of rice wholesale prices for Burdwan markets in the early sixties led to her influential conclusion that markets were very highly integrated, well organised and competitive (Lele, 1971). In the seventies there were observed to be marked spatial dislocations in price levels and behaviour (Ghosh and Chowdhury, 1983). From 1980-88, quantities of local procurement by state trading agencies have dropped from 143,000 to 48,800 tonnes of rice. Interregional movement restrictions have been less comprehensive. West Bengal has become increasingly dependent on grain from north western India (Chattopadhyay and Spitz, 1987). Imports of rice through the public distribution system increased from 649,000 tonnes in 1980-1 to 842,000 tonnes in 1987-8 (GoWB, 1989). Seasonal price fluctuations have narrowed (from 22 per cent in 1960-1 via over 40 per cent in 1970-1 back to 18 per cent in 1980-1) and the more liberalised marketing system is thought to be more price-integrated.

These conditions are therefore especially interesting for the study of market institutions and price behaviour.

7.1 Fieldwork

A survey of 60 mercantile firms was undertaken with logistical assistance from Prof Sunil Sengupta and the WIDER project staff and with field assistance from Mr Pundarik Mukherjee during August and September 1990. The set of questions we used as a base for interviews are given in Appendix 1. In the absence of relevant commercial population data and knowing from previous fieldwork that this lack of data combines with the complexity of markets to defy attempts to select representative, stratified random samples, the three commodity markets - potato, rice and mustard oil - were studied experimentally using social networks and spatial transects (see Table 1).

Functional maps were made of the settlements as a guide to the likely populations and were continually modified in the light of information. Diagram 2 shows that this fieldwork was restricted to certain points in the commodity systems. This can be justified both by an interest in power and by the greater operational complexity and variability of the larger firms for which larger sampling fractions would be necessary (Rudra, 1989). Petty trade and/ or periodic marketplace trade had to be excluded for

reasons of resources. We worked in, and within 10 miles of, three urban settlements in Burdwan district.

Table 1: Data Base - Burdwan DT. 1990

	MEMARI ¹ Population	Sample	KATWA Population	Sample	GULSI Population	Sample
Rice Mills	3	1	4	3	4	3
Husking Mills	6	3	8	6	12	1
Paddy Agents ²	-	-	-	-	20	3
Rice Wholesale/CA/ Kutali	50 several '000	1 2	no info several '00	9	42	3
Potato Cold Store	9	4	5	5	-	-
Potato Wholesale/CA	20	5	22	4	-	-
Oil Mill	6	4	17	6	2	2
Bran Oil Factory	1	1	-	-	-	-

Total for 3 Market Towns

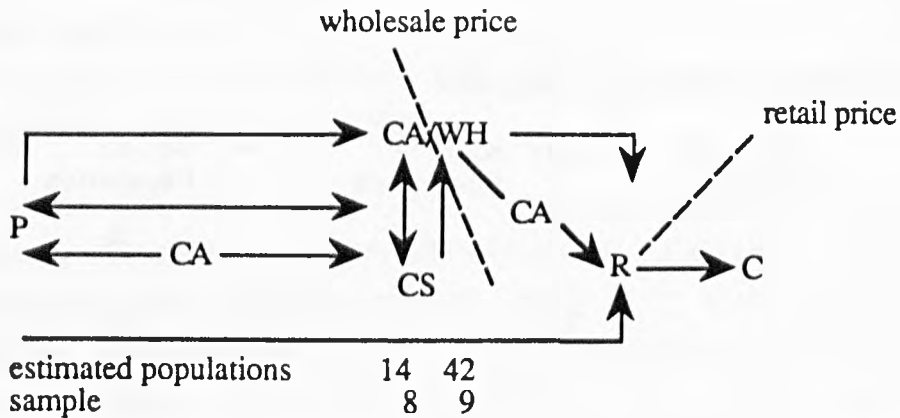
	mapped population	sample	fraction
Rice Mills	11	7	64
Husking Mills	26	10	38
Paddy Agents	20	3	15
Rice Wh/CA/ret	several '00	13	-
Kutali	several '000	2	-
Potato Cold Store	14	9	64
Potato Wh/CA	42	9	21
Oil Mill	25	12	48
Bran Factory	1	$\frac{1}{66}$	100

¹ populations were mapped by author and Pundarik Mukherjee in 1990

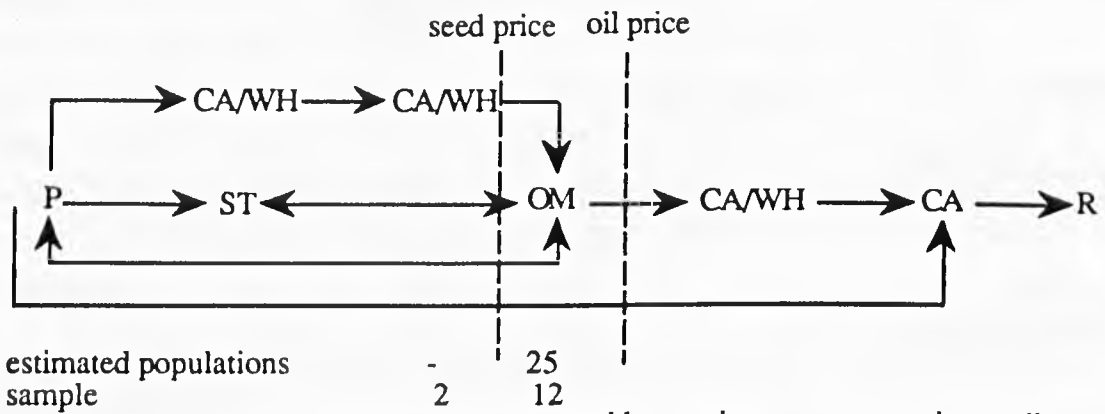
² mostly rural

Diagram 2: Commodity Systems Studied

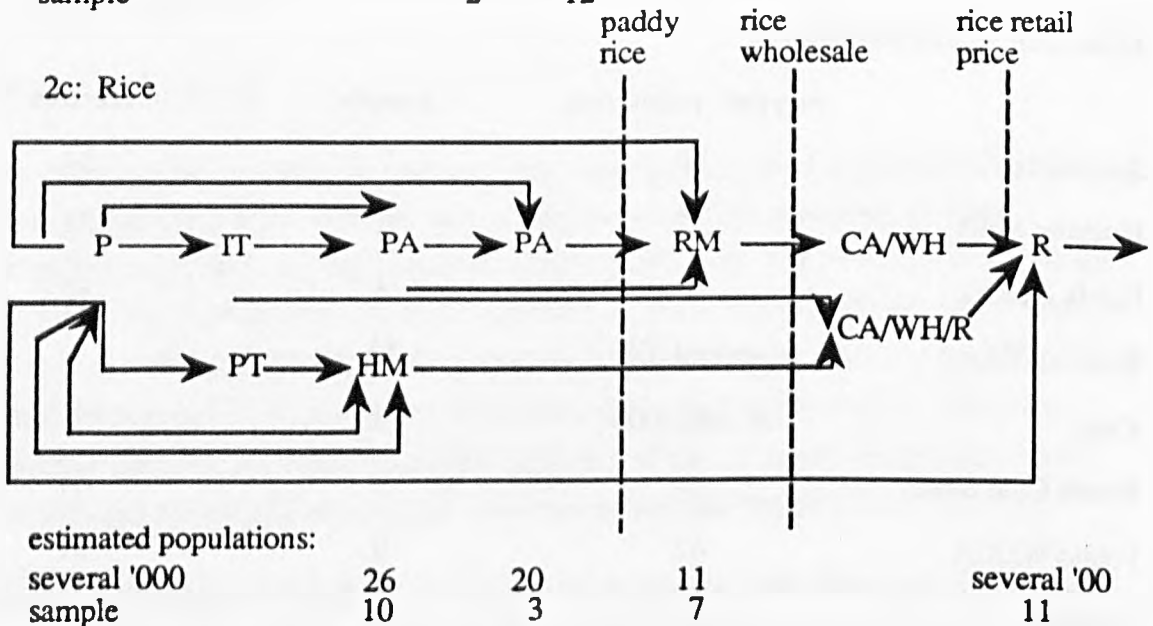
2a: Potato



2b: Mustard Oil



2c: Rice



key:

C consumer
 CA commission agent
 CS cold store
 HM husking mill
 IT itinerant trader
 OM oil mill

P producer
 PA paddy agent
 PT paddy to rice trader
 R retailer
 RM rice mill
 ST small trader
 WH wholesaler

--- : position of recorded prices

7.2 The Market Towns

Memari is a market town of 16,200 population some 30 km south east of Burdwan. It has relatively well developed communications infrastructure, sitting astride the Grand Trunk Road and the Calcutta-Delhi railway line and having STD telephone connections.

" This is a very disturbed region - the delivery room of our Marxism" (Miller)

The first rice mill pierced the skies in 1959, the first oil mill was built in 1960 and the first cold store imposed its modernist grey mass onto the green landscape as early as 1962. It was not until the late seventies and early eighties however that a precocious expansion of mercantile activity and agro industrial investment burgeoned in Memari, based on agricultural rentier accumulation. As a result, the environs now suffer from excess installed capacity in post harvest processing plant. This, plus chronic irregularities of power supply and a disputatious local labour force, has restrained further large scale expansion. A relentless growth of marketed surplus has led to the entry into trade (particularly of grains) of thousands of petty intermediaries. Over 200 husking mills have been set up within 10 miles of the town. The development on an enclosed and easily defended site of a rice retail market (which actually functions as a petty wholesale market for about 50 traders) supplied by an estimated 3,000 paddy rice processors has caused such physical congestion as to spawn new marketplaces on the edge of its informal territory.

Katwa, by contrast, is a larger centre of some 60,200 population 50 km to the north of Burdwan. It is the epicentre of Krishna consciousness and has for many centuries been a place of pilgrimage and a centre of administration and consumption, though its historic centre is in gentle decay. Located in the elbow of the Ajoy river at its confluence with the Ganges, and, without a bridge, it has exceptionally poor communications infrastructure. Buses and lorries are not allowed in the town. There is no through traffic and very little motorised transport to the north and east. To the south is a single track road. Katwa is linked to Burdwan (and Memari) by a narrow gauge railway. The telecommunications infrastructure has degenerated to a point where it is next to impossible to make or receive long distance telephone calls. Its isolation contrasts vividly with Memari's accessibility.

This is a developed urban centre in a rich and diversified agricultural hinterland, but with backward forms of trade despite superficial indications of expansion. In 1977 there are said to have been 3 cold stores and 14 potato wholesalers while now there are

10 and 22 respectively. Potato cold storage is a marwari monopoly; and local overcapacity has forced the development of long distance imports. The two wholesale markets are owned by the family of a local zamindar. They are sited in enclosed and protected spaces behind vegetable markets. Oil mills (3 in 1970 and 20 now) give the appearance of crowding. Only two are trading firms however, the rest carrying out custom milling. Yet this apparent local oligopoly is actually overwhelmed by mustard oil imports from Calcutta. Rice milling is also dominated here by marwari migrants from East Bengal, the first of whom arrived towards the end of the 19th century. These well established traders have a tight control over large scale agroprocessing and production credit advances. Local petty trading also provides livelihoods for Hindu economic migrants and refugees from East Bengal (as does the entirely unregulated and rapidly growing local trade in vegetables). Perhaps for these caste reasons, institutions of trade are growing less rapidly in the town than in its environs. Katwa has just 5 rice wholesalers who are legally allowed to purchase rice from rice mills. There are only 36 rice retailers in the privately rented legal market while only 15 traders encroach upon public land nearby. This composite rice market, an architectural warren from which the town is principally provisioned, is the site of complex relations of accommodation between the CPM Municipality, the police, the Food Control Office, legal and illegal traders and political parties. (We try to describe this process in section 11).

The third settlement, Gulsi, is a village complete with a TV retail outlet and videocassette library. Its population is estimated at 14,000 but it is invisible in demographic statistics as it is not yet classified as a municipality. Located 25 kms north west of Burdwan in a paddy bowl, it is a halting place for long distance lorry traffic on the Grand Trunk Road. The main line railway passes within three miles. Its telecommunications are as well developed as those of Memari.

In contrast to Katwa (where the potato trade is developing from a local trade to a long distance one), the local agrocommercial economy of Gulsi is 'localising' to serve the demands of net purchasers and the growing non farm economy. The ownership of its 4 rice mills is concentrated. As the radius of their supply widens so information about it deteriorates. Hence each mill is now supplied with a reticulation of 40-50 not-mutually-exclusive agents redistributing both credit and trading risks from the mills. Twenty of these agents are located in Gulsi itself. Preharvest credit, sometimes in kind as fertiliser, is used to bind post harvest supplies. While in 1970 there were thought to have been 4 small paddy-rice processors, there are now 40, some of whom operate relatively large businesses. As is the case with Katwa, so with Gulsi, the town is actually provisioned by this petty trade. Some of this is "distress" commerce" of a new type - traders being forced by poverty into seasonal and unregulated trade. New

entrants to Gulsi marketplace are resisted: " We use unfair tactics to nip them in the bud".

For our analysis of price behaviour, Burdwan was also included, though no fieldwork was carried out there, except for data collection from government offices and discussion with the zilla shabatipati. Burdwan town has an estimated population of 194,000 in 1990. It is the district headquarters, a substantial retail market centre and wholesale entrepot with concentrations of (agro) industry and of storage, a transport and communications node on the Grand Trunk Road and the main Calcutta - Delhi rail link with rolling stock maintenance depots. Its role in communications and information, as the local base for Calcutta, is well established.

8 AGRICULTURAL MARKET INSTITUTIONS IN RURAL WEST BENGAL

8.1 Components

The economic components of agricultural commodity systems have been classified in many ways (by location, by forms of ownership, by commodity, by activity combinations, by size, by position within the system, and using local terms, of which there is always a wide variety). Classifications have purposes. Our first purpose was to examine the components of these commodity systems so that positioning is most relevant. Diagram 2 illustrates this classification and also indicates the sizes of the samples studied and the likely size of the local populations from which they are derived. The diagrams show the type of activity carried out at the "slices" in space and time at which the spot price data used here are reported. The diagrams are considerable simplifications of these systems. In particular, real spatial configurations show great heterogeneity ranging from the local level to scales embracing Bihar, Andhra Pradesh and Rajasthan as origins and Bihar and Punjab as destinations. Enterprise sizes and numbers vary greatly as does the degree of specialisation or of vertical integration of firms. Access to these commodity systems and routes through them will depend on a number of social and economic factors which we shall describe in due course. No single intermediary will view the system either whole or in quite the manner represented here.

The commodity systems are highly elaborate. Many types of exchange are carried on at the price slices. The rice system in particular bifurcates close to the start to merge only at the finish.

8.1.1 The Operations

Until recently potatoes were either stored "in the field underground" or lifted and stored for up to 4-5 months in sand, if in light, or under straw, if kept in darkness. Now an increase in the scale of production and in volumes of marketed surplus has led to the introduction of other technologies. After the first harvest ("the poor man's harvest") in January to February potatoes are lifted and sold directly onto the market until May. The output of the second potato season ("the rich man's harvest") is lifted in March cold-stored until May and marketed until about December. It is in this latter set of production and exchange relations that relatively large scale capital in marketing faces relatively small capitals in production. A variety of technologies of ammonium compression and of sizes of store are available but break even capacity utilisation is located between 70 and 80 per cent, which is extremely high by Indian industrial standards. Although large capital (consolidated by overlapping structures of ownership) faces small capital, there is intense competition between large agrocommercial firms for supplies to cold stores. Producers of this perishable product adopt a variety of strategies in order to minimise risk. These include overbooking of coldstore space; maximising the number of cold stores in which space is advance booked. This leads to opportunistic trading in excess space by both producers and by cold store owners close to the state regulated time of closing cold store doors. To avert the risks involved in the marketing of space producers commonly sell their potatoes (sometimes on an advance contract) to agents or wholesalers (sometimes operating on coldstores' finance) who bear the transactions costs and who have access to (cheaper) information.

The process of cold storage is gendered as follows:

unloading from lorries (m)

grading (f)

weighing(m)

bagging and labelling (f/m)

controlled refrigeration at 36 degrees fahrenheit, during which period potatoes cannot be lifted from the stores, but ownership of potatoes is often transferred,

unloading (m)

controlled reclamation under fans for 8 hours (f)

grading (f)

bagging, weighing and loading (m).

There is no by product but cutpieces from bad potatoes are used for wage payments or given or sold to the poor at 50-70 per cent of the prices of whole potatoes.

The average casual labour force per store in our study is 162, 30 per cent of whom are female. The casual male and female labour force varies not only seasonally but from day to day. A typical example was from a minimum of 10 to a maximum of 150. A relatively large managerial and technical maintenance staff (some of whom are highly skilled engineers) is needed for this cold storage technology. As a result within a firm labour contracts range from arrangements fully protected under the Factories Acts to illegally underpaid and bonded labour.

Local demand for mustard oil far exceeds local supply. Local supply of mustard is highly prized both by consumers, for quality characters, and by millers, for the 3 per cent higher outturn yielded by local seed over the 35 per cent got from imported mustard. So the local market is dominated quantitatively by imports from north and northwest India. It may also be dominated socially by trading castes whose epicentre is in northwest India. Demand for mustard oil is, unlike that for potato, seasonal, being maximised during the festival months that run from Durga Puja in October onwards through harvest celebrations into February.

The processing of mustard oil is hardly gendered and tends to be male. Its operations comprise combinations of several possible technologies:

unloading

optional drying (f) down to 12 per cent moisture content for optional storage

decortication

milling in one of two technologies: a) rotary (a metal pestle and mortar) or b) the larger scale expeller, oil from which has further to be filtered through cloth.

The by product, oil cake with a 6 per cent oil content, is used by local farmers as cattlefeed and manure.

The casual labour force is comparatively small - on the average 8 labourers - and is supplemented with managerial and technical maintenance personnel.

A rapid rise in local rice production has enabled its complex post harvest system to evolve. Several technologies co-exist:

- traditional foot operated pounding of paddy using the dheki (now only retained for rare ceremonial occasions)

- small scale rice processing by 'kutalis' using a premilling parboiling technology comprising mud pots, mud stoves fired by paddy husk, bamboo stores, small drying yards and cement soaking tanks. Paddy is soaked for 24 hours and boiled for 2 1/2 hours. When dry, the parboiled paddy is taken to a husking mill where it is dehusked using a huller (no 4 or 8) which passes paddy down a revolving screw within a perforated casing through which rice grains are centrifugally forced.

- larger scale rice mill technology involves:

soaking paddy in tanks for 24 hours (m)

steaming for three minutes (m) and repeating this sequence

carting to the drying yard (m)

drying (f) for 8 hours to 4 days depending on weather

bagging paddy at 12 per cent moisture for storage (m)

paddy separation, double milling (m/f) and bran separation (f)

polishing (m)

bagging (m)

The process takes a minimum of 40 hours and can take up to 10 days. Parboiling can be understood not only as a process which increases the whole rice outturn and improves the oil and vitamin content of rice but also as a response to the need to store paddy during rain or heavy cloud conditions (characteristics of the post boro season). The by products are husk and bran. Husk is used as fuel. Mixed husk and bran are used as feed for pigs, poultry, cattle, fish and ducks. Bran, if transported before decomposition can be used as a raw material for solvent oil extraction resulting in edible products such as dalda and vanaspati and inedible products such as soap, paint and lube. Under current prices, the sale of bran is the key to the profitability of a rice mill. Broken rice is sold at 2/3 price of whole grains or allowed to be gleaned by sweepers.

In Burdwan district now by virtue of the procurement and storage strategies of millers and of reduced seasonality in multiple cropping, rice milling has become deseasonalised. A larger casual labour force is called for : on average 117, thirty per cent of which is female. In addition managerial labour is used for finance and trading and stock control and a technical maintenance crew is permanently employed.

8.2 Linked Markets; Transport

Studies of agricultural markets frequently residualise transport as a cost coefficient. Actually the transport markets are complex.

While small scale consignments of rice and potatoes are carried by train, evading transport costs, the long distance commodity flows based on Memari depend on road transport owned and controlled elsewhere and accessed via a single agency. Truck ownership is of low social status. Only 30 trucks and 5 lorries are owned locally while the long distance wholesale potato trade based on the settlement is reported to require a continual fleet of 300 trucks. The structure of local ownership is relatively unconcentrated, with the largest enterprise comprising 5 trucks. Rates are created elsewhere. They are reported to vary seasonally and are taken passively in Memari. The exogenous determination of rates also affects Gulsi where 10 owners control 12 lorries.

Katwa's road haulage market is similarly structured but larger - about 100 owners control about 150 trucks and lorries with rice mills having their own small fleets and the biggest haulage firm having five. Haulage rates and therefore transport costs in Katwa vary with demand for its non agricultural products - bricks and riverbank sand . These rates are maximised during the months of November to June. In both Memari, Gulsi and Katwa, mustard seed and oil are rarely transported by train because of high risks of pilferage and relatively high contract enforcement costs.

Local small scale trade uses a great variety of means of transport : rickshaw, rickshaw vans and bicycles in Memari and buffalo and bullock carts, rickshaws, tractor- trailers and boats around Katwa. Some of these markets for transport are collectively regulated and operate at fixed rates (e.g freight cycle rickshaws in Katwa). Some are spatially compartmentalised (e.g animal transport). Villages in the eastern environs of Katwa are separate spatial markets because of relatively low prices in the cordoned off town and because of relatively high transport costs , since rickshaws are the only type allowed to ply. In Katwa and Gulsi it was found that per km per quintal rates in 1990 varied from 0.3-0.4 per quintal per mile on mechanised transport to Rs 1 -1.3 per quintal per mile using animal or human power. They also varied according to return loads and the permanent or seasonal condition of roads. By contrast the Food Department allows approx Rs 0.15 per quintal mile for lorry transport of grain. It is clear that transport costs vary much more than has been allowed for in studies of spatial integration.

8.3 The Organisation of Firms

Ownership forms are varied (Table 2). Family businesses predominate. Individually owned firms with unspecialised management and decision making are common only among petty scale rice trading and processing. The joint family in which siblings, or more than one generation, work together is an ownership form allowing the specialised management of complex activities (and cet par the speediest decision making reactions to changing prices). This form dominates all the larger sizes of enterprises. The same is true of partnerships, which are frequently at but one remove from family firms and consist of investors of the same caste. The co-operative which may exploit economies of scale, but wherein decision making is decentralised and where a salaried management may be expected to be risk averse, is confined to cold storage, where it has not proved operationally successful.

Table 2 Market System Structure

Firm Type	Average estimated present value of assets Rs '000 (1990)	Ownership (% sample)			
		single owner	joint family	partnership	cooperative
Cold Stores	16,913	-	50	25	25
Potato wholesale	563	22	55	22	-
Oil Mills	437	25	66	9	-
Rice Mills	4,271	-	85	15	-
Paddy Agents	140	-	100	-	-
Husking Mills	111	20	80	-	-
Paddy Rice processors	78	100	-	-	-
wh/ca/ret	84	45	55	-	-

Activity Combinations (% of firms)

	buy	sell	broker	store	process	transport	finance trade	finance production	co-efficient of combinatorial uniqueness
Cold Stores	63	63	75	100	-	13	50	50	1.0
Potato wholesale	100	100	100	44	-	44	90	44	0.66
Oil Mills	83	83	-	58	100	25	50	50	0.66
Rice Mills	100	100	-	100	100	57	100	100	0.29

Paddy Agents	100	100	100	66	-	100	100	33	0.66
Husking Mills	30	30	-	60	100	10	60	10	0.70
Paddy-rice processors	100	100	33	100	100	66	33	66	0.66
wh/ca/ret	100	100	82	91	-	18	100	18	0.36

Organisation of Work

	Average work force	% female labour	% unwaged family labour
Cold Stores	162	30	2
Potato wholesale	7	-	40
Oil Mills	8	-	35
Rice Mills	117	30	2
Paddy Agents	4	-	50
Husking Mills	4	20	30
Paddy-rice processors	3	30	80
wh/ca/ret	2-5	-	70

Source: field research, 1990

8.4 Caste

Table 3 gives the caste composition of the traders interviewed. Caste was embarrassing for respondents, in Burdwan . By contrast south Indian traders studied over the years are aware of the importance and transparency of caste in trade. There appears to be a wide variety of castes involved in trade. Husked rice was being handled by a range from Brahmins to scheduled castes. Just under half of the traders came from trading castes but they were not performing historical trading occupations. Despite this wide range, the power points in these commodity systems were occupied by two castes - marwaris and ugrokhatriyas - so it is likely that there are caste barriers to trade.

8.5 Labour Processes

Likewise labour processes show great variety (Table 2). Family labour is unwaged (though not unremunerated) and not easily substitutable. It may be expected to supply itself beyond the point at which the marginal product would equal the remuneration but both the former and the latter are an unknown. As shown above, wage labour takes many forms ranging from a salary paid on conditions specified by the Factories Acts, through daily, seasonal contract and piece rate labour paid in a variety of cash and kind. These coincide with a range of contractual forms, with varying constraints of freedom and with varying degrees of delinquency. In practice, the labour process is more closely related to firm size than it is to the complexity of activity combinations. Family labour firms are restricted to petty scale rice processing (where female family labour is crucial to the parboiling and sundrying processes) and to rice trading. Firms with mixtures of family and hired labour predominate everywhere except in rice milling and cold storage. In the latter, management by family members provides relatively few livelihoods. The great bulk of the workforce is hired. Female labour makes up a third of this workforce. There is a detailed division of labour so that labour substitution is constrained. In terms of work organisation, as with the case of assets distributions, the labour process shows specificity and inflexibility.

Table 3 *Castes in Commerce (% of sample)*

Caste¹	Potato Cold Stores	Potato WH	Oil Mill	Rice Mill	Husking Mill	P/P-R/R Trades
Ugrokhatriya (military trade)	17	11	33	14	11	6
Muslim		33	8	14	11	12
Marwari	33		17	43		
Saha (wine trade)			17		22	18
Sadgop	17	22		14	11	
Ghondobhomik ("assumed" caste)	17	11				18
Teli (oil trade)	17	11	17			
Brahmin (priest/ professionals)				14		18
Ghosh (milk trade)						18
Namashadrama (ag lab (SC))					22	
Tantubhai (spinning)			8		11	
Vaisnav (service)		11				
Gorai (tr)					11	
Debnath (cloth trade)						6
Baisha-Kapale (ag: trade)						6

¹ traditional occupation bracketed
- list is in order of frequency

In Memari and Gulsi, the local labour market was reported to be 'tight'. By this traders meant that supply was constrained by the alternative of work on labourers' own microproperties and by leisure preferences and that the prevalent unionisation of labour created downward stickiness in wage rates. As a result the preferred arrangement for casual labour was in contracted gangs even though this made labour supply lumpy in processes such as that of potato where significant day to day variation in demand for casual labour is the rule. This labour migrates from elsewhere in West Bengal (24 Parganas, Howrah) and from Bihar and Orissa, for periods ranging from 2-3 months to many years. It is recruited on networks of caste, religion or locality by agents attached (sometimes in hierarchies) to contractors. Families are avoided and selectivity is practised over age (though children slip through), physique, sex (according to the numerical requirements of the sexual division of tasks) and physiological state (though pregnant and lactating coolies may be recruited for lighter work and at lower rates). Rates are paid by merchants for work carried out per time period by the entire gang. From this rate the contractor and agents skim at least 14 per cent. Payment for labour takes a variety of forms - monthly or daily, with or without food. Food is restricted to ingredients purchased by labourers on credit by agreement between the contractor and a shopkeeper. While the legal minimum is Rs 300 per month, payments varied between Rs 7-10 per day with meals for women and Rs 20-40 without food for men. Contracts vary in specificity, all verbal. " Faith between malik and workers is being ruined by contracts" was how one miller explained changes in contractual norms. Labour (especially female labour) may be bonded by debt for an unspecified period of time and obliged to work seasonally in factories and fields. Tasks and living conditions are sex-segregated, on site in purpose built coolie tenements.

Lodgings may be 'free' but the conditions of work are poor. Sickness is not compensated ." No work, no pay. I am not responsible for illness" declared one contractor. Incentive bonuses at festivals are at the discretion of merchants. Indebtedness to contractors is common. " My labourers are not very bonded" protested one.

Resistance to these conditions takes the form of absconsion, rates of which were said to be high, and slothfulness, foot dragging etc though under time bound contracts. There are severe constraints on this. Resistance also is formalised in unions. There are a multiplicity of unions among the agrocommercial labour force, though the CITU dominates the unionisation of labour in cold stores, rice mills and among street loading gangs. Contractors may encourage unionisation since this is associated with higher wage claims upon which their commissions depend.

In Katwa the local labour market was said to be less tight and contract labour was certainly less common. The normal arrangement here comprised gangs recruited from within 5 miles moving between fields and factories. At least one such gang is organised and controlled by the Secretary of the Local Chamber of Commerce.

8.6 Activity Combinations

Trading firms are assumed to buy and sell. In practice they perform many more activities in addition : brokerage, storage, processing , transport, the finance of trade and the finance of production. Table 2 shows the frequency of each of these activities. There are factorial 8 or 40,320 possible combinations of the activities listed above. It might be reasonably hypothesised that activities would be patterned and that such patterns would correspond to conventional classifications of firms. This is not so. In an earlier study in South India, 149 mercantile firms reduced slightly to 108 different activity combinations, most of which were unique (Harriss, 1991). There is the same tendency here. Among 60 firms, 20 are unique activity combinations, including the simplest and the most complex. There are 5 combinations with 2 cases, four with 3, two with 4 cases (buy/ sell/ store/ process/ transport/ finance production/ finance trade// and the same minus transport). One combination is loaded with 10 cases : buy/ sell/ broker/ store/ finance trade. This latter is a purely mercantile combination. The coefficient of combinatorial uniqueness is the ratio between the number of cases and the number of combinations. Low coefficients represent highly patterned and similar cases. There is a high level of patterning only in the cases of rice milling and general rice wholesale/ commission agency/ retailing firms . Otherwise the activity structure of firms is both highly diverse and complex with tendencies towards uniqueness. Unique activity combinations are interesting because they mean that the operational efficiency of firms constituting these markets cannot be compared.

8.7 Physical Flows

As with information so with physical commodity flows, there are marked differences not only between settlements but also between commodities (Table 4). Potatoes are supplied to the stores locally. Whereas Memari's potatoes reach final destinations, through a wide and diversified network (traded locally, to Calcutta and as far afield as Assam, Bihar, Andhra Pradesh and Uttar Pradesh), much of Katwa's smaller supplies are destined for markets in North Bengal. With respect to oil, both Memari and Katwa import the majority of their mustard seed from states in the north west of India. Both in turn supply local markets but Katwa also exports to North Bengal.

Table 4 Physical Commodity Flows

% of total physical flows:	Origin			Destination			Estimated average physical output tonnes
	Within district	Outside district but within state	Other states	Within district	Outside district but within state	Other states	
Town/Firm							
Memari							
Cold stores	92	8	-	19	41	40	11,500
potato wholesale	100	-	-	3	31	66	29,780
Oil Mills	26	-	74	100	-	-	132
Rice Mills	14	16	70	-	100	-	4,039
Paddy Agents	100	-	-	100	-	-	1,000
Husking Mills	100	-	-	100	-	-	231
Paddy Rice Processors	100	-	-	100	-	-	66
wh/ca/ret	100	-	-	-	100	-	720
Katwa							
Cold stores	94	6	-	3	75	22	6,400

potato wholesale	100	-	-	44	56	-	1,350
Oil Mills	31	-	69	75	25	-	152
Rice Mills	40	60	-	4	96	-	8,300
Paddy Agents	100	-	-	100	-	-	1,100
Husking Mills	100	-	-	100	-	-	742
Paddy-rice processors	100	-	-	100	-	-	120
wh/ca/ret	100	-	-	23	62	15	663
Gulsi							
Oil Mills	100	-	-	100	-	-	45
Rice Mills	75	20	5	5	45	50	4000
Paddy Agents	100	-	-	100	-	-	1670
Husking Agents	100	-	-	100	-	-	1500
Paddy - rice processors	100	-	-	100	-	-	2000
wh/ca/ret	100	-	-	20	-	80	1250
source:	field research 1990						

Even though paddy agents supply rice mills with local consignments, paddy is also supplied to the rice mills from increasingly long distances, now mostly from other districts within West Bengal. Gulsi and Memari's accessibility enables rice mills located there to import paddy from Bihar and Uttar Pradesh, which Katwa's mills are unable to do. All these locations however supply the same variety of destinations: Siliguri and Gauhati in the north, and Calcutta and 24 Parganas in the south. Note that local demand is not met from rice mills. Local demand in all three settlements is the preserve of the semi legal system that has proliferated round husking mills with small paddy-rice processors using these mills on a custom basis and supplying to unspecialised wholesaler/broker/retailers. Not only do the latter organise local staple food supplies, they also increasingly supply semilegally at long distances : Burdwan and Calcutta from Memari; Calcutta, east to Nadia and even west to Bihar from Katwa and Gulsi.

Trading transactions are thus not activated by information alone, they are attendant on patterned networks of regular contacts and on transport infrastructure. The spatial commodity relations of each settlement differ. Within one commodity system, that of rice, there are two scales of commodity flow as well as spatial specialisation.

8.8 Price Behaviour

Plots of weekly price behaviour for common and fine paddy and rice, potatoes, mustard seed and oil in Burdwan, the district capital, Katwa and Memari over the period October 1988 to August 1990 are given in Appendix 2. Where relevant, state procurement prices have also been plotted. These simple plots reveal the following features:

- i) prices for high yielding common paddy and rice tend to move discretely, while those for fine grain tend to move over a continuum.
- ii) Procurement prices are never support prices and usually move considerably below market prices.
- iii) Since we know that prices on the Burdwan rice wholesale market are formed by rice supplies from rice mills rather than from petty trading, the elevation of Burdwan's rice prices above procurement levels may include a hoist to compensate rice levy suppliers for the real losses they make on state procurement.
- iv) For both fine as well as common grain there is an obviously close correspondence between Burdwan's rice prices, Katwa's paddy prices and

Memari's paddy and rice prices. But there is no such relationship between Burdwan's rice prices and those of Katwa either for fine or common varieties of rice.

- v) Price plots for potato all show close movement and reveal the unexpectedly low minima in the 1989-90 seasons with no recovery to previous levels.
- vi) Oil prices in Burdwan diverge most from both seed and oil prices in Katwa at times of maxima in Burdwan.

Table 5 presents annual summaries of the levels and the variability of prices. With respect to grain there is a gentle inflation over the period. Fine paddy and rice prices are highest in the most accessible subsidiary market town (Memari) and lowest in the remotest place (Katwa). Exactly the reverse is true for coarse paddy and rice. Annual averages are dispersed in a way which for the most part far exceeds transport costs between the places (up to Rs 6 per quintal for coarse paddy; Rs 11 for fine paddy (when transport costs between the most price dispersed places would be RS9; Rs 26 for fine rice and Rs 43 for coarse rice when transport costs would be Rs 15!).

Potato price levels show gentle decline while intersettlement price dispersion and coefficients of variation increase over the period, to range greatly in excess of transport costs. In the case of oil there is considerable variation in dispersion from year to year (from Rs 75 per quintal for seed down to Rs 13; from RS 97 per quintal for oil up to Rs 143! Again these dispersions exceed transport costs (estimated at Rs15).

In a separate study (Palaskas and Harriss, forthcoming), existing methods of evaluating market efficiency using price data alone have been critically reviewed. A new method (developed from applications to financial markets) is proposed. It involves identifying base and dependent market places, then testing pairs of base and dependent price series for co-integration; evaluation of the co-integration coefficient and testing for the identity of the parameters of error correction models (see Appendix 3 for the quantitative results of the Palaskas model).

This method was applied to weekly data for common and fine wholesale paddy and rice, for potato wholesale and retail and for mustard seed and oil in Burdwan, Katwa and Memari. Burdwan is the price base for rice and oil and Memari the base for potato.

Table 5 *Price Behaviour, Burdwan District (Rs/g)*

Commodity ¹	1988		1989		1990	
	Mean	Co-eff of Var ²	Mean	Co-eff of Var	Mean	Co-eff of Var
PKFB	224.77		235.53		240.63	
PKFK	217.12	5.6	226.15	6.9	244.35	4.7
PKFM	225.0	3.8	237.22	4.7	246.58	4.5
PHCB	214.12	8.9	214.17	5.1	224.55	4.8
PHCK	220.5	7.4	218.48	8.4	228.90	5.5
RWKFB	416.88	5.6	436.08	6.9	447.38	4.7
RWKFK	387.92	4.8	411.95	6.9	429.88	5.3
RWKFM	408.67	5.8	425.33	8.8	448.38	3.9
RRKFB	423.00		443.08		456.75	
RRKFK	398.45		421.85		440.13	
RRKFM	428.33		446.67		476.25	
RWCB	365.00	8.2	369.67	4.7	346.48	6.2
RRWCK	322.63		346.48		350.50	
PWB	142.75	31.6	164.58	25.4	155.65	21.5
PWK	142.37	31.5	164.62	26.7	140.33	27.3
PWM	140.00	32.6	159.48	27.7	141.40	28.1
PRB	174.22		199.15		185.75	
PRK	147.35		178.68		171.50	
MWSB	885.00		766.47		903.55	
MWSK	810.00	11.6	729.97	10.0	890.75	10.0
MOWB	2323.82	9.8	2041.12	5.1	2556.28	13.0
MOWK	2226.67	4.3	2016.67	6.8	2412.75	12.3

¹ See appendix 3 for definitions

² Not all were calculated

This study has revealed

- i) the coexistence of general long term price integration with the marked price inefficiency of all commodity markets in all locations over the short term of a week;
- ii) the long term co-integration, integration and high velocities of adjustment of potato prices over a period of change in commodity flows, in the trend and seasonal minima of prices;
- iii) the lack of full co-integration, lower degrees of integration and much greater sluggishness of price adjustments towards equilibrium of paddy and rice prices compared with those of the other commodities and during a period of de facto liberalisation;
- iv) the lack of co-integration in both paddy-rice and mustard oil seeds markets between Burwan and Katwa (but not between Burdwan and Memari).

We shall return to attempt an institutional explanation for these phenomena in the conclusion to this report. It is important to note at this point that weekly prices fail to capture considerable variation. Variation due to exchange relationships could not be explored in our fieldwork. However Table 6 shows the price variation reported by the different classes of trader as able to occur within the space of a day for reasons of exchange relations, debt and supply and demand. One informant in the oil market explained that price variations in excess of 17 per cent were possible as compensation for debt and of up to 30 per cent according to exchange status (caste, holding size, urgency of need for cash etc). For the most part daily variations were within 6-7 per cent and easily outweighed by variations (keeping variety constant) for quality differences (5-25 per cent).

Another performance indicator : - indicative net returns to marketing - were supplied by a number of traders and have been assembled in Table 7. They show a certain amount of clustering between small scale traders who use family labour and net under Rs 20,000 per year, through husking mills, rice wholesalers and oil millers (biased by custom oil milling) whose returns are between Rs 40,000 and 95,000 and rice millers, potato wholesalers and cold store owners, whose averages exceed Rs 2,50,000.

Table 6 Price Variations (%)

	within a day	according to quality
Potato CS	3-10	5-10
Wholesale	0-1	5-10
Rice Mill Markets	0-6	<25 (paddy)
Husking Mill Markets	-	-
P/P-R/R trade	0-6	<20 (rice)
Oil Seed	5-7	<5 (seed)
Oil	2-4	<10 (oil)

Table 7: Approximate/Indicative Net Profits (RS)

	Potato Cold Store	Potato Wholesale	Oil Seed Agents	Oil Mill	Custom Mill	Oil Agents	Paddy Agents	Rice Mill	Husking Mill	Rice Agent	Rice Wholesale	Rice Retail	Kutali
Margin net of cash costs/q	3-7	3-8	11	25-50 (seed max = 100)	5 (seed)	10 (oil)	1-4 (paddy)	3-6 (paddy excl bran)	2.5-10 (paddy)	4-6	5-20	4-10	8-25 max = 60 (paddy)
Potential net income from estd average	450,000	825,000		41,000			37,500	250,00 (min)	50,000		93,750	21,000	16,500
Output (tonnes) see Table 2	(9,000)	(15,000)		(109)			(1250)	(5500)	(800)		(1250)	(300)	(100)

9 POWER IN MARKETS

9.1 Assets

Estimates of the assets distribution are given in Table 2. From this it can be seen that assets ownership is both highly concentrated and highly specific. The larger firms are more likely to underdeclare. It can be concluded with confidence that the disparity in assets ownership between the subset of components of these systems studied by us is of the order of over 200. We should note considerable differences between the settlements in the operational scales of mercantile enterprises (see Table 3). Memari's potato cold stores are almost twice as large as Katwa's and potato wholesaling and brokerage firms in Memari are on average over twenty times as large. By contrast, the physical output of Katwa's large rice mills and their small paddy-rice processors are on average over twice those of Gulsi and Memari. Gulsi's oil mills are three to four times smaller than those of Katwa and Memari, while its husking mills and paddy agents operate at much larger scales. Concentration and locational specialisation are associated in these cases.

By industrial organisation criteria the characteristics of large scale combined with high degrees of polarisation are by no means structural conditions for effective competition. In terms of industrial organisation economics, there are also capital barriers to entry, even into the small scale components of these marketing systems where nearly Rs 1 lakh (£ 3,300) is currently necessary. These barriers are compounded by social factors. Caste constrains entry into the largest scale trading firms. One caste alone dominates the largest firms in all three commodities in Katwa. Gender (female) prevents entry into all but the pettiest trading activity.

9.1.2 *Control Over Land*

Table 8 shows the average landholdings of the various categories of merchants, while Table 9 gives the distribution of holdings in Burdwan.

Table 8: Land Holding of Traders

	Averages (Acres)
Potato CS	25
Potato Wh	15
Oil Mills	9
Rice Mills	10
Husking Mills	5
P/P-R/R trades	1.5

Table 9 Distribution of Landholding in Burdwan District 1984-5

acres	% holdings	% area
0 - 2.5	51.4	17.3
2.5 - 5	25	25
5 - 9.5	18	35
over 9.5	6	23

Source: Webster 1989

Although the smallest paddy and rice traders encountered were landless and/or sharecroppers, and although kutalis hail from the lowest strata of agrarian society, husking mill owners comes from the top 25 per cent of the land holdings distribution. All of the other traders have land equivalent to the holdings of the top 6 per cent, who still control 23 per cent of the cultivated area. Holdings in excess of 50 acres are still being operated by mercantile families as single social units, unresponsive of how they are registered, and however much they are subdivided in share rental agreements. The wealthiest commercial households are however investing in urban rather than rural land.

9.1.2 Control Over Storage

" Rice is a hoarder's business so a small trader remains small".

" Mine is a business of hoarding"

" Hoarding is the key to profit"

(Rice millers)

The capacity to store enables those who control it to do two things. First, and even though storage may result in physical losses, storage prevents deterioration. Second storage, in conjunction with capital, enables markets to function over time. All merchants will attempt to speculate. The deliberate withholding of stored commodities so as to induce higher prices than cover storage costs, the act known as "hoarding", is difficult to distinguish from storage because the costs of physical losses will vary with crop type, with periodicity and technology. Additionally the costs of money locked up in inventory will vary with interest rates in compartmentalised credit markets. In all instances studied here however, the state can stipulate maximum quantities and periodicities, and "hoarding" is locally understood as inventory behaviour in breach of these laws.

There were no spatial differences in holding capacity. The major differences express position in the commodity system (Table 10). Cold stores and rice mills not only represent large scale holding capacity, their stores (together with their financial arrangements) also enable the control of commodities over quite long periods of time, for rice over more than one season. We know that rice millers have property rights over their paddy. Cold storage firms commonly acquire them gradually over the season, though this is illegal. Oil mills have smaller stores, but working capital enough to store for long periods. All these firms, occupying commanding positions in their respective commodity systems have the capacity to hoard in the legalistic sense and several respondents confirmed that they commonly did. For the rest, Table 10 shows that both quantities and periodicities are limited, most of all with respect to the traders attached to (illegal) husking mills.

Table 10 Storage

	Average capacity (tonnes)	Estimated average maximum storage period (days)
Cold Stores	7,763	135
Potato Wholesale	as for CS	5-30 days after contract
Oil Mills	33	7-360
Rice Mills	503	120
Paddy Agents	25	30
Husking Mills	11 ³	5
Paddy-rice Processors	5	20
wh/ca/ret	6 ⁴	12

Source: field research, 1990

³ Storing other traders' paddy

⁴ 2 respondents (not included) had 40 tonnes and could store for 2 months

9.2 The Generation, Control and Costs of Information

Potatoes are perishable and information about them flows fast and may change quickly. The study region's information about potato prices is controlled by some six large wholesalers who operate a price fixing syndicate in Memari itself. This group, informed in turn by a small number of brokers controlling supplies to Calcutta (where demand is seasonally inelastic), fixes prices each morning. This price is understood to be a market referent for other intermediaries. It circulates by phone to a network of agents, some itinerant, who pass it on by word of mouth. It reverberates to the radio and to newspapers. The oligopolists creating the daily price incur expenditure of the order of Rs 2,000 per month per firm on post and telecommunications.

There are differences in the costs and flows of information between Memari and Katwa. Price is important information for both cold store owners and wholesalers in

Memari and is low cost or free for takers. Price is costlier in Katwa where the poor quality of telecommunications means it cannot be circulated from long distance by phone. Instead price information is obtained by physical travel and verification using peripatetic messengers (waged at about Rs 1,000 per month plus another 2,000 in costs). In Katwa other information besides price is also important to the market. Break even points for cold storage are high - at 70-80 per cent of capacity. Information about production, the credit needs of potato suppliers and cold store space is circulated by small traders and agents, often on a commission basis. As the post harvest storage season develops, reservations of space in cold storage become a marketable commodity, about which information is needed.

Despite local difference in communications infrastructure, in information costs, and despite polarised structures, the Memari syndicate ensures widespread access to their price information.

With respect to oil, a set of 30-40 wholesalers, stockists and brokers in Calcutta provide referent prices for mustard and its substitutes. They supply data about production conditions in the north western states of India. No price data could be obtained for Memari where the information costs of telecommunications averages Rs 300 per month for a trading oil mill. In Gulsi, information about Calcutta prices arrives via Guskara and Sainthia, considerably to the north, where there is a subsidiary mustard oil cartel. In Katwa, information about prices over the state arrives in the evening, by telegram or by bus. The costs of this information are at least 6 times greater than in Memari. Lack of infrastructure increases the cost and decreases the velocity of diffusion of price information, with a deleterious impact on price integration.

For rice the information system is complex and none too transparent. More than one mode of price formation co-exist. Burdwan is the reference location where 34 rice brokers, through whom rice millers deal, are information sources. To and from Memari there is easy telecommunication. For Katwa, information is retrieved physically using messengers. Paddy prices are calculated by rice millers backwards on a cost plus profit basis. These prices are circulated by physical means. Collusion on paddy pricing between local rice mills was mentioned by millers. The production process takes a minimum of four days so there is a small essential uncertainty about the short term future.

Husking mills and attached traders get to know paddy prices by word of mouth from rice mills. But local market rice prices were widely reported to be created on a costs plus basis from paddy prices via local commission agencies. Other intermediaries,

paddy and rice processors and farmers will calculate back from local rice wholesale prices. There is a considerable variation in knowledge about the velocity of price formation. One third of traders reported no price variations during a day. The rest however, reported price variations of between 1-8 per cent within a day. In addition pervasive debt relations between sellers and buyers on apparently interest free terms to secure supplies actually depresses the selling price by 1.5 - 2 per cent under *cet. par.* conditions.

Poor physical infrastructure and defective information are factors commonly introduced as explanations for lack of integration. Here, under markedly contrasting conditions (accessibility and low cost information in Memari, remoteness and high cost, lagged information in Katwa) they are shown neither necessary nor sufficient to explain the particularities of price behaviour.

9.3 Property Rights and Contracts

" The entire trade runs on verbal contract."

" A known face is the only one I do business with."

" Among equals we behave differently from with weaker parties."

In the market for potatoes, spot contracts with direct payment are exceedingly rare. The most straightforward transfer of ownership between producer and wholesaler using a written bond on a quantity in storage takes the form of a verbal contract on the bond accompanied by a delayed payment of up to 45 days. Much more complicated contractual forms and ownership transfers are common. Brokers advance seed potatoes and advice together with money on the verbal condition that supplies are tied. Cold-store space may also be traded. Brokerage services and input-output market links may or may not be reflected in prices to producers, depending on village-level competitive conditions. If production conditions are unfavourable, cold stores owners in turn tie agents by the loan of working capital. Independently they will also advance seed and pesticides in order to guarantee supply. The cold stores bond is a form of security for bank credit. It is often purchased outright in defiance of the law. Or it may be acquired in an unclear transfer of rights via a legal loophole. Cold stores owners have the statutory authority to remove "rotting" potatoes within 48 hours of notification. Payments for these kinds of sales may be remitted much later in time at a point when "prevailing" market prices are lower than at the time of sale. The bond is also used for forward trading for up to 30 days. Payment velocities are rather slow throughout the system, reaching up to 6 months at the point of wholesale transfer. Although such repayment may be compensated (at around 2 per cent per month) the

asymmetry of periodicity between supply and repayment ensures that the seller of this perishable commodity remains financially vulnerable too.

Recent increases in local production have resulted in a reduction of fixed and regular contractual arrangements. And increases in storage and in long distance trading has increased the use of written documents. Although the contract remains a verbal one, traders keep a written note of installments paid off.

Disputes over contract are resolved by the potato syndicate in Memari and/or "politically" by the panchayat office.

In the case of mustard oil, uncertainties of production both locally and at long distance have led to the widespread use of brokers to concentrate the supply of information and to bulk consignments from varied sources both of which reduce transactions costs. Oil mills and wholesalers constantly use a small number ("two to three" "eight to ten") of such brokers to minimise the risks associated with non payments. The velocity of repayment, consequent to transactions, is 20-30 days throughout the system (and will be compensated for at 1.6 per cent per month for periods longer than this). This slow velocity is not determined by technical factors. There are two types of necessary lag (both short), one of about 5 days between transaction and possession caused by the transport of the seed from north west India and the second of 2 days caused by processing. Written contracts are necessary only for interstate transport and for repayment by installments. Otherwise verbal contracts are normal. Disputes over ownership are resolved by the brokers.

We will discuss contractual arrangements for the two branches of the commodity system for rice separately. Rice mills may receive direct consignments of paddy from large farmers whom they pay directly and instantly. Some mills have hundreds of regular suppliers of this type. These suppliers are not to be supposed to be invariably indebted to the rice mills. Nevertheless "power premia" exist and (irrespective of debt) weaker sellers may be paid at prices 2-6 per cent below those "ruling". At the same time, most mills secure supplies via a reticulation of some 15 - 30 agents apiece. These intermediaries used to be licenced and attached to one mill and would operate using money lent by the miller. Of late they are in the process of delinking and will operate independently of their accredited mill using mill money advances and their own accumulated capital. Advance credit is given to rice producers extensively on a range of terms and conditions and using verbal contracts. Here are some examples:

- cash at 10 per cent per month interest and tied sales
- cash at no interest but with a 5 per cent reduction in paddy price and a forward sales commitment
- credit in cash and kind (fertiliser) with tied post harvest sales.

Rice wholesalers buying from rice mills in turn write a written contract and can pay within 30 days.

The petty trading system has markedly higher velocities of repayment on verbal contract and most closely approaches spot trading. Normal repayment is between 2-7 days. Repeated transactions between regular parties are usual. Credit of up to 30 days may be obtained on a friendly basis by a paddy-rice processor from a husking mill owner and by a consumer from a retailer.

Disputes in both branches of the commodity system are resolved either on a one to one basis or by a local trade association.

It is apparent that advance contracts and long term, regular patterned, and personalised trading relationships pepper these commodity systems and reduce the costs of transactions within them and express power. The enduring nature of verbal contracts made not competitively but on a one to one basis, testifies to the importance of information about the dramatis personae as much as that of information about prices. Goodwill, for most parties depends on repayment. Debt behaviour is thus more highly charged in moral terms than is credit behaviour in these commodity markets.

9.4 Power Relations of Finance and Credit

"We give large scale finance via agents"

" We finance commission agents on a large scale" (potato cold stores owners)

The capacity to guarantee supplies is one of the most important behavioural aspects of economic power. This is achieved by locking money and commodity markets.

Asymmetrical terms and conditions of interlocked contracts are also deployed within commodity systems in order to subordinate and deprive the dependent party of choice.

Table 11 shows the scale of agrocommercial borrowing and lending. Data are assumed to have been underdeclared. Potato cold stores owners borrow extremely large sums from state financial institutions and 'mahajans' (private lenders). Most of this they lend onwards along reticulations of agents who disburse preharvest credit and postharvest, presale credit on conditions which ensure repayment in kind and tied storage. Potato wholesalers borrow from state regulated banks and lend backward to

producers from whom they purchase, and onward from them to purchasers on the long-rolling periodicities described earlier.

The finance of rice milling and trading is not helpfully depicted in averages. In the region studied borrowing ranged from zero - a) in the case of marwaris using own funds or b) in the case of 'borrowing from farmers' who agree to delayed payment of up to three months through to medium (Rs 3-7 lakhs) and large (Rs 10-75 lakhs) loans from state banks. Smaller scale but similar behaviour was practised by oil millers. Lending went through agents, elements of uncompensated 'goodwill' being transformed down the system into explicit interest rates of up to 10 per cent per month.

Table 11 Traders' Credit

	Average Borrowed (Rs Lakhs)	Sources (in order of importance)	Average Lent Out (Rs Lakhs)
Potato CS	30.5	nationalised banks/ co-operative/private lenders/kin	26
Potato Wh	5.4	banks/cold store owners/producers/ "friends"	4.63
Oil Mill	1.1	traders/banks/farmers	2.1
Rice Mill	3-75.0	banks/private lenders/ kin	10.6
Husking Mill	0.24	kin/friends/private lenders	0.18
P/P-R/R trades	0.39	private parties/traders/ farmers/ IDRP	0.46

By contrast husking mill owners either did not need to borrow or borrowed relatively small amounts from relatives and friends at zero interest, passing such monies onwards to paddy-rice traders as a means of attaching them to the mill. Paddy and rice trading is carried on at varied scales with associated financial requirements. While one fifth never borrowed money, those who did used private parties (at interest of 5 to 10 per cent per month) . Or they delayed payments to traders and farmers (sometimes compensated in an ad hoc way : Rs 1-2 per sack for a delay of 15 days). All traders lent out. About half tied production or consumption loans to post harvest supplies. All traders accepted repayment lags of up to 30 days from agents or other traders.

Three comments about trading credit are in order. The first is that it is the most assets-powerful firms that have access to state finance and the most numerically common firms which lack that access. Second, firms which are least economically powerful (in assets or gross output) face credit terms either of zero interest or of 10 per cent per month. In the former case weakness is shared on a reciprocal basis. In the latter case weakness is penalised. Lastly lending and borrowing are not seasonal but carry on all year. The purposes for which money is locked with commodities and otherwise circulates varies seasonally. It is therefore justifiable in my view to annualise interest rates.

It is with great caution that we attempt to place these financial flows into context. There may be elements of double counting in our survey so there is a bias to overestimation. Against this is the near certainty of underdeclaration of credit and underestimation of populations. In addition our survey is not representative or random. But supposing it were representative and supposing the population numbers in Table 1 are accepted, then the credit distributed by cold store owners, potato wholesalers, rice and oil millers and sundry grain traders in the six blocks comprising our study area amounts to some 7.3 crores. This can be compared with certain kinds of state finance to production and trade. Cooperative loans on potatoes in cold storage in the entire Burdwan district amounted to Rs 2.3 crores in 1988; Rs 3.5 crores in 1989 and Rs 4.4 crores in 1990 according to the Burdwan district Co-operative Central Bank. Co-operative production credit was allocated as in Table 12:

Table 12 Co-operative Crop Loans in Study Areas (Rs lakhs)

	87-8	88-9	89-90
Memari block I and II	195.26	209.45	162.0
Gulsi block I and II	67.8	69.92	17.9
Katwa block I and II	29.5	32.4	16.42
	292.8	308.77	196.32

Source: Burdwan Central District Co-operative Bank Ltd, 1990

So called informal credit (supplied in part from nationalised banks) can therefore be expected still to dominate credit for production let alone that for trading.

We end this discussion of the power relations of finance by examining local credit policy with respect to marketing as set out in the Lead Bank's district credit plan (UCO Bank , 1990). Local financial policy is clearly oriented to rural lending for purposes of poverty alleviation. There is to be no lending for trade, except for specific purpose. These include

- 'marketing entrepreneurs in consumer goods' (p69)
- 'support for small scale agro based village and cottage industries' (p76)
- to 'augment facilities for modern (sic) storage, processing and marketing of agricultural produce' (p91)
- to 'strengthen the public distribution system with working capital credit to fair price shop owners and co-operative stores' (p91)
- to break the link between traders and producers, produce marketing loans can be given to producers on condition that co-operative production credit was obtained earlier (p98).

From this it can be seen that it is petty not large scale trade which is therefore prevented from gaining access to formal sector loans. Yet at one and the same time, the plan declares priority sector lending not successful (p55-6), lack of recovery creating demand constraints. Among factors which include delinquent behaviour , misuse of funds and defective sanctioning mechanisms, this lack of recovery is attributed to lack of marketing facilities (pp,63; 69; 78; see also UCO Bank, 1989 pp 45, 89,90).

9.5 Political Power

It has been found in previous studies of the political activity of traders, that they behave in risk averse ways by financing all political parties and by rarely being party-politically active. Political power is instead exerted (sometimes systematically and sometimes opportunistically) on all aspects of the policy process (on agenda formulation, on the making of laws and procedures and crucially on allocations and the practice of intervention) through commercial lobbies. At the same time power is developed and displayed locally in the domination of institutions of culture and philanthropy by prominent merchants (Harriss, 1981; 1989). These formed the hypotheses for the present study.

By and large the same behaviour has been observed in Burdwan district. It is useful to distinguish the political behaviour of the largest firms from those of small firms. Cold store owners subscribed to all parties and some subscribed simultaneously to every one of them. We encountered open supporters of the Hindu Revivalist BJP as well as the

Left Front Government (LFG) among the elite. These elite merchants tended to be office holders of local Business Associations and active in State level institutions. There was a Co-operative Society President, officials of temple committees and much financial support given to temples, schools and hospitals on whose governing boards these merchants were well represented. Potato wholesalers, some of whom run the price fixing syndicate subscribed to parties but were not openly active politically. By contrast the "King of Rice" (who is said to own more than a dozen mills in the region) "has friendly contacts with all political leaders" said one manager. Rice millers can be found to support all parties financially and one was a local BJP leader. Rice millers were found as Presidents of Town Trade Associations and of the local Lions Club. The same behaviour characterised oil millers.

In complete contrast, the elements of these commodity systems which are a) small scale and b) partly illegal had a distinctive politics of avoidance and low profile although there was greater support for the Communist Party (CPM) and LFG among their ranks. Where such traders were active was in religious institutions and social and philanthropic societies.

The economically powerful in these markets are politically opportunistic while some are openly politically engaged, more often in opposition to LFG than in support. Such open support has costs (physical intimidation, being the focus of strikes) and needs protective, preemptive investments (security, contacts). Local mercantile magnates are also active in business and commodity lobbies often outside the locality in the metropolis. Among the 60 respondents, we encountered local leaders of all the major political parties. Less economically powerful elements, with few exceptions, avoid political engagement but are organised instead around locality and commodity. We would conclude that despite the mass politics of the LFG, the locally economically powerful have found ways of being politically powerful too. Section 11 presents evidence enabling the further development of this idea.

10 THE DYNAMICS OF INSTITUTIONAL CHANGE

We saw in the introduction that theories of institutional change with respect to markets have been rather limited to those exogenising technical characteristics of crops, and those relating change in markets to changes in production forces and relations. On the other hand in the discussion of the technical operations of marketing we saw that the technical characteristics of crops did not prevent a variety of technologies of marketing and transformation from coexisting. The perishability of potatoes has no innate implications for market structure. The polarised control over cold storage capacity is also not technologically inevitable. A variety of types of cooling system, sizes of store

labour arrangements are available. And while the perishability of paddy harvested during rainy seasons has been adapted to by parboiling (which has other nutritional and engineering advantages as well) there is in practice a wide range of types of parboiling process and associated technologies and institutions. It is more attractive to link (as Sarkar and Bhaduri have done (1981 and 1986 respectively)) market institutions to agrarian structure. In this region of India, the massively polarised and concentrated economic structures of agricultural markets have been shown to mirror land distribution and contractual linking between intermediaries forming networks within markets reflects similar practices locking money and commodities between traders and producers (Harriss, 1982 see also Crow 1991 for Bangladesh).

When it comes to analysing change however, it is not possible to disentangle the impact upon marketing systems of two types of agrarian change. One, agrarian reform, may be hypothesised to lead to a reduction in the obligatory kind rent component in the marketed surplus and to an increase in on farm consumption. The second, technical change, assisted by production credit, by freeing producers from tied contracts and by shifting production functions outwards may be hypothesised to lead to increases in production and in marketed surplus. On the aggregate, as the section on Burdwan district showed, there has been a marked increase in production and marketed surplus for all crops.

This has been associated with the emergence and consolidation of petty trade. Three explanations for petty trade link its emergence to changes in relations and forces of production. One emphasises transactions costs: when marketed surplus is generated in extremely small spatially dispersed consignments (e.g. half a 60 kg sack) then a system of bulking is necessary to minimise social costs. Such a system has emerged under arrangements where the labour costs of bulking are unvalorised. The other two arguments are from political economy. One stresses that petty trade is the outcome of the poverty induced search for (seasonal) livelihoods by landless labour and marginal peasants. The other relates the emergence of petty trade to the post reform accumulation process in agricultural production. All these arguments may hold but we have no way of distinguishing them through the type of fieldwork reported here.

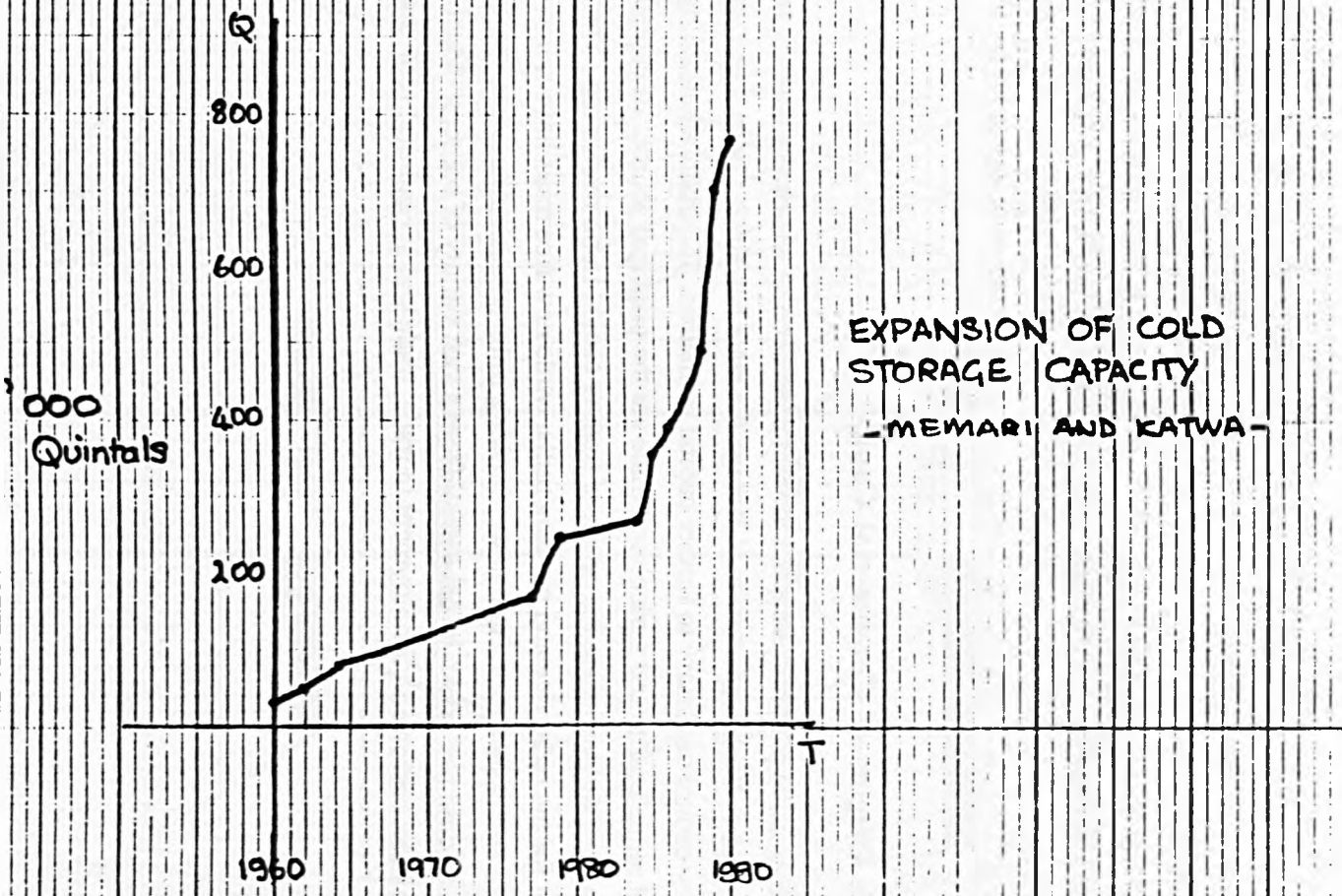
What we can describe however is two types of institutional change in agricultural markets. These are particularly noteworthy in the case of rice. One comprises involution - the increasing internal intricacy - of the formally recognised subsystem. Rice mills are being supplied by a greater diversity of intermediaries than a decade ago. 'Mahajans' - rich farmers and moneylenders are using agricultural profits to lend in cash and kind (fertiliser) preharvest in order to scoop up paddy at harvest at prices 8-

10 per cent less than prevailing urban wholesale prices in order to supply rice mills. New itinerant traders are expanding in numbers. They have no fixed costs, no wages and they are self financed. They tie contracts (in the same way as described for mahajans) and bulk up to a truckload of paddy (10 tonnes) for mill supply. Paddy agents, with whom these intermediaries are in competition for supplies, are developing independent trading finance from accumulated commissions. At the same time, rice mills are increasing the number of paddy agents they try to attach financially.

The second type of institutional development is evolutionary - emerging from earlier forms. This applies to the formally constituted marketing systems but even more aptly to the subsystem formed over the last decade. Peasants with less than 2 acres of land, landless agricultural labourers and economic migrants from East Bengal (some of the latter of whom have imported capital which is not petty) have entered paddy, paddy-rice and rice trades. Many of the poorest are not independent traders at all but trade the supplies of mahajans or bulk for them as disguised proletarians onto whom risks of price fluctuations can be transferred. The English words 'labour' and 'sackman' refer to petty agents who transport, by bicycle and for commission, sacks of parboiled paddy to husking mills and transport rice to other petty agents in the rice markets. Apart from economic dependence, the important feature of this process of evolution is the interdigitation of productive activity with trading.

Two other forces than that of the type of agrarian accumulation can be shown to affect markets. The impact of state regulation in shaping, often preemptively, the institutions of the market will be the subject of section 11. The direct impact of state finance on the concentration and overcapacity of cold storage in potato marketing may be seen in diagram 3. The state has been instrumental in transforming capacity in the cold stores studied from 3,000 tonnes in 1960 to 75,700 tonnes in 1990, with a doubling between 1985 and 1990. The second force affecting markets consists of markets themselves. Profits made from marketing paddy and rice are used to hive off new firms. Competition from processing plants newly set up in regions of production threatens installed capacity in oil markets in Burdwan. The influx especially at cold storage unloading times of imported fresh potato from as far west as Punjab, south as Tamil Nadu, and north east as Assam, has affected trends, levels seasonal minima, irregularities in prices and has restructured exchange relations.

DIAGRAM 3



EXPANSION OF COLD
STORAGE CAPACITY
- MEMARI AND KATWA -

Diagrams 4 to 7 contain information about the economic histories of the firms studied. The origins of starting capital are listed on the left and the destinations of trading profits on the right. The size of starting capital is set on a logarithmic scale left of the central time column and an estimate of present value is to the right. Potato wholesale firms are drawn narrower than cold stores and husking mills are narrower than rice mills.

10.1 Age Structures

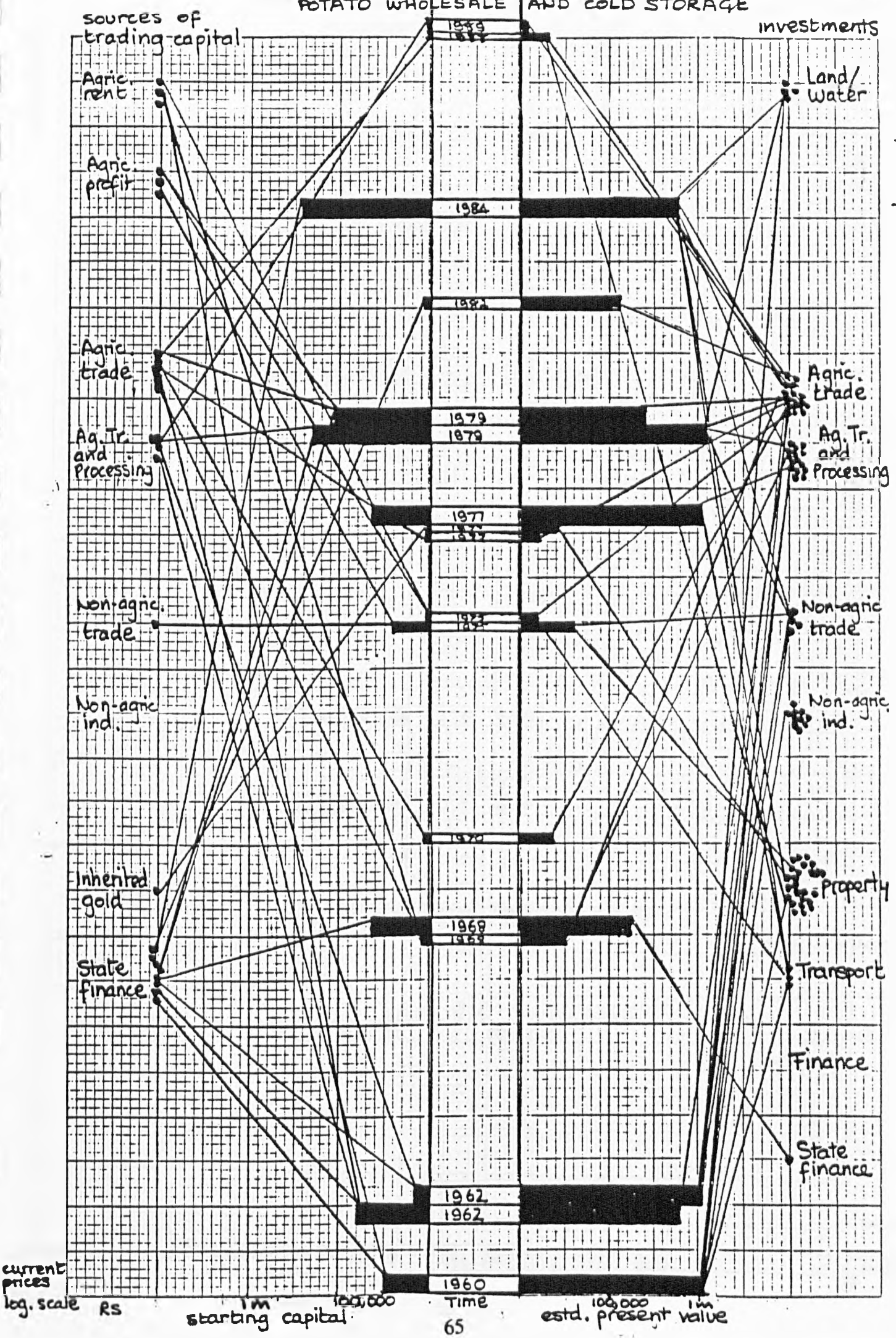
Our sampling fractions are unknowns and this is especially distorting for petty trade entry into which has been concentrated over the last 10 years (diagram 7) where in any case our samples were smallest. Twenty per cent of the firms studied had set up since 1985 and 55 per cent had started since 1975. This leaves a large minority of firms and a majority of the largest firms which are long established. Nowhere is this more true than in rice milling where 47 per cent of the firms were set up during an early phase of investment in non farm rural economy during the IAAP / IADP period between 1958 - 66.

10.2 The Origins of Commercial Capital

There are distinctive patterns of capital mobilisation varying with entry barriers and with date of start. With respect to cold storage the state has always been a key source of the lumpy capital necessary to further capital formation. In potato wholesaling, agricultural rents, profits and agricultural trade are the principal sources of capital. Agricultural trading profits are the origin of trading capital in oil marketing. They are also crucial for the older rice and husking mills, while new rice mills have relied on state finance and caste finance and newer husking mills on agricultural profits. Small scale grain trading has drawn initial capital from a vast variety of sources. Much money has been borrowed. Employment in trade, trade and agricultural profits are also significant.

POTATO WHOLESALE AND COLD STORAGE

DIAGRAM 4

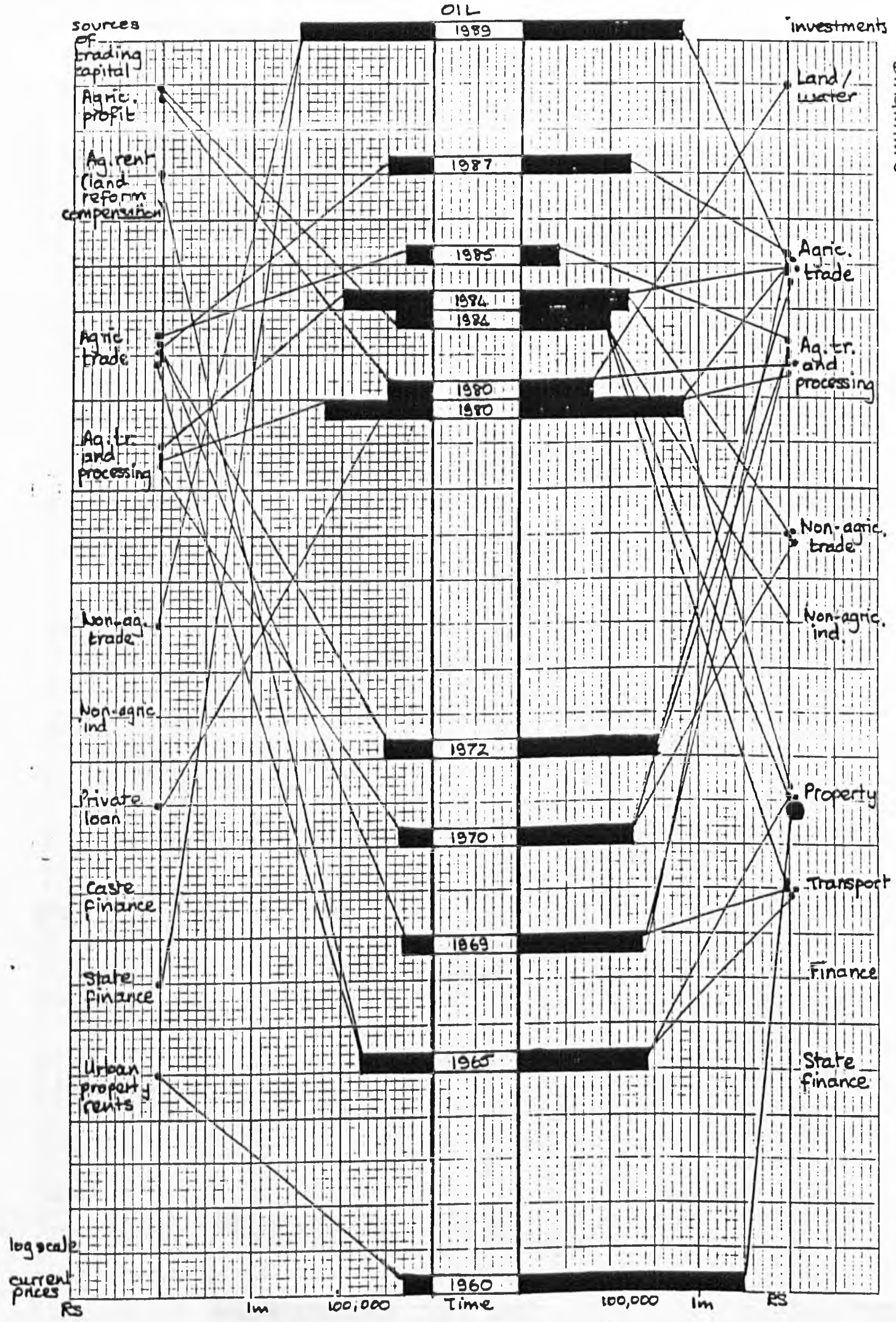


current prices
log. scale Rs

1m starting capital 100,000

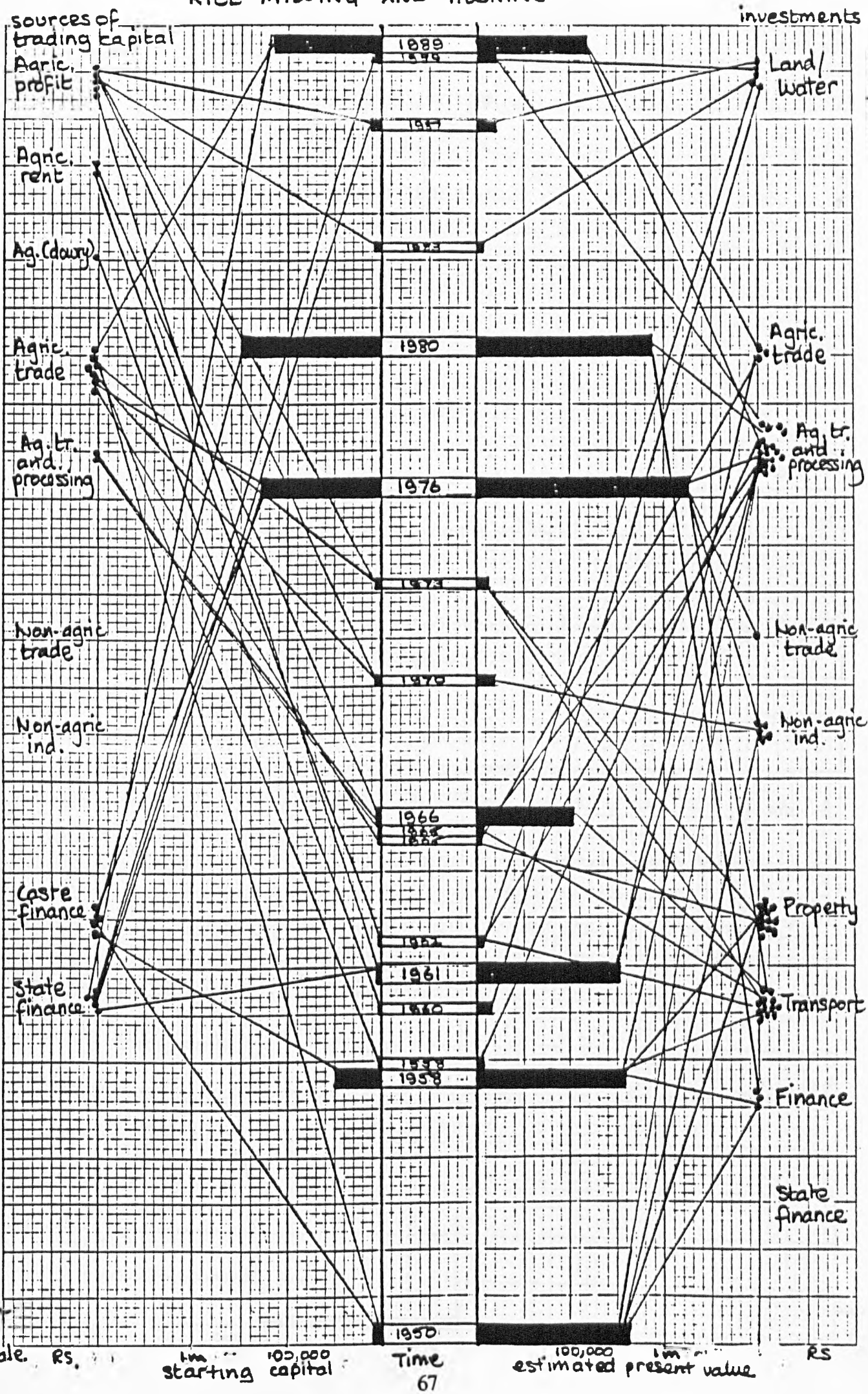
Time 65

100,000 1m estd. present value



RICE MILLING AND HUSKING

DIAGRAM 6



current prices log. scale. RS.

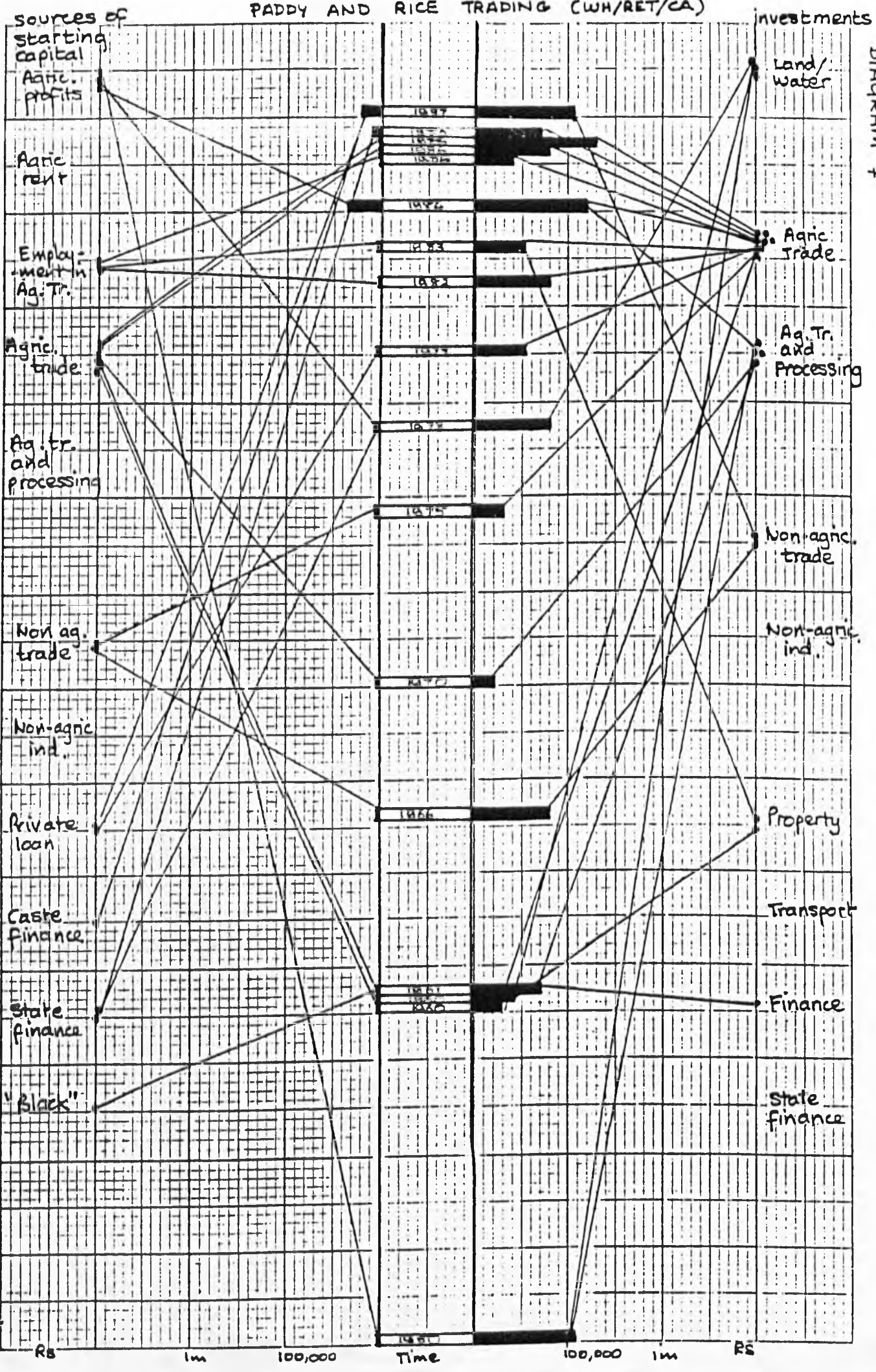
1m starting capital

Time 67

100,000 estimated present value

RS

PADDY AND RICE TRADING (WH/RET/CA)



log scale
current prices

Rs 1m 100,000 Time 100,000 1m Rs

10.3 The Development of Commercial Investment Portfolios

The omission in our study of the smallest trade and the use of current rather than real prices introduces some visual distortion in our diagrams. The massive increases in the value of older firms (quite visible in the lower halves of the potato, oil and rice milling diagrams for instance) are more likely to reflect inflation as much as the ploughing back of profits into expansion, for most of these older firms have clearly also used trading profits in order to expand and diversify investment portfolios. The increases in estimated values of petty grain trading firms are exaggerated by their scaling in comparison with those of rice mills. Only 2 out of 17 petty grain trading firms had a present value in excess of Rs 80,000 and none of these exceeded Rs 2 lakhs, nor did any husking mills. By contrast the largest coldstores, oil and rice mills had present values of between Rs 1-3 crores.

The investment portfolios of cold stores firms are massive and diverse, particularly in the case of those firms established before 1970. These firms have broken the barriers to non agricultural investment and have set up non agro industries and industrial trades, as well as rural and urban land and property. Potato wholesaling is not in the same league as cold stores but features investments in property and then (via horizontal linkages) in other agricultural trades.

From the mustard oil market there has emerged one property tycoon. Otherwise investments are linked horizontally in agrocommerce and diagonally into other agroprocessing. Rice mills have portfolio patterns similar to that of cold stores, though with less frequent industrial investment and relatively more transport ownership. Husking millers have invested in land and property. Smaller scale grain trading firms have ploughed profits back into the grain trade, needing their own finance to survive and to grow. An important general conclusion is the overwhelming and progressive significance of non land wealth both in the generation of starting capital and in the destination of investments.

10.4 Local Commercial Magnates

The biggest eight commercial firms declared control over the following empire apart from the firms studied:

15 large rice mills

12 cold stores

2 oil mills

13 wholesale businesses

8 non agricultural industries (including nails and screws, cardboard boxes etc)
12 lorries
a large amount of urban property and storage space
140 acres of land, some sharecropped out but mostly owner occupied and farmed using wage labour (some also on contract to cold stores and rice mills).

We did not ask for data on finance, or for expenditures on education, dowries or (foreign) travel but would expect these also to be considerable.

10.5 Risk, Losses and Collaspe

Under conditions of verbal contract, not easily legally validated, of multiple transfers of ownership, not always face to face, of information asymmetry and opportunism, it is hardly surprising that almost every firm had experienced losses and several faced temporary bankruptcy. The causes of 83 episodes of loss in marketing volunteered somewhat haphazardly in the course of our interviews have been tabulated (Table 13). Cold stores all declared large losses: Rs 4 lakhs lost on 60 truck loads of potatoes detained in Assam ; Rs 21 lakhs on non repayment of credit; Rs 125 lakhs on speculation, for example . Default on payment was a common cause of loss, as was technical failure (generator breakdown; the collapse of the cold store, for instance). Rice milling was vulnerable to rain and to adulteration (which was surprisingly commercialised) : "For Rs 4 a bag you can buy stones removed from paddy and use them for readulteration". The largest firms experienced episodes of bad speculation, default on credit and on payment, theft, quality problems and damage from rain and flood (Table 13). The state was a major source of risk of loss to unlicensed firms.

11 STATE AND MARKET : REGULATION AND AUTOREGULATION

In his comparative study of the developmental impact of regime types in India, Kohli (1987, p9; p95 et seq.) argues that West Bengal's Left Front Government (LFG) has demonstrated the greatest autonomy. The regulation of sharecropping (of tenurial security and of shares) under Operation Barga, the development of red panchayats (politicised, participative and decentralised local government), credit from co-operatives and nationalised banks for smallholder production and real increases in wages for landless agricultural labour are argued as representing a bundle of " successful reforms aimed at altering the conditions of the poor with significant long term impact on the living conditions of the lower agrarian groups in West Bengal".

Table 13 Causes of Loss (% of Cases Reported for Each Type Of Trade)

	Poor Judgement on Price Expectations	Default on Contract	Technical Failure	Theft	Rain/Flood	Adulteration/vermin/pests	Damage from Load Shedding	Civil Unrest	Govt Fines
Potato RS and wh	26	21	21	10	-	16	-	11	-
Oil Mills	23	41	-	4	9	14	9	-	-
Rice Mills	18	18	-	9	27	27	-	-	-
Paddy Agent	-	33	-	-	33	33	-	-	-
Husking	-	14	-	-	-	-	28	-	57
Paddy Rice Processing	-	14	-	14	28	-	-	-	42
Petty wh/ret/ca	-	21	-	14	7	-	-	-	57

His explanation for this success emphasises the coherent nature of leadership, the appropriate combination of centralised and decentralised organisational arrangements, the exclusion of propertied classes from participation in governance and yet a pragmatism in facilitating a stable and non threatening political atmosphere in which the propertied entrepreneurial classes can invest, where for Kohli, as for most other analysts, the distribution of private property is the principal constraint on social restructuring.

"We are completing a bourgeois democratic revolution in which our administration is transparent and everything is taken to the people" comments the Attorney General, Govt of West Bengal (Nuffield College, Oxford, November 1991).

Kohli argues that the broadening agenda - from a revolutionary to a reformist one - demonstrates a pragmatism wherein the only enemies are those not productive, identified as absentee landlords and big jotedars. The nature of the accommodation with the propertied classes is unaddressed. Kohli's argument stresses the importance to poverty alleviation and political popularity of reforms to production relations. The nature of the sphere of circulation and of market exchange where the classic Marxist position is that merchants' capital is unproductive but necessary and where the Lead Bank, as financial agent of the LFG, can state in print their commitment to eradicating middlemen (UCO Bank, 1990) is unaddressed in Kohli's explanation.

In looking at State and Market in Burdwan district's food economy we can not only address some of the theoretical issues raised in the introductory section, we may also be able to comment on the implications of the LFG's unusual prioritisation of the development policy agenda: Not so much addressed to technical transformation, not so much to deregulation and the orthodox pricism (which actually assumes that production structures and markets are not constraints upon growth), but rather to reform to agrarian structure itself to a genuine "structural adjustment".

11.1 The State Regulatory Agenda

In terms of agenda and intention and in procedure and law these agricultural markets are quite extensively regulated. The legal framework has been in place (though continually altered) since long before the LFG's tenure. With respect to potatoes, the West Bengal Cold Storage (Licencing and Regulation) Act and Rules enacted in 1966-67 stipulate regulation of licences, of technical standards, and of the reservation of space by various categories of landowners. Rents are fixed by law, as is the timing of the cold storage season. There are limits on the transfer of ownership of potatoes to

cold store owners, on their financing producers and official restrictions on their trading on own account. Potato wholesalers are regulated through licencing.

Oil and rice mills are regulated through licencing and security deposits, through specification of technical standards and through storage restrictions. Both oil and rice trading are subject to inspection by the Commercial Taxes Department who tax at 2 per cent and 1 per cent respectively. Rice milling is heavily circumscribed by law. Under the Rice Control and Levy Order of 1960, a prescribed proportion of traded rice (50 per cent) has to be sold to a state trading corporation at administered prices always below those of the open market. Paddy agents are regulated by licence and are attached to specific rice mills. Rice wholesalers are regulated by licence and have protected access to the unprocured output of rice mills. Rice retailers are regulated, under the Food Control Order of 1967, by licence and by restrictions on volume of operation (75 kg per day) and storage quantities (10 q). Husking mills are regulated by licence, conditional on technology and power supply.

Under the Regulated Markets Act, provision is made for investment in physical infrastructure for marketing, for cost-reducing, standardised procedures for transactions (weights and measures, open auction and unlagged payment) and for democratic and participative management of the conditions for the first transaction between producers and traders. In return a single fee on this first transaction replaces a series of local cesses and arbitrary deductions and finances regulated marketing.

Co-operatives have been introduced to regulate private trade by competition. Trading and processing co-operatives have been financed by the West Bengal Co-operative Federation, the West Bengal Finance Corporation and the World Bank and EEC assisted National Co-operative Development Corporation. These are to provide distributive services to local village co-operatives and to service state trading institutions at administered prices and rates.

11.2 The Allocative Practice of State Regulation

With respect to the regulation of potato marketing, certain aspects of the regulatory canon are performed. Dates of closing and opening cold stores are randomly observed and checked as are inventory, temperatures and the conditions of the potatoes. Other aspects are creatively reinterpreted 'beyond the point of recognition'. State administered rental levels evolve into a fluctuating market. State administered Labour Laws fixing minimum wages can be flouted using non local labour on contract. Official rules about the allocation of cold store space to various categories of farmers, traders and owners change regularly. These undergo further transformation through

the development of active markets in space, and through neglect of the rules stipulating small minimum consignments. Two regulatory loopholes enable cold store owners to trade. First, though owners are constrained on own account trading, other members of their joint families are not. The bond is transferable and farmers are allowed to sell while potatoes are in store. Bank credit is also allowed on stored potatoes using receipts as collateral. Transfer of ownership to cold store owners financed by formal sector credit is therefore common practice. Second, cold store owners are legally required to remove rotting potatoes within 48 hours of notification to owners, and their sales are subsequently to be remitted. Rotting is widely alleged to be maximised at times of maximum intraseasonal prices. Remittances are lagged and often at current prices if the latter one is lower than those at which potatoes were actually sold. Excess capacity (authorised by the state but in conditions of incomplete information by a variety of funding agents) combines with high break even points to intensify unsanctioned incentives to ignore law.

Until this last decade rice mills have operated under a state protected monopoly in order for the state to externalise and to transfer to the private sector the transactions costs involved in bulking marketed surplus to supply the state trading system. It had therefore been possible to inflate residual open market prices by sums compensating the mills for their actual losses on rice sold to the state. Recent competition from the exploding subsystem of petty trade, exempt from procurement because illegal, has meant that this hoist has not been possible. The state trading agency has made an appropriate response but one not allowed in law. Proportional levies have been commuted to a fixed quota negotiated individually with each mill entirely on verbal contract on the basis of drying yard capacity and assuming only 15-20 days of operation per month. This to be yielded during the period October to April. This change reduces supervision, information and transactions costs to both millers and agents of the state. By its means it has been possible to increase procurement (from 29,000 tonnes in 1987-8 to 63,200 tonnes in 1989-90 (District Supply Office, Burdwan) .But the arrangement intensifies the incentive for rice mills to purchase stock immediately post harvest at the lowest prices so as to minimise the uncompensated losses on procurement. There is therefore pressure to ignore both quantitative and time based restrictions on stock. And the logistics of off season paddy supply (which can be controlled by millers)and off season electricity supply (which cannot) become crucial to maintaining high profitability.

The legal monopoly of paddy traders and their stipulated attachment to specific mills have both broken down. Paddy agents have accumulated sufficient own capital to trade on their own account. Rice mills can therefore no longer enforce attachment. A certain

preemptive structuring can be observed. The existence of commercial taxes checkpoints prevents paddy trade across such borders (more being forfeited in bribes than gained from interregional price differences) and encourages the local transformation of rice. It is not only a response of petty scale accumulation resulting from land reforms and from technical change. It is also in response to the state protected wide distributive margins, formerly maintained by the large scale subsystem of rice marketing, and to state administered constraints on regional trade flows provoked by the system of taxation that petty scale commercial activity has proliferated. We have seen what happens to legally regulated subsystems of markets and must now consider what happens to subsystems of markets outside the scope of legal regulation.

Small scale paddy/rice processors are known as 'kutalis'. " We are illegal and invisible to everyone except to the police". Kutalis are unlicensed and rent unlicensed husking mills to mill the paddy they have parboiled and dried using domestic labour. In some locations kutalis have encroached onto wetland to construct drying floors. There are two consequences to this official blind eye. One is to turn this subsystem over to the coercive wing of the state and perpetuate institutionalised bribery and harassment. The other is to perpetuate ineligibility for state subsidised credit, which turns this subsystem over to informal credit markets often operating under monopoly conditions (and not seasonally) at interest exceeding 10 per cent per month. The two formal sector trading loans encountered during fieldwork on this subsystem were IRDP loans got on false pretences by kutalis who were members of the CPM.

Much the same relations characterise petty rice traders (who may actually wholesale, retail or act as commission agents). In one rice market, only one wholesale licence had been issued. Groups of traders formed around licences which rotated among members as necessary. Necessity took the form of mitigations to institutionalised bribery and harassment by police, agents of the FCI and Food Department inspectors. In this institutionalisation, political patronage by the CPM played a mitigating role.

The Electricity Board regulates power supply to husking mills by enforcing a minimum spacing of 2 kms. This penalty to late entrants is evaded by the use of diesel engines as prime movers and by the poaching of electricity supplied for a less stringently regulated purpose (e.g. flour or spice milling). Husking mills licences are also conditional upon the technology used and the law stipulates a sheller technology inappropriate for local factor endowments and for the local material culture of rice (Harriss, 1976, 1982). For parboiled rice, the sheller technology is not superior to the huller in engineering terms. At the range of gross output characterising husking, its capital, fixed and variable costs are greater. It displaces labour. By products of milling are not raw materials for

agroindustries, as conceived in the law, but instead are used in domestic productive activity as fuel, binding material in construction (husk) , cattle fodder (husk and bran), fertiliser (burnt husk) and kind payments to labour (broken rice). The use of sheller technology for husking mills is unenforceable. The illegal nature of the huller technology stems from a tension between state and central government. While agriculture is a state responsibility, post harvest processing is labelled as 'food' the administration of which is central government responsibility. SS Ray's brief attempt to protect local husking mills by issuing licences was quashed by the Supreme Court.

The LFG has responded to this impossible situation by turning a blind eye towards husking mills, refusing to attempt to levy commercial taxes on their operations for instance. Yet this has, as with the other unregulated elements in the markets for rice, resulted in institutionalised bribery and harassment.

The development of the petty trading system was predicted to be resisted by the subsystem of rice mills and by the state. In Katwa certainly, it was widely alleged that rice mills were supplying vigilance forces with financial incentives to harrass illegal rice traders, who (operating from no fixed premises) were technically out of the ambit of vigilance if operating from no fixed premises. In return, storage laws for rice were being allowed to be evaded. Yet the resistance of rice mills has been weakened not only by the informal accommodation with the state alluded to above but also because production increases and the rapid rise in gross marketed surplus have qualified the threat to mill supplies. The resistance of the state has been weakened by the Food Corporation of India's imports of rice from Punjab. Rice distributed in Burdwan district on statutory and modified rationing has declined from 66,500 tonnes in 1986-7 to 41,800 in 1989-90 (District Supply Office, Burdwan). It is therefore possible to draw the conclusion that the state seems to accept the role of petty illegal traders in provisioning those provincial towns and cities. This de facto liberalisation has had an impact on trade flows. The provisioning of Calcutta increasingly with rice from Punjab has lead to the diversion of grain flows from Katwa in our study area to north Bengal. Yet flows from small scale subsystem inside the town are constrained by the administrative barriers of checkpoints monitoring commercial taxation. By virtue of the local interpretation of state regulation and local accommodations between state and rice millers, this particular town has the tendency to be both glutted with rice and unintegrated with regional rice markets.

Oil mills are quite regularly scrutinised by the state because of the private incentives to adulterate. The Food Department checks inventory and controls supplies of substitute to mustard. Oil millers themselves have an interest in informing the Health Department

if they find adulterated supplies in local markets. This they do. There is a High Court Order requiring the technological upgrading of rotary mills. This they do not do.

As with other aspects of law, the Regulated Markets Act is operating according neither to the letter nor the spirit. From the two markets which are stated as operating (UCO Bank, 1990) attempts are made to levy fees, not *advalorem* but *ad hoc*. Fees in one grain market varied from Rs 50 to Rs 250 per month and 1 per cent was levied on all rice trucks passing local checkposts. Price information is collected but not published. There are no elections to governing committees (for one market the committee consists of MLAs and Food Department personnel). So existing committees are not participative. There is no inspection of weights and measures, no competitive bidding and no open auction, no regulated payments and no dispute resolution. " All they do is extort a fee and this is not the first transaction!" (Rice retailer). With respect to commercial taxes comminutions of the tax on oil from 2 per cent to 1 per cent and on rice from 1 per cent to 0.5 per cent were widely reported to have been negotiated between District Supply Officers and trade representatives.

Lastly co-operatives. These are not labour managed firms. They are state-bureaucratically managed. We encountered two marketing co-operatives which are described here as case studies. The first was a rice milling and marketing co-operative, which had ceased operations in 1988. The scale of the modern rubber roll sheller technology was incompatible with the supply and price conditions in which it functioned. Its scale, capitalisation and thus high break even levels of capacity utilisation indicated higher total transport costs than is the case with decentralised systems of mills. It worked to different regulations from those in which private trade is embedded. In particular supply was restricted to village co-operatives and, as a result of their malfunctioning, was inadequate.

The cooperative cold store established in 1984 had technological problems of a different sort. By stipulation, it was constructed with a defuser cooling system (working from the bottom up) that under *cet. par.* conditions was 150 per cent more costly than the bunker (top town) system widely adopted in the private sector. The funding agency, NCDC, had been tardy in sanctioning new technology for potato storage (while it has been shown that they were quick to sanction inappropriate new technology for rice milling (Harriss 1976)). The capacity utilisation of the co-operative cold store was 30 per cent while break even was at 80 per cent. Reasons for this included contract maintenance service rather than an on site one as practised in private trade. Supply was restricted to 21 local co-operatives and to other co-operative members. This was inadequate and co-operative members have freedom of choice of cold stores which in

practice meant that many were constrained by private debt to use specified private cold stores. Management decisions are slower in this co-operative than in local private enterprises, a fact which was said to account for sluggish delays in the supply of sacks. Trading laws prevented the co-operative from trading on own account, to loan or secure supplies by advance contracts, to store the potatoes of private traders, or to import at long distance. The penalties for breach of the law are punitive for co-operative employees and they may not have skills or institutional access to resources to do this anyway. Consignments at the legal minimum had to be accepted which increased transactions costs compared with private trade. Concessions on rental levels could not be entertained. Fixed transport rates had to be adhered to. Whereas we saw how private cold store owners could buy up stored potatoes, co-operatives had to lend credit on receipts. Scrutiny of space reservations, temperature and quality was systematic rather than random as with the private sector. It was alleged that market prices could be sabotaged by the powerful local syndicate in such a way that they were low as the co-operative cold store unloaded its stock onto local markets and raised afterwards.

State regulation fails to regulate private trade in this region. More stringent regulation of state institutions, for this is what co-operatives actually are, impose a variety of costly handicaps. The failure of co-operatives is a cost to the state and the form taken by their failure encourages opportunistic breaches of regulation by private trade. Bureaucratic management may enable the penalisation of deviance but at the expense of efficiency and participation. Inappropriate technologies represent defective decisions by funding agencies. Constraints on supply are imposed by special ruling inapplicable to the private sector. More systematic vigilance by the state on state institutions than on private ones forces variations in adherence and compliance favourable to the nexus of interests between the state and private trade from which these co-operatives seem excluded. Lastly private trade is capable of collusive sabotage to the operation of a co-operative. As a result:

"We were set up to eliminate the middleman but the middleman eliminates us!"(Marketing Co-operative manager).

The practice of marketing is radically different from that envisaged and regulated by law. The law as written is interpreted idiosyncratically by local administrations in series of rules and regulations which may not always be binding in law. The practice of marketing has been seen capable of being moulded to some extent (and sometimes pre emptively) by these local rules (and by threats of sanction), but frequently flouts even these. Laws may have important symbolic functions indicating desirable

directions for social change. At present and according to our field material these laws are the basis of a diffused appropriation of bureaucratic rent. Given the record of allocative practice, is no longer possible to escape questioning intention in the making of agendas and procedures.

11.3 Actually Existing Regulation

Markets are not disorganised systems, however, and trading behaviour is not entirely disordered. Table 14 shows the institutional means whereby the performance of the potato, rice and oil markets comes to be ordered.

First it can be seen that this 'customary' regulation is underdeveloped. Norms for marketing are not standardised - both weights and measures and contractual forms cannot be assured. Conditions for marketing are not very secure - either in terms of property rights or in terms of moral hazard and of crime. Crime detection rarely involves the police but is carried out by a variety of institutions of civil society which are endowed - socially and haphazardly, if not legally - with coercive power to penalise. The state is seen to play a negligible role in actual market regulation, confined to the Health Department which regulates the adulteration of oil, to local government which severely rations licences and to political institutions of local government, drawn in to resolve dispute on transfers of property rights in cold stores. For the rest it can be seen that a multitude of institutions are involved. Apart from those of the state, regulation is either privately organised where costly environmental externalities can be internalised (as with security, hygiene, and crime detection) or institutionalised in spontaneous collective action (for security and for contract adherence for example).

Table 14 Regulation

	Cold Stores	Potato Wh	Oil Mills	Rice Mills	Husking Mills	P/P-R/R Trades
Licence	Local government	Local government	Local government	Local government/ FCI	Local government but rationed; many unlicensed	Local government but rationed; group membership/unlicensed
Security	Physical fortification and own private security force	Market architecture organised by landlord/own paid. labourers/local collective action	Own private force/local collective action	Own private force	Local collective action	Market architecture local collective action
Public Hygiene	Privately paid sweepers	Market landlord/ad hoc and occasional	Privately paid sweepers	Privately paid sweepers	Private sweepers/farmers and traders	None
Weight and Measures	Kgs but sackweight varies between 50- 60 Kgs	Calibrated by largest trader in local syndicate	-	Maunds and seers still used by some farmers	-	If at all by Bazaar committee
Contract adherence/ dispute resolution	Political institutions of BDO/syndicate	BDO/Bazaar committee/regulated market officer/trade association/mutual agreement	Bazaar management committee/Brokers /mutual agreement/trade association	Largest trader in association/mutual agreement	Mutual agreement	Bazaar committee/town business association
Crime						
common type	Credit embezzlement	Credit default/pilferage in transit	Adulteration/ repayment	Credit and repayment default	Theft of stored rice	Default on payment
Detection and punishment	Private agents	Trade association	Collective action/bazaar committee/Health department	Private agents	-	Trade association

Appendix 4 gives details of 27 institutions of civil society evolving rapidly around markets in the recent past. They have been brought into being for three main reasons

- i) to curb opportunistic behaviour
- ii) to respond institutionally to organised labour. Here the party political process involving competitive unionisation has had a multiplier effect in other social classes.
- iii) to relate to institutions inside the state either for purposes of defence against regulation (e.g. rate fixing, negotiations with enforcement agencies) or to compensate for inadequacies of regulation (e.g. physical security and the public health environment).

Their scope has rapidly expanded and now includes

- i) reaping scale economies (as with the collective organisation by subscription of guarding and security and cleaning, sweeping and waste disposal that comes under public hygiene). Political scale economies are reaped by groups over a certain size threshold in representation to the state (about regulation, as above, about policy change and in order to institutionalise 'rents'). " We have a good hold on government";
- ii) collusive activity such as price and rate fixing (see Appendix 4 for details on potatoes (which appears as a lobby but acts as a collusive oligopoly), rice retail and rice and oil milling in Katwa);
- iii) entry restriction, permitting competitive oligopolies (see rice retail and paddy agencies in Appendix 4);
- iv) risk spreading as in cases of interest-free group credit and in cases of group insurance by subscription for accident, calamity, loss fraud or legal expenses.
- v) reduction of transactions costs. This is an important function of these collectives and takes a number of forms. Information is diffused within the group. Some regulation of transactions emerges (e.g calibration of weights and measures). Property rights are clarified and mechanisms for disputes over contract collectively enforced with sanctions imposed on deviance. Groups are evolving mechanisms of protection against moral hazard, free riding and adverse selection (the most obvious of which are restrictive of entry using attributes about which information is of low cost (such as being licenced) as

criteria; but there is also some experimentation with composite objectives). Uncertainty on related markets is being reduced by collective negotiation of advantageous set rates (maxima for labour and transport, minima for processing rates) where relevant with other collective institutions. Conflicts of interest are also being institutionalised. Such new relations replace old norms based often on caste and 'faith' by new ones based on contract.

- vi) lastly these institutions of collective action are also social expressions of solidarity and, in defining themselves, also define the excluded. This definition is not only done through economic regulation and political representation but also through philanthropy, relief and other expressions of piety and through social celebration.

A few more comments may be in order. As the size of the collective grows so its functions change. The information costs associated with certain regulatory functions in particular become excessive. By contrast political economies of scale can be exploited to maximum advantage. Collective institutions which have failed (see Appendix 4) have done so for reasons of adverse selection (as when the costs of incorporating illegal husking mills have destroyed such associations) or reasons of opportunistic behaviour and covariate risk (which destroyed the traders' credit association).

We observed a variety of institutions of collective action in our field area. Given institutions also perform a variety of roles. These roles also change. (A group starting out to protect against theft can evolve into one protecting against entry.) The groups themselves are not all lawful. Neither are their norms always those allowed in law. But, in the absence of strong enforceable state regulation, these groups are necessary to the development of markets. Simultaneously, they restrict entry to markets and may facilitate collusive behaviour. The state has to reckon with the existence of such groups when implementing reform to regulatory policy. Ironically it is only the unlicensed and illegal components of these markets which are obviously unable to organise (paddy/rice processors; illegal labour contractors, unlicensed husking millers etc). "We are always in fear and cannot group".

11.4 Problems for Policy

A matrix of claims can be developed from the histories of contact with the state to which we listened. This matrix clearly demonstrates conflicts of interest within the commodity systems.

- Potato cold store owners are operating under conditions of structural overcapacity, facing local stagnation of demand together with increases in supply from other regions of India. Their felt needs were for mechanisms to increase demand (state financed R and D to develop alternative uses for potato; rural distribution networks; the liberalisation of the international export trade in potato , presently controlled by the co-operatives).
- The co-operative cold store needed to operate to the same rules and regulations as do private cold stores.
- Potato wholesalers complained about inadequacies of contract enforcement, and those excluded from the price fixing ring complained about it.
- Rice millers resented the illegal competition from unlicensed trade and the squeeze on prices and profits that results from it. They complained about the supply of electricity. " Earlier the vigilance squads limited our use of electricity. Now because of load shedding, vigilance officers dare not show their faces here". Lastly these big traders faced challenges from labour unions (claims for wage rises, threats of withdrawal of labour). And in Katwa the physical infrastructure was complained about as restricting information.
- The problems of oil millers spared hardly any aspect of operation. They included solutions to inadequacies of contract enforcement (adulteration) physical security (theft), and imperfections in other related markets : those for spare parts, electricity, labour, and credit.
- Components of the commodity systems operating at smaller scales have overlapping and different interests in policy reform. Husking millers were hampered by licencing policy and consequent harassment, and by two aspects of electricity supply: cuts and voltage fluctuations both of which affected machinery. Small paddy, paddy-rice and rice traders want reform i) to licencing; ii) congested and insanitary market sites ("Look at the rats here!"), and iii) to credit policy the latter (whether by intention or neglect) restricts access to formal credit, forces borrowers onto private money 'markets', and, as a result of higher interest charges, keeps many small intermediaries in a trap of petty production, unable to employ wage labour (" The strain on my wife and children is very bad") and unable to reduce the seasonality of their operations by

means of storage (" I cannot trade in the rainy season when it is impossible to travel").

By way of conclusion it is instructive to watch for policy related aspects of marketing which are not problematical. Potato cold store owners did not complain about electricity, having their own generators, nor about labour, having their own gangs on contract. Larger rice millers did not complain about default on payments and contract enforcement (having their own forces of intimidation) nor were many exercised about competition from the petty subsystem (because of the continual increase in production). Small traders did not complain about competition even though the structural conditions for competition are intensifying continually in this subsystem. There seem to be two types of reason for this lack of threat. Some have implemented effective (coercive) mechanisms of protection and restriction. Others conceptualised marketing as a mechanism of sharing seasonal livelihoods among the poor.

12 CONCLUSIONS

Our general empirical analysis of the institutions of markets (question one) and the way in which power operates within them (question two) can now be interrogated for explanations for the particularities of price behaviour (section 8.8).

12.1 Institutions and Power

Commodity systems for potato, oilseed and rice in West Bengal have certain features in common. They are complex systems. They have polarised structures with high degrees of capitalisation, assets specificity and entry barriers at their apexes. They are marked by diversity in their ownership forms, financial relations and in the organisation of socially relatively inflexible labour. Firms comprising these commodity systems tend towards uniqueness in terms of their activity combinations. As a result they cannot easily be compared.

A number of factors elsewhere thought important for the explanation of imperfect integration have been found to be unimportant here. The youth of the commercialised commodity system has been argued to be likely to lead to distortions owing to underdeveloped systems of contacts and information. Both potatoes and mustard oil are relatively recently commercialised on a grand scale. These newly commercialised crops show more market integration than does rice. Similarly, variations in physical infrastructure and in information costs, by themselves cannot explain lack of integration because Katwa's potato market does not show the short and long term perturbations so apparent in its rice and oilseed prices. Attempts to account for the idiosyncracies of price behaviour will therefore have to be specific.

With respect to the co-integration of the potato market during the transformation of patterns of commodity flow and of seasonal price fluctuations when poor integration was expected, for a start the wholesale prices collected by the Directorate of Marketing are revealed not to be first prices. Instead they are prices formed somewhere up the commodity system at a point where ownership and economic power is at its most concentrated. Potatoes are controlled here by fewer and by larger intermediaries than at any other point in the system. At this point, prices are also formed under conditions of collusive oligopoly by the powerful Memari syndicate which controls a network of local information intermediaries and has privileged access to the media and telecommunications. The control exerted by the oligopoly over the highly concentrated regional trade would appear to be the most likely institutional factor accounting for the observed high levels of long term price integration.

The low levels of integration of the paddy-rice price system can be taken for discussion along with this system's tendency to relatively sluggish adjustments to base price perturbations. Rice has a highly complex system of distribution, but one marked by a bifurcation into two subsystems patterned distinctively in terms of entry barriers, assets, technology (of storage, processing and transport), activity combinations, spatial flows, price formation, access to information and finance and last, but not least, contractual forms. Information in one branch of the system is opaque to the other. Paddy prices used for our study are taken at mill gates. Rice prices in peripheral marketplaces are taken from crowded, small scale wholesale markets supplying local settlements and not fed by the output of rice mills.

Specific forms of state intervention have also reduced integration. Over the period 1988-1990, the rigour with which compulsory procurement and movement restrictions have been implemented has diminished. This de facto liberalisation has been accompanied by intense, technically illegal competition from the subsystem of small scale and petty trade in the process of which the viability of rice mills has been challenged. Rice mills are no longer able to force the hoisting of "market" prices by amounts at least compensating millers for the real losses incurred by forced sales of rice at relatively low administered prices. A necessary accommodation with state trading institutions has involved the replacement of proportional procurements by fixed quotas. The latter force rice mills to maximise paddy purchases from producers at post harvest price lows (or lower) via tied contracts between preharvest credit and post harvest paddy, and to speculate by long term intra and interseasonal storage, a practice which certainly can exaggerate local price perturbations.

Next; the problem of the lack of co-integration of rice and oilseeds markets of Katwa with assumed price bases in Burdwan. Katwa's remoteness, its costlier and lagged supply of information, its bad physical infrastructure and worse telecommunications, its formidable caste barriers to entry and caste control over trading finance and storage cannot explain why one market (potato) behaves obediently in contradistinction to those of the other two crops. We have provided some institutional reasons for the high integration of potato prices. The behaviour of the other two crops needs separate explanation.

Commodity flow analysis has revealed that Katwa's oil market supplies a spatially distinct final destination from the Calcutta-centred system into which Burdwan and Memari are fitted. The spatial compartmentalisation of the oilseeds market may explain its price behaviour.

Yet Katwa's rice market, even more dislocated in price does not supply different final destinations from Memari's. We saw that the paddy and rice prices are taken from different subsystems in which price formation is different and we would argue that Katwa's relative remoteness, poor infrastructure and the conditions of contractual insecurity and physical and economic harassment under which petty trade operates mean that price formation in the small scale subsystem is not related to that in the large scale subsystem in the way it is in accessible locations such as Burdwan and Memari.

The systemic tendency towards long term integration is consistent with comparatively well diffused information and comparatively well developed transport infrastructure and communications. Despite state regulation, the barriers to entry into petty trading are not high enough to prevent a proliferation of intermediaries at the base of the structure. Reports of the delinking of previously attached trading agents, of (albeit limited) competition to mercantile credit from nationalised banks (UCO Bank, 1990), of processes of rapidly expanding long distance flows, of slow decline in patterned contracts and of the replacement of certain verbal contracts with written documents, all point unambiguously to a gradual freeing of conditions of exchange. And in the absence of effective state regulation, private institutions of collective action are beginning somewhat haphazardly to regulate these agricultural markets.

Such development notwithstanding, in the short term, all the crop markets are inefficient. It is possible that part of the reason for this can be attributed to factors which have had to be considered to be exogenous but which could, under circumstances of better data availability, be endogenised. The influence of by-product prices is an obvious candidate.

Structural attributes consistent with pricing inefficiency include the high polarisation of assets, particularly of control over storage, high entry barriers (economic, social and informational) into what are as a result the power points of the commodity systems. These structural characteristics make for micro monopoly conditions. Similarly, the institutions of collective action which have emerged privately to regulate transactions, are both necessary to the development of markets yet also restrict entry and facilitate collusive activity. Equilibrating trade flows are hampered not only by physical barriers (large rivers, variations in rail gauges) but also economic and state-imposed ones (the co-existence of multiple markets for road transport, the effects of transport rates created by the distributional requirements of other commodities in other places, spatial prohibitions by the state of certain transport technologies). Furthermore at any one point in time a multiplicity of exchange relations co-exist throughout the system. There is evidence of extensive forward trading; of patterned repeated transactions between small subsets of intermediaries; of interlocked contracts where the apparent conditions of transactions for the dependent party are monopolistic; of "power premia" enforced when one party transacts under conditions of constrained choice, exacerbated by debt. Even the most voluntaristic transactions are made after a closed negotiation. Lastly the remarkable complexity in the activity combinations of the firms surveyed means that some market prices are actually bypassed as internal prices in certain, vertically-integrated firms. Although the weighting of these various types of contract will vary seasonally, one thing is clear. Spot contracts - the stuff of official price data - are not very common forms of transaction.

This framework for the empirical analysis of markets has generated evidence which we conclude to be useful in accounting not only for generalised phenomena (such as the co-existence of long term integration with short term inefficiency) but also for highly particular features for three economic markets each of whose price systems have been shown to behave in quite distinctive ways. Access to transport and to price information (the most commonly stressed exogenous factors in theories of price behaviour of abstract markets) are far from being the only or the most important influences on actual price behaviour. Other types of information - notably about the nature of the trading contact; other types of infrastructural barrier - physical or administrative enter our explanation. It has also been necessary to consider other aspects of real markets. In this particular case : the structure of the commodity systems, the nature of contracts, forms of state, and non-state, private, regulation.

It is the latter which has the most important implications for our conclusions about dynamic (question 3) and regulation (question 4).

12.2 Dynamics and regulation

State, market and society have been revealed as messy categories. Yet they are currently better ones to work with analytically than any others. It has proved impossible to disentangle the effects on markets of tenurial reform, technical change and expansions in formal credit. They are all associated with production expansion in each of the three crops considered. Just as these reforms to agricultural production have been concluded to have succeeded in consolidating forms of petty production and to have arrested historical trends towards polarisation (Webster, 1989) so our work confirms that the expansion of intensive' small scale trading subsystem.

Section 11 of our study has presented evidence to show that the state not only fails comprehensively to regulate agricultural markets. More seriously for a political programme stressing livelihood creation for its mass base, the state has set up considerable blocks to accumulation in petty trade. The mechanisms of such blocking include

- rationing licences to petty traders. This practice has two important effects. It feeds petty traders to the state's coercive wing. It labels petty traders as ineligible for formal credit and therefore feeds them to private money 'markets'.
- the continual protection of mercantile magnates, through legal arrangements (though these are increasingly contested); and through subsidised credit both for investments and for working capital. With respect to investment finance, while we encountered only three formal sector loans averaging Rs 3,000, got on false pretences, but used for investment in the petty subsystem, the eight largest firms studied declared investment borrowing from the West Bengal Finance Corporation and from Nationalised and Co-operative Banks of on average Rs 88.9 lakhs per firm. The average borrowing is equal to 2,500 IRDP loans. The eight magnates have borrowed a total equal to the loan entitlement of 20,000 households below the poverty line. The locations of these financial transactions takes place outside the local political arena and is not visible there.

In essence our work supports the conclusion that the LFG is relying increasingly on an army of relatively petty traders, emerging from its voting stronghold, locked into relations of trading and finance and state and non-state regulation which take forms which are certainly costly to petty trade and arguably costing to society as a whole. It is this petty sector which controls the distribution of staple food to those sectors of the

populations of its provincial towns and cities and their rural environs who cannot rely on forms of rationing. Accumulation in this sector is constrained.

The LFG whose rhetorical stance is to eradicate middlemen is actually presiding over a multiplication of middlemen without precedence in the entire history of Bengal. Any future reforms to marketing in West Bengal will have to deal with institutions of civil society through which markets are coming to be regulated. Such institutions have not been observed to play such important economic roles elsewhere in India. They have compensated for defective state regulation. By contrast, the 'eradication of the middleman', which is a live issue at the level of political discourse in Burdwan would involve the eradication of the local 'monopoly trading houses' - an emerging rural industrial bourgeoisie, a bourgeoisie unafraid of battering onto residual semi feudal forms of exchange, one which is diversely endowed and which has material interests cutting through the rural and urban economy.

This raises serious questions of intentionality with respect to policy on marketing. Is this policy clever - the regulation of the new 'merchants' capital' by suffocation? Is it at best a regulation of markets which are widely talked about by politicians, administrators, journalists and banker as 'unproductive' by the diversion of formal credit to sectors such as agriculture and industry which are 'productive' in classic Marxist terms? Or is it stupid - antisocial because i) anti livelihoods for a crucial political constituency and ii) relying on an interpretation of merchants' capital which ignores Marx's own observations on the necessity of "tendrils of productive activity in the sphere of circulation", productive activity such as quality maintaining storage, transport and processing which we have seen to be intimately meshed with trade in this petty sector? Is it deliberate - to let markets develop by neglect, often preemptively moulded around defectively implemented state regulation? Or is it by default - and out of ignorance, where research problematising the development of petty trade has not reached the LFG, or has been prioritised low on the political agenda?

The simultaneous economic empowerment of commercial magnates, whose trading is also defectively regulated by the state is entirely consistent with the incoherent implemented interventions which comprise policy on agricultural markets fractions of which may threaten the magnates. The political programme of the LFG has been preoccupied with property in historical conditions of great inequality in the property distribution. It has been preoccupied with poverty in production. This has led to a high position on the reformist agenda for tenurial reforms and land rights. Yet Kohli's examination of the mechanism whereby the LFG "acts autonomously" and against the interests of the propertied classes actually suffers for two reasons. First Kohli

sectoralises 'poverty', wrenches poverty from the relations which cause and perpetuate it and classifies a priori the subset of interventions used to explain changes in poverty. He is in good academic company in doing this. Second the subset of economic interventions examined by him to provide explanations for the success of antipoverty policy is mainly concerned with landed property, with unexamined assumptions about the nature of the property relations being challenged.

In practice the rural classes identified by Kohli as 'losers' (rentier landlords) were probably losing interest in rural landed property anyway by virtue of long having diversified out of agriculture. Their non land wealth (as can be seen in the investment diagrams for potato cold storage and rice milling (section 10 here)) is massive compared with the land component of their mercantile-financial-industrial portfolios.

Moreover, a focus on production has led the LFG to neglect property relations in exchange and circulation - in practice if not in rhetorical intention. This has permitted the perpetuation and strengthening of an accommodation between the state and the commercial power elite developed under previous regimes. Further, while merchants' capital is a useful analytical concept, Marx cannot be blamed for failing to anticipate or theorise the development of composite forms of merchants' capital. The actually existing counterpart to 'the market' and to 'merchants capital' - commercial capital - is not an autonomous, independent force floating above society, but is deeply embedded in production relations, and in relations of accommodation with power points of the state. The impact of the accommodation described here is mainly experienced in the setting of constraints on challenge. This has repercussions on a mass of small peasant/petty traders who may yet provide this theoretically and politically uncomfortable challenge.

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APPENDIX I

QUESTIONS FOR FIELDWORK AUGUST-SEPTEMBER 1990

Burdwan Dt. West Bengal

1 Land Reform , Technical Change, Anti Poverty Policy and their Effects on Markets

1.1. History

Family occupational history

Caste

Native Place

Date of start of firm

Reasons

Skill Aquisition / mobilisation of labour / finding of contacts/ licence / premises etc

Starting Capital fixed, working

Location of SC

Sectoral Origin of SC

Organisation of ownership of firm

Changes

Reasons

Organisation of family

Size and composition

Changes/ Reasons

Organisation of family land

Size: wet/dry

Changes/ Reasons

Organisation of family non land businesses

Changes / Reasons

- 1.2 The Town and Region
At date of start : the types/ numbers/ size structures / and functions of firms and the flows of sampled commodity through the area
- 1.3 The firm
History of growth of firm:
commodities / geography of flows /transport / sites of transactions/ clientele -sellers and buyers / labour / finance / technical change
(diversification / levelling / concentration)
Now: origins/ destinations/ intermediaries / transport / byproducts
- Size now:
Assets / gross output (profiles per day , per season / storage
- Role of family and gender :
female and male family labour in firm
kinship - inheritance
- relatives and occupations
- 1.4. Land reform in the region - tenurial changes and impact on market
own land and impact
crops marketed/ marketed surplus / nos of intermediaries / dependence on other traders (information / transport / credit / storage/ processing/ other) /
credit relations
rents
physical infrastructure
locations of markets
Changes over time / historically / seasonally / geographically / at times of crisis
(concentration? if not why not?)
Other changes in the area
2. 'How marketing is organised': Diversity and Regulation : Rules of the Game
- 2.1 Functions / local labels and meanings in sampled commodity
buy/sell/ broker/ store/ transport/ process/ finance trade/ finance production/ other
reasons

flexibility

2.2 Types of Contract/ Transactions

proportion of sales/purchases lg farmer/small farmer/llp

Spot/ attached / closed negotiation price dispersions

forward (describe) wts/measures

other payt systems

linked contracts places/seasons

velocities of storage
(max/min/qty/time)

kin/caste/ other mediated and rigid trade

2.3 Uncertainty

Losses and crises

Means of enforcement of contract

Disputes and Means of Resolution - costs

Crime, theft, adulteration, differences in weights and measures

Travel

Salaries of enforcement staff and costs (%)

2.4 Information

Media

Prices and quantities

Places

Institutions/ intermediaries

changes over time of information base

costs (bulletin/ post and stat/ telegrams/telephone/ clerks/contacts/other)

clients (question about a new client) costs

other intermediaries (setting up contacts) costs

clerks and employees

- 2.5 (Government) Regulation
how are the following organised?:
licencing
price information
place for transactions
storage (location / quantities/ time)
contracts
technical change
payments on transactions
finance
fee (for market/ for transaction)
security
hygiene
transport
subordinate labour

3 Control over Production, Economic Mobility and Portfolio Development : The Relation between Agriculture , Trade and Business

Turnover / gross output by profile
Assets

- 3.1 Development and the Merchants' Porfolio/ pattern of investment over the history of the firm
locations
types/sectors (reasons / organisation)
savings (stocks/shares/ human capital/ education dowry etc)

- 3.2 Mobility
Land in last generation and now
Businesses in last generation and now

Own landholding, mode of operation and decision making
Mode of operation and decision making on land of clients/ advice

- 3.3 Credit
Finance- In (max/ min/ sources/ terms and conditions/ seasons and places)

Finance - Out (max totally/ min totally/ max to individual/ min to individual/ variety of terms and conditions (traders/ agents/lg fmr and sm fmr archetypes) no of lg fmr/ no of sm fmr/ means of repayment/ interest rates/ losses/ default and outstanding/ terms and conditions)

Ties with marketing and the ensuring of supplies of commodities and credit

3.4 Labour in firm

permanent

casual m max/min/rates/jobs/ dispersion of contracts/ type of pay/ bonding/ perks

f ditto

c ditto

4 New Crops and Marketing Problems

Last 10 years

changes in cropping patterns

Needs of crops for marketing

technical problems / decentralisation/ processing, transport , perishability

information (price/ place/intermediaries/ orgn of subordinate markets/ spatial flows)

technology

finance

exchange relations (entry and structures, dependence and flexibility of transactions)

dependence of intermediaries upon each other

5 Policy

5.1 Lobbies

associations/ dates of start

history (TUs/labour/ state controls/ autoregulation/ crime etc)

other associations

5.2 Politics

parties (finance/election funding/ affiliation and action through parties/ policies towards trade)

Other Activity (Temple/ Lions/ Red Cross/ Rotary/ Panchayat/ Co-operative/ School and hospital governing board etc)

- 5.3 Contact with State
price and procurement (state trading/ FFW etc)
storage
processing
co-operation
licencing
commercial taxation
finance of trade
finance of production
small scale industry IRDP etc

5.4 Biggest problems with marketing and solutions

- Net profit (rough estimate)
per unit (specify unit and minimum / maximum)
per year : under Rs 5,000
5-10,000
10-20,000
20-50,000
over 50,000

APPENDIX 2: PRICE DATA

West Bengal's agricultural prices data are rarely put to analytical use. Detailed, local level data have been unavailable in Calcutta and have to be obtained in situ. The data used here consist of daily spot prices copied for weekly intervals from the Regulated Markets price registers in Katwa Regulated Market Office and Memari Panchayat Office and from the Directorate of Agricultural Marketing in Burdwan for the period November 1988 to August 1990.

Price data are divulged by "reliable informants" on a regular basis to minimise measurement error. The very few omitted data were interpolated from neighbouring observations. Data for three staple agricultural commodities were copied - rice, potato and edible oil. Rice and oil are far from homogeneous commodities so selectivity was necessary.

The rice price pertains to two varieties : Kalma, a fine variety and a coarse or "common" high yielding variety. The data have three forms, wholesale paddy, wholesale and retail rice. The transformation of paddy to rice in the cases of both varieties involves parboiling - soaking and steaming the grain in its husk - prior to sundrying, double milling and polishing the kernel.

Potato prices are for their wholesale and retail forms. From January until May wholesale potatoes are fresh from the first harvest, but from June until November, these prices refer to potatoes liberated from preservation in cold storage, a process involving grading and bagging, controlled refrigeration at 36 degrees fahrenheit and controlled reclamation afterwards.

Oil prices are for mustard oil and for the mustard seed from which it is derived in a process of grinding, expulsion and filtration.

By product prices (for rice bran and brokens, potato cut pieces and mustard oil cake) are not available at all, or not consistently enough to be used here. Prices for by- products reflect at the very least the substitution relationships with other commodities with varying supply patterns. By-product prices substantially affect the profitability of agroprocessing and of trading in the main product, but their impact on main product price perturbations is unfortunately outside the scope of the present study.

APPENDIX 3

CO-INTEGRATION TEST ERROR CORRECTION MODELS

WEEKLY PRICE DATA OCTOBER 1988 TO AUGUST 1990

SOURCE: PALASKAS AND HARRISS (FORTHCOMING) SEE REFERENCES

Table 1

**Integration Tests for the Long Run:
Untransformed Data**

Series	Unit Root Tests		No. of Lags in ADF		Serial Correlation Test	
	CRDW	ADF	L	F	[m,k]	
LPKFB	0.253	2.364	6	0.48	7,153	
LPKFK	0.191	1.831	6	0.78	7,153	
LPKFM	0.122	1.862	6	0.19	7,153	
LRWKFB	0.244	2.304	5	0.43	7,155	
LRWKFK	0.136	2.051	6	0.67	7,153	
LRWKFM	0.144	2.791	6	0.43	7,153	
LRRKFB	0.254	2.253	5	0.39	7,155	
LRRKFK	0.130	2.155	5	0.28	7,155	
LRRKFM	0.149	2.679	5	0.38	7,155	
LPHCB	0.180	2.699	1	0.48	7,162	
LPHCK	0.149	2.461	1	0.53	7,162	
LRWHCB	0.214	2.374	2	0.38	7,160	
LRWHCK	0.172	2.581	2	0.49	7,160	
LPWB	0.118	2.617	6	1.67	7,153	
LPWK	0.070	2.301	3	1.66	7,159	
LPWM	0.062	2.233	3	2.00	7,159	
LPRB	0.145	2.367	4	0.92	7,157	
LPRK	0.081	2.469	ix 5	1.57	7,155	

LMSWB	0.227	2.513	7	1.20	7,151
LMSWK	0.052	2.355	6	0.48	7,153
LMOWB	0.038	1.889	4	0.13	7,157
LMOWK	0.058	1.265	4	0.73	7,157

Table 2

***Integration Tests for the Long Run:
Transformed Data in First Difference***

Series	Unit Root Tests		No. of Lags in ADF		Serial Correlation Test	
	CRDW	ADF	L	F	[m,k]	
LPKFB	2.483	6.803	5	0.50	7,154	
LPKFK	2.258	7.204	5	0.99	7,154	
LPKFM	2.065	5.737	5	0.13	7,154	
LRWKFB	2.197	5.196	5	0.39	7,154	
LRWKFK	1.939	6.686	5	0.70	7,154	
LRWKFM	1.791	5.894	5	0.34	7,154	
LRRKFB	2.282	6.169	5	0.60	7,154	
LRRKFK	1.848	6.375	5	0.73	7,154	
LRRKFM	1.867	5.826	5	0.40	7,154	
LPHCB	1.924	6.043	5	0.80	7,154	
LPHCK	2.126	8.380	2	1.26	7,160	
LRWHCB	2.243	7.669	3	0.51	7,158	
LRWHCK	2.063	5.907	6	1.54	7,152	
LPWB	2.182	3.745	6	0.86	7,152	
LPWK	1.728	3.587	6	0.96	7,152	
LPWM	1.532	4.072	5	0.45	7,154	
LPRB	2.359	4.038	6	0.09	7,152	

LPRK	1.879	5.221	4	1.03	7,156
LMSWB	2.489	6.164	7	0.54	7,151
LMSWK	1.595	5.512	6	0.60	7,152
LMOWB	2.175	4.355	6	0.38	7,152
LMOWK	2.014	5.028	4	1.18	7,156

Table 3

Cointegrated Regressions (a)

Sample Period 1.10.87 - 28.8.90

A RICE

1) LPKFK	=	0.524 + 0.899 LPKFB	D.W. = 0.70	R ⁽²⁾ = 0.62
2) LPKFM	=	1.621 + 0.704 LPKFB	D.W. = 0.59	R ⁽²⁾ = 0.58
3) LPKFK	=	1.082 + 0.716 LRWKFB	D.W. = 0.64	R ⁽²⁾ = 0.50
4) LPKFM	=	1.870 + 0.591 LRWKFB	D.W. = 0.49	R ⁽²⁾ = 0.52
5) LPKFK	=	1.801 + 0.714 LRRKFB	D.W. = 0.67	R ⁽²⁾ = 0.51
6) LPKFM	=	1.770 + 0.606 LRRKFB	D.W. = 0.50	R ⁽²⁾ = 0.56
7) LRWKFK	=	1.677 + 0.714 LRWKFB	D.W. = 0.61	R ⁽²⁾ = 0.55
8) LRWKFM	=	1.875 + 0.689 LRWKFB	D.W. = 0.41	R ⁽²⁾ = 0.41
9) LRWKFK	=	1.717 + 0.705 LRRKFB	D.W. = 0.62	R ⁽²⁾ = 0.55
10) LRWKFM	=	1.880 + 0.685 LRRKFB	D.W. = 0.46	R ⁽²⁾ = 0.41
11) LRRKFK	=	1.776 + 0.699 LRRKFB	D.W. = 0.60	R ⁽²⁾ = 0.57
12) LRRKFM	=	1.578 + 0.743 LRRKFB	D.W. = 0.50	R ⁽²⁾ = 0.45
13) LPHCK	=	2.137 + 0.600 LPHCB	D.W. = 0.32	R ⁽²⁾ = 0.34
14) LPHCK	=	0.764 + 0.777 LRWHCB	D.W. = 0.31	R ⁽²⁾ = 0.32
15) LRWHCK	=	2.697 + 0.527 LRWHCB	D.W. = 0.26	R ⁽²⁾ = 0.18

B POTATOES

1) LPWK	=	0.026 + 0.989 LPWB	D.W. = 0.70	R ⁽²⁾ = 0.86
2) LPWB	=	0.849 + 0.838 LPWM	D.W. = 0.73	R ⁽²⁾ = 0.86
3) LPWK	=	0.338 + 0.935 KOWM	D.W. = 0.91	R ⁽²⁾ = 0.93
4) LPRB	=	1.702 + 0.705 LPWM	D.W. = 0.63	R ⁽²⁾ = 0.78

5) LPRK	$0.496 + 0.922 LPWM$	D.W. = 0.36.	$R^{(2)} = 0.77$
6) LPRB	$= 1.770 + 0.676 LPRK$	D.W. = 0.69	$R^{(2)} = 0.79$

C MUSTARD

1) LMSWK	$= 1.049 + 0.836 LMSWB$	D.W. = 0.41	$R^{(2)} = 0.66$
2) LMSWB	$= 0.365 + 0.919 LMOWB$	D.W. = 0.55	$R^{(2)} = 0.76$
3) LMSWK	$= 0.486 + 0.928 LMOWB$	D.W. = 0.29	$R^{(2)} = 0.75$
4) LMOWK	$= 2.750 + 0.638 LMOWB$	D.W. = 0.36	$R^{(2)} = 0.77$

- (a) The rejection region for the null of I(1) residuals is $[DWE|DW > C]$ with $c = 0.511, 0.386$ or 0.322 at a significance level of 1%, 5% or 10% respectively (Engle and Granger, 1987).

Table 4

Augmented Dickey-Fuller Tests for Unit Root in Residuals (U.) from Cointegrated Regression

Studentized coefficients for ϕ_1 in the regression:

$$\Delta U_t = -\phi_1 U_{t-1} + \sum_{k=1}^n \phi_{k+1} \Delta U_{t-k} + V_t^{(a)}$$

A RICE

1) -4.165 LM[7,157] = 0.79	2) -3.528 LM[7,159] = 0.38	3) -3.022 LM[7,157] = 0.88
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4) -3.236 L[7,161] = 1.21	5) -3.510 LM[7m159] = 0.59	6) -3.432 LM[7,161] = 170
------------------------------	-------------------------------	------------------------------

7) -3.839 LM[7,159] = 0.71	8) -4.093 LM[7,159] = 0.45	9) -3.972 LM[7,157] = 0.41
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10) -4.185 LM[7,157] = 0.20	11) -3.928 LM[7,157] = 0.35	12) -4.169 LM[7,157] = 0.17
--------------------------------	--------------------------------	--------------------------------

13) -2.756 lm[7,159] = 0.59	14) -2.696 LM[7,159] = 0.68	15) -2.866 LM[7,159] = 1.08
--------------------------------	--------------------------------	--------------------------------

B POTATOES

1) -3.031 LM[7,161] = 0.35	2) -3.258 LM [7,159] = 1.00	3) -6.090 LM[7,163] = 0.84
-------------------------------	--------------------------------	-------------------------------

4) -3.492 LM[7,161] = 1.72	5) -3.064 LM[7,159] = 0.19	6) -3.844 LM[7,159] = 0.81
-------------------------------	-------------------------------	-------------------------------

C MUSTARD

1) -4.384 LM[7,161] = 2.60	2) -3.478 LM[7,151] = 1.32	3) -3.101 LM[7,151] = 1.15
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4) 3.132
LM[7,163] = 1.56

-
- (a) The null hypothesis is that the series in question is I (1). The regression region is $\{t\epsilon/t < \phi_1\}$ with: $c = -3.77, -3.17$ and -2.91 for significance levels of 1%, 5% or 10% respectively (Engle and Granger, 1987). LM is a Lagrange multiplier test statistic for up to third-order serial correlation (Breusch and Pagan, 1980).

Table 5. (a)

Specification tests for the estimated error correction model (ECM):

i) LM test for autocorrelated residuals

ii) LM test for autocorrelated squared residuals [ARCH] and

iii) test of parameter constancy

A RICE

1) i) 1.28[7,157] ii) 0.92[7,150] iii) 0.36[25,139]	2) i) 1.46[7,157] ii) 0.89[7,150] iii) 0.70[25,139]	3) i) 1.37[7,157] ii) 1.10[7,150] iii) 0.27[25,139]
4) i) 0.95[7,157] ii) 0.66[7,150] iii) 0.55[25,139]	5) i) 1.12[7,157] ii) 1.30[7,150] iii) 0.27[25,139]	6) i) 0.91[7,157] ii) 0.65[7,150] iii) 0.58[25,139]
7) i) 1.05[7,156] ii) 0.62[7,149] iii) 0.73[25,138]	8) i) 1.31[7,157] ii) 0.38[7,150] iii) 0.24[25,139]	9) i) 0.95[7,156] ii) 0.55[7,149] iii) 0.34[25,138]
10) i) 1.46[7,157] ii) 0.36[7,1500] iii) 0.25[25,139]	11) i) 1.74[7,156] ii) 0.69[7,149] iii) 0.57[25,138]	12) i) 0.89[7,157] ii) 0.03[7,150] iii) 0.63[25,139]
13) i) 0.53[7,156] ii) 1.11[7,149] iii) 0.61[25,138]	14) i) 0.35[7,156] ii) 0.96[7,149] iii) 0.61[25,138]	15) i) 0.67[7,156] ii) 0.46[7,149] iii) 0.53[25,138]

B. POTATOES

1) i) 0.39[7,156] ii) 2.02[7,149] iii) 0.30[25,138]	2) i) 1.17[7,156] ii) 2.48[7,149] iii) 0.30[25,138]	3) i) 1.89[7,156] ii) 1.96[7,149] iii) 0.35[25,138]
4) i) 1.56[7,155] ii) 1.41[7,148] iii) 0.25[25,137]	5) i) 2.01[7,156] ii) 2.02[7,149] iii) 0.05[25,138]	6) i) 1.82[7,156] ii) 1.13[7,149] iii) 0.38[25,138]

C MUSTARD

1) i) 0.35[7,158] ii) 2.12[7,151] iii) 0.77[25,138]	2) i) 0.69[7,158] ii) 0.35[7,151] iii) 0.25[25,140]	3) i) 0.74[7,158] ii) 1.68[7,151] iii) 0.56[25,138]
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- 4) i) 1.41[7,158]
ii) 0.52[7,151]
iii) 0.38[25,139]

(a) LM is a Lagrange multiplier test statistic up to seventh-order serial correlation (Breusch and Pagan, 1980). ARCH is a test statistic for seventh-order autoregressive conditional heteroscedasticity (Engle, 1982). Test of parameter constancy is the Chow test. The LM, ARCH and Chow test are central under the appropriate null.

Table 6 *Testing for Full Market Integration*
I: $\beta = 1$ and lags = 0 II: $-\alpha = \beta = 1$ and lags = 0

A Rice

1	i)	25.27**	2	i)	62.07**	3	i)	51.85**
	ii)	56.82**		ii)	93.77**		ii)	88.03**
4	i)	100.88**	5	i)	59.90**	6	i)	99.43**
	ii)	143.29**		ii)	90.49**		ii)	136.24**
7	i)	81.69**	8	i)	62.67**	9	i)	88.60**
	ii)	127.52**		ii)	146.43**		ii)	132.32**
10	i)	65.90**	11	i)	89.02**	12	i)	50.88**
	ii)	150.08**		ii)	134.09**		ii)	123.97**
13	i)	47.88**	14	i)	26.84**	15	i)	36.60**
	ii)	145.46		ii)	129.23**		ii)	156.50**

B Potatoes

1	i)	31.92**	2	i)	12.84**	3	i)	22.01**
	ii)	64.95**		ii)	60.44**		ii)	40.89**
4	i)	36.44**	5	i)	18.23**	6	i)	23.21**
	ii)	39.44**		ii)	103.87**		ii)	44.80**

C Mustard

1	i)	111.07**	2	i)	40.27**	3	i)	34.31**
	ii)	346.10**		ii)	177.92**		ii)	211.72
4	i)	83.13**						
	ii)	193.22**						

The ** indicates rejection at the 1 per cent level of the hypothesis

i) $\beta = 1$ and the lags = 0, and

ii) $-\alpha = \beta = 1$ and the lags = 0

Table 1

Testing for immediate short-run impact of the current changes in the prices of the reference, central market $[\Delta P_j]_e$, on the current changes in the prices of the peripheral markets $[\Delta P_i]_e$: ie $\alpha_1 \beta_1 \Delta P_{je} = 0$

A	Rice				
	$\Delta RWKFB$	$\Delta RRKFB$	$\Delta RRKFB$	$\Delta PHCB$	$\Delta PWHCB$
$\Delta PKFK$	19.088**	0.748	0.915		
F[1, h]	[1,164]:0.00	[1,164]:0.39	[1,164]:0.34		
$\Delta PKFM$	6.532**	4.112*	7.106*		
F[1, h]	[1,164]:0.01	[1,164]:0.07	[1,164]:0.08		
$\Delta RWKFK$		1.331	0.964		
F[1, h]		[1,163]:0.25	[1,163]:0.96		
$\Delta RWKFK$		0.162	0.871		
F[1, h]		[1,164]:0.69	[1,164]:0.35		
$\Delta RRKFK$			3.943*		
F[1, h]			[1,167]:0.04		
$\Delta RRKFK$			4.135*		
F[1, h]			[1,167]:0.04		
$\Delta PHCK$				0.062	1.218
F[1, h]				[1,163]:0.42	[1,163]:0.27
$\Delta RWHCK$					0.020
					[1,163]:0.89
B	Potatoes				
	ΔPWB	ΔPWM	ΔPRK		
ΔPWK	44.875**	78.393**			
F[1, h]	[1,162]:0.00	[1,163]:0.00			
ΔPWB		64.134**			

F[1, h]	[1,161]:0.00	
Δ PRB	25.565**	31.101**
F[1, h]	[1,162]:0.00	[1,163]:0.00
DPRK	11.938**	
F[1, h]	[1,162]:0.00	

C	Mustard	
	Δ MSWB	Δ MOWB
Δ MSWK	5.703*	14.886**
F[1, h]	[1,161]:0.03	[1,163]:0.00
Δ MSWB		3.977*
F[1, h]		[1,163]:0.04
Δ MOWK		4.539*
F[1, h]		[1,164]:0.03

The * and** rejects at the 5 per cent and 1 per cent level the hypothesis of no instantaneous (short-run) impact.

Table 8

Long-run Adjustment of the Commodity price P1 to the Error Term: $\beta[P_i - b_j]e_i$

A Rice

	[LPKFK-b LPKFB]	[LPKFM-b LPKFB]	[LPKFK-b LRWKFB]	[LPKFM-b LRWKFB]	[LPKFK-b LRRKFB]	[LPKFM-b LRRKFB]
Δ PKFK	0.192		0.137		0.138	
	12.153**		8.125**		8.275**	
Δ PKFM		0.107		0.090		0.102
		4.902*		4.44*		5.321*
	[LRWKFK -b LRWKFB]	[LRWKFM - b LRWKFB]	[LRWKFK - b LRRKFB]	[LRWKFM - b LRWKFB]	[LRRKFK-b LRRKFB]	[LRRKFM-b LRRKFB]
Δ RWKFK	0.174		0.717		-0.162	
	17.232**		16.947**		7.808**	
Δ RWKFM		0.092				
		5.653*				
Δ RRKFK				0.106		
				17.179**		
Δ RRKFM						0.126
						9.156**
	[LPHCK -b LPHCB]	[LPHCK -b LRWHCB]	[LRWHCK - b LRWHCB]			
Δ PHK	0.121	0.118				
	12.175**	10.898**				
Δ RWHCK			0.112			
			11.206**			

B Potatoes

	[LPWK -b LPWB]	[LPWB -b LPWM]	[LPWK-b LPWM]	[LPRB -b LPWM]	[LPRK-b LPWM]	[LPRB -b LPRK]
Δ PWK	0.102		0.391			

	6.967**		20.881**	
Δ PWB		0.216		
		16.567**		
Δ PRB			0.167	0.291
			10.085**	13.182**
Δ PRk				0.213
				23.423**

C Mustard

	[LMSWK -b LMSWB	[LMSWB -b LMOWB	[LMSWK - LMOWB	[LMOWK -b LMOWB]
Δ MSWK	0.082		0.093	
	9.904**		9.258**	
Δ MSWB		0.197		
		17.859**		
Δ MOWK				0.121
				6.239**

The ** and * indicates rejection at the 5 per cent and 1 per cent level at the hypothesis that $[P_i - b P_j]_{e-i} = 0$ [$F_{csc}(1,164)$]

APPENDIX 4: COLLECTIVE ACTION IN MARKETS

POTATO

1 Memari Potato Syndicate - 1988 - about 50 members

active officers 6

functions:

- i) price setting
- ii) contract adherence
- iii) dispute resolution

2 West Bengal Cold Stores Owners' Association - 275 members

functions:

- i) negotiate rents with government
- ii) collude over and negotiate trade policy
- iii) lobby MLAs and Ministers on reservations for categories of producers, on export policy

OIL

3 Katwa Oil Millers' Association - 35 members

functions:

- i) set minimum crushing rate
- ii) 'regulate' prices
- iii) lobby state for electricity power supply, better conditions for maintenance of machines, and against sales tax

4 Gulsi Oil Mills Association - 1984 - 20 members

functions:

- i) fix rates

5 Burdwan District Oil Millers' Association - 1972

functions:

- i) defence of oil price increases
- ii) fix wages of labour

RICE

6 Memari Rice Retailers' Association (Chal Bazaar Samiti) - 1973 - about 50 members - 5-6 officers

functions:

- i) restrict entry
- ii) fix commissions
- iii) calibrate weights and measures
- iv) rotate guarding
- v) resolve disputes
- vi) recompense for losses / accident / calamity among members via subscriptions
- vii) mutual credit
- viii) resistance to state regulation

7 Memari Husking Mill Association defunct

no longer able to fix rates

unable to bear costs of litigation and campaigning to protect unlicensed members

8 Katwa Husking Mill Association - 1986 defunct

same reasons as Memari above

9 Katwa Association of Rice Retail Traders - 1983 - 32 members (serving over 100 because of 'group membership' of licences)

functions:

- i) dispute resolution / curbing of antisocial behaviour
- ii) fix minimum commissions
- iii) fix rates for weighing and measuring
- iv) organise security on subscription
- v) mutual interest free credit
- vi) compensation on defaulted payments by subscription
- vii) management of relations with labour gang

- viii) accommodation of police
- ix) resistance to state regulation, sales taxes, licence fees
- x) lobby against storage rules

10 Gulsi Paddy Agents' Association - 1990 - 130 members

functions:

- i) dispute resolution
- ii) prevention of competition from unlicensed agents
- iii) resistance to regulation and fees from the state

11 Burdwan District Rice Mill Owners' Association - 1972 - 170 members - 6 active officers

functions:

- i) negotiations with organised labour about rates and working conditions
- ii) representations to government on quotas and transport rates
- iii) lobbying State Food Minister, District Food Controller, District Magistrate
- iv) relief and philanthropy
- v) 'fixing open market paddy price when necessary'

12 Burdwan District Husking Mill Association - 1982

functions:

- i) resistance to state on closure of unlicensed mills
- ii) collective protest and campaigning (e.g. collective default on electricity bills if charges rise)
- iii) defence of victims of arbitrary action by state through subscriptions of money for income and court expenses

13 Solvent Oil Extractors' Association - 1965-representing industrialists and government

functions:

- i) meets in Bombay to develop industry
- ii) regulation of international export of bran oil cake

NEIGHBOURHOOD

**14 Bazaar Street Committee (memari) - 1975 - 45 members -
2 active officials - variety of trades**

function:

- i) resolution of disputes and 'abuse by strangers'
- ii) security via monthly subscription to pay watchmen

**15 Bazaar Committee (Katwa) - 1976 - 250 members - 12 active
officials**

function:

- i) security organised by subscription

16 Vegetable Market Committee - 40 members

functions:

- i) constitutive group for Businessmen's Association (see below)
- ii) dispute resolution
- iii) security (by subscription)
- iv) resistance to ' spying by Municipality'

LOCALITY

17 Memari Chamber of Commerce

**18 Memari Credit Samiti defunct - membership of small paddy/rice
traders**

functions :

- i) collective supply of production credit to farmers
- ii) Failed because implicit tying of credit contract with grain supplies was not adhered
to by farmers

19 Gulsi Coolies' Association

functions:

- i) fix minimum rates and perks with traders

20 Katwa Truck Owners' Association - 100 members

functions:

- i) fix minimum rates

21 Katwa Rickshaw Pullers' Association

functions: fix minimum rates

22 Gulsi Traders' Committee - 1987 - 300 members

functions:

- i) dispute resolution
- ii) restrictions on entry
- iii) lobby state for credit

23 Katwa Town Businessmens' Association (Mahakumar Byabasayee Samiti) - 1983 - 500 members (representing 1,500 because of group membership on licences)

functions:

- i) intermediation with state
- ii) information diffusion about a wide range of commodity markets
- iii) organisation of protest (trade Bandhs)
- iv) religious - subscriptions for pujas

24 Katwa Marwari Association - about 50 members

functions:

- i) caste solidarity

25 Burdwan Agricultural Co-operative Society - offices dominated by large private merchants

functions :

- i) credit and marketing

STATE

26 Bengal Chamber of Commerce

27 Association of Small Scale Industrialists

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The Development Policy and Practice Research Group was set up in the Open University towards the end of 1984 to promote research on development issues. Its members have a wide range of disciplinary backgrounds (engineering, sociology, economics, education and geography). At present, research is focussed in three areas: food markets - particularly in sub-Saharan Africa and South Asia; the development of finance and banking; and links between small and large scale production.

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