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COMMERCIAL FINANCING OF SEASONAL INPUT USE BY SMALLHOLDERS IN LIBERALISED AGRICULTURAL MARKETING SYSTEMS

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This paper reviews recent experience in providing seasonal credit, arguing that economic liberalisation leaves many questions unanswered, especially given the reluctance of commercial banks to provide this service, and weak private trading sectors in many countries. However, examples can be found of how the private sector has provided seasonal credit adequately for some commercial crops, and may offer wider lessons.

Policy conclusions

- Purchased seasonal inputs are rarely affordable by small farmers on a "cash" basis, and have tended to be accompanied by programmes of seasonal credit.
- Prior to economic liberalisation programmes, parastatals often provided seasonal credit for input supply, albeit with varying degrees of efficiency. Privatisation has led to major gaps in the credit market.
- High delivery costs and substantial collateral requirements generally mean that the commercial banking sector has not stepped into this gap, whilst "group liability" approaches are limited by certain characteristics of seasonal credit (all have to borrow at the same time and all face the same patterns of risks).
- The interlocking of input and output transactions is a common way of raising repayment rates. But this needs to be combined with a degree of competition among traders to maintain attractive output prices for producers. The sharing of information on previous default plays a key role here, as does the building of working relationships based on trust.
- Traders' incentives to develop interlocked input and output transactions are provided by the desire to increase market share in the relevant input or output markets. Government policy can encourage such developments by encouraging investment in crop processing. Policy should also stimulate competition between traders, by fostering strong, liberalised financial sectors and reducing the cost of information, especially through investments in rural infrastructure.
- There remain two underlying requirements for the success of seasonal credit

programmes: that "improved" production should be commercially viable, and that opinion formers (especially politicians) should contribute to an ethos in which default - especially "strategic default" - is unacceptable.

Introduction

Despite adverse trends in the relative prices of seasonal inputs and harvested output for many crops since the onset of economic reform programmes, the use of purchased seasonal inputs (improved seeds, inorganic fertiliser, crop protection chemicals) remains profitable on smallholder cash crops in many parts of Sub-Saharan Africa (SSA). Moreover, given current population growth, rapid urbanisation and declining soil fertility, significant increases in use of purchased inputs by smallholders are required to complement initiatives for better soil and water conservation (Larson and Frisvold 1996). However, at the start of the season smallholders in much of SSA do not possess cash with which to purchase inputs. This problem is worst in areas of unimodal rainfall and is exacerbated by the lack of attractive savings mechanisms, increasing demands for cash for school fees and health care (as well as traditional uses for weddings and funerals) and, of course, the price increases for the inputs themselves in recent years. For many, therefore, seasonal credit is a precondition for purchased input use and for achieving a positive supply response to liberalisation (Mosley 1993).

Alternative approaches to providing credit for seasonal input use

Prior to marketing liberalisation, in sub-Saharan Africa much seasonal credit was provided in kind to smallholders through parastatal marketing boards or government-controlled cooperatives. Considerable political interference at management level, combined with a lack of competition, depressed the prices paid to producers, undermined the general quality of services and required increasing and clearly unsustainable levels of subsidy to many such organisations. These same factors meant that, in practice, loan repayment on seasonal credit disbursements was often poor. However, despite the general problems, organisations such as ADMARC in Malawi showed that their basic structure was conducive to impressive loan disbursement and repayment performance, as they were able to use their monopsony power in the crop output market to recover loans made to smallholders.

With the withdrawal of such organisations from direct service provision to smallholders since liberalisation and the reluctance of most commercially-oriented banks to engage in business involving smallholders, a search is on for new means of channelling seasonal inputs to smallholder producers on credit. However, in addition to the high administrative costs of providing small loans to dispersed producers, lending faces the problem in much of sub-Saharan Africa of "strategic default" amongst smallholder borrowers. This is the calculated decision not to repay a loan even when able to do so and has developed as a result of experiences with formal lending programmes where loan default was rarely punished nor repayment rewarded. New lending programmes rarely take into account borrowers' repayment histories and local politicians are often quick to defend them. Both of these conditions favour strategic default, and lenders may find it difficult to establish new "rules of the game"

for commercial lending if they are unable to ride out a series of difficult, early years of low repayment.

Most recent initiatives for seasonal lending to smallholder producers have relied on one, or a combination, of the following repayment mechanisms:

Group liability: Lending to groups has been a feature of many donor and NGO programmes. In seasonal agriculture, all have to borrow at the same time, and all face similar patterns or risk, so that in a bad year, group liability may actually encourage group default. To avoid this, monitoring of borrowers' production activities by the lender is required and repayments may need to be rescheduled where factors outside farmers' control genuinely undermine their ability to repay. Commercial micro-finance schemes inspired by the Grameen Bank, typically also work on the principle of group liability. However, many rely on regular repayments as a substitute for monitoring of loan use which has limited their relevance to seasonal agricultural production.

Interlocking of input and output transactions was often a feature of pre-liberalisation marketing boards, since they were able to recoup loans from product sales. In liberalised markets, contract farming or outgrower schemes may pursue a lending approach identical to that of pre-liberalisation marketing boards, where processing logistics or effective legal sanctions provide a localised output marketing monopsony. However, where farmers face few alternative income-earning opportunities, monopsony arrangements of this sort can depress the price paid to farmers for their output. Meanwhile, some contract farming schemes have collapsed as a result of opportunistic traders offering to buy farmers' production at higher output prices than those available within the scheme. Stringfellow et al (1996) report some success in using group liability mechanisms to strengthen repayment in interlocked contracts for high value crops within relatively concentrated (albeit still multi-buyer) output marketing systems. As contract farming schemes often include an advisory component, this provides an opportunity for the lender to monitor the production activities of borrowers. The process of group formation, however, requires care, particularly when the instigation comes from the lender rather than group members themselves. Success may therefore depend on the presence of commercially-oriented NGOs able and willing to provide the necessary group "animation". The work of FAIDA in northern Tanzania (Ellman 1998) provides one promising example of this.

Recent research by the authors, along with colleagues in Ghana, Tanzania and Pakistan, has examined the supply of seasonal inputs on credit by traders in multi-buyer output markets, where no group liability mechanism was in operation and legal enforcement of contracts was not feasible. Lending by two types of traders was observed: output marketers (see Boxes 1 and 2) and input suppliers (see Box 3). These traders have developed mechanisms for loan disbursement and recovery so as to expand their share of the relevant output or input market.

Box 1. Output marketers and credit: cotton

Box 2. Output marketers and credit: cotton trading in

Box 3. Input suppliers: cashew nut production in

companies in northern Ghana

Cotton companies in northern Ghana offer smallholder producers a package comprising ploughing services, seeds, fertiliser, chemical application, extension advice and output purchase. In the early years of liberalisation in the sector (1985-94) the companies operated a so-called "free input system", under which farmers paid for all these services through an adjustment to the price of seed cotton received at harvest. Under this system, collective setting of the seed cotton price by the companies provided an effective disincentive to output "diversion", whereby farmers who had received services from one company sold their seed cotton to a competitor. However, the system discouraged the more productive farmers, who subsidised less productive ones through the uniform adjustment of the seed cotton price. Since 1995 farmers have been required to make a specific payment for fertiliser at harvest time, reducing this disincentive but also reducing the effectiveness of collective price setting in discouraging output "diversion".

Sindh Province, Pakistan

In Sindh Province in Pakistan, general agricultural traders (*padhys*) based in district towns or large villages provide seasonal production credit in kind (fertiliser, chemicals) and cash, plus some consumption credit, to cotton-producing, land-owning farmers (*zamindars*). The loans are repaid at harvest through deductions from sales revenue. Under the unwritten contract, a *zamindar* agrees to sell his seed cotton to the *padhy* who provides him with seasonal credit, but the price of the seed cotton is not negotiated until harvest, when it is based on prevailing market rates. *Padhys* provide credit to *zamindars* to maximise the volume of seed cotton that they handle at harvest time.

Since 1992, easing of government controls on the cotton sector has encouraged significant new investment in ginning capacity in Sindh. Some ginners thus provide credit to *padhys* in return for seed cotton deliveries, so that they in turn can guarantee viable levels of capacity utilisation at their gineries. Reputation plays a vital role in access to credit at all levels.

Tanzania

Profitable cashew nut production in Tanzania requires application of sulphur dust or an organic alternative to control the effects of a fungal disease ("powdery mildew") on nut production. Bad experiences by the first traders to experiment with commercial sulphur supply in 1991-93 mean that only a handful of small traders are currently trying to develop mechanisms for provision of sulphur dust to farmers on a credit basis. These are mainly input suppliers based in district towns, who lend sulphur to farmers through trusted contacts in specific villages. These intermediaries may be shopkeepers or other prominent individuals, most notably officials of village "primary societies" (cooperatives). The intermediaries are responsible for selecting trustworthy farmers to receive sulphur on credit and also for loan recovery at harvest time, although in some cases the traders themselves have to do considerable follow-up to ensure that repayment takes place. Loan recovery is aided by a regulation that all sales of cashew nuts must be made at registered buying points, making it easy for

Meanwhile, collective price setting has led to a sustained decline in the price of seed cotton relative to prices of major competing crops (maize, groundnuts). As a result, farmer commitment to cotton production has declined and there has been a dramatic increase both in the diversion of inputs from cotton to other crops and in the sale of cotton inputs to other farmers and traders. Cotton company profits have been hit, so to reverse this trend, the first steps have now been taken to improve the real seed cotton price.

Meanwhile, deficiencies have been highlighted in the incentives provided by companies to their front-line staff for the screening and monitoring of cotton farmers, as has the importance of information sharing between companies concerning the identities of "blacklisted" farmers.

Padhys share information about defaulting *zamindars* and are thereby able to prevent them from obtaining future credit, not just for cotton production, but also for production of other profitable crops such as sugarcane and mangoes. This information exchange requires mutual trust, which in the study area was based on the geographical proximity of many of the *padhy* shops and the fact that the majority of padhys were drawn from the same minority, Hindu trading community.

Meanwhile, a *zamindar* applying for a loan from a particular *padhy* for the first time is expected to provide a referee or guarantor, who either loses his own reputation or has to pay off the outstanding debt in the case of default by the borrower. This model of "competitive interlocking", which guarantees farmers both access to seasonal credit and competitive prices for the resulting seed cotton, is potentially transferable to other areas. However, preconditions for its successful implementation include good market information, to enable farmers to bargain over the price of output and sufficient trust amongst lenders to permit

intermediaries to be on hand to collect repayment. Where a farmer takes his nut to a buying point in a neighbouring village in search of a higher price, local information networks enable the intermediary to track him down quickly to ensure repayment before the money is spent on other things. Provision of sulphur on credit was observed to be beneficial for "middling" smallholder farmers, who could make profitable use of sulphur but did not possess cash to obtain adequate quantities at the start of the season.

However, in more remote villages in one district, where farmers have few income-earning opportunities other than cashew production, a few traders had taken advantage of farmers' weak bargaining position to depress the terms of trade they received. Some farmers had become trapped in an annual cycle of debt, whilst others had lost cashew trees as foreclosed collateral on bad loans.

In Brong Ahafo Region in Ghana, significant numbers of chemical retailers, mainly village-based, provide trusted tomato growers with a proportion of their pesticides on credit. As

exchange of information about borrowers.

In addition, it may be that borrowers have to command a minimum volume of expected harvested output before it becomes attractive for traders to lend to them. Given the small comparative size of their holdings, groups of African farmers may have much to gain by performing assembly functions.

with the village intermediaries in the cashew example above, these retailers rely heavily on personal knowledge of clients to ensure repayment in a less controlled marketing system, albeit still one where only a limited number of traders operate in a given village. Knowledge and trust are built up through business dealings on a cash basis, through social contacts and existing relationships, and through the use of intermediaries or guarantors.

Lessons for development of service provision

Informal institutional innovation in the private sector

The research shows that informal institutional innovation is taking place in liberalised agricultural marketing systems in order to overcome the problem of failure in the seasonal credit market and, therefore, in input markets. Innovation is tailored to local conditions, though clearly there are some important common elements. There are likely to be benefits from disseminating examples of best practice and sharing experiences from one area with stakeholders in other areas.

Balancing competition and cooperation in interlocked markets

The examples of interlocking by output marketers (Boxes 1 and 2) suggest that in order to provide input supplies on credit in multi-buyer output markets, traders have to strike a balance between competition and cooperation. Smallholder producers will benefit most where price competition between traders in input and output markets is combined with cooperation in exchanging details on defaulting borrowers, so as to provide the necessary incentives for loan repayment. This requires a degree of trust between traders - the recognition of "a commonality of interest" amongst competitors as it is almost impossible for one trader to monitor whether another is supplying him with complete and accurate information on defaulters. In the absence of such trust, cooperation on price setting - as observed in the Ghanaian cotton sector - is an alternative likely to yield much reduced benefits to producers.

Incentives for loan repayment: the importance of access to future lending

The credible threat of being denied access to future seasonal loans is the most effective incentive to repayment, but succeeds only where certain conditions are in place. First, efficient traders must be able to guarantee the availability of future loans

to reward borrowers who repay. Second, information on defaulters should be available to all lenders. When traders are urban-based and each deal with several villages, this may require direct information exchange. Where lenders are village-level retailers, this information may be readily available within the village community anyhow. Third, producers must be confident of greater returns from the crops requiring use of purchased inputs than from alternatives for which access to credit is not necessary. If not, they will have little reason to maintain a reputation for creditworthiness. This depends on the basic profitability of the commodity system within liberalised markets.

Promoting efficient systems: the "Capital-Information Nexus"

Commercial lending to smallholders will only take place where detailed knowledge of (potential) borrowers is combined with ready access to working capital. In Sindh Province, where (as in much of Asia) the history of private participation in agricultural marketing has resulted in a strong tier of traders at the local-district level, this is embodied in the *padhys*, who have access both to information on borrowers and to capital (own capital, bank loans, loans from ginners and informal sources). In the African studies, with the possible exception of tomatoes in Brong Ahafo, where private trade has never been tightly controlled, there were few local district-level traders with the experience of trade and the creditworthiness to act as lenders. At the same time, commercial banks are poorly equipped to lend to local traders.

Bureaucratic procedures, restrictive collateral requirements, petty corruption and (at the time of the studies - now somewhat reduced) high interest rates - all limit the role of banks.

The Agricultural Development Bank (ADB) in Ghana perhaps provides some indicators of the way forward for agricultural lending in the Continent. In the cotton sector, it has shown that commercial banks can support smallholder agricultural growth by lending to commercial "intermediaries" (the cotton companies) that on-lend to producers.

At the apex level (processor, exporter), ethnic minorities and foreign interests dominate many liberalised African marketing systems. In the Tanzanian case, access to foreign capital and contacts with Indian importers would appear to be barriers to entry by indigenous entrepreneurs. However, the Ghanaian cotton case suggests that to some extent, the problem is simply a lack of indigenous entrepreneurs willing to invest in agricultural activities.

Influencing traders' incentives: the impact of investment in processing

Developing mechanisms for the provision of seasonal inputs on credit to smallholders is a costly and risky undertaking for commercial enterprises. They will not embark on it without strong incentives to do so. One such incentive is provided by the need to ensure reliable supplies of a commodity to a processing plant. Provision of seasonal inputs on credit not only contributes to raising production levels, but can give the lender a claim over the output of the borrower. For smallholders, additional benefits from investment in processing may come from the change it brings to the bargaining relationship between trader and producer. Concerned with maintaining profitable capacity utilisation at the processing plant, the former may be willing to raise producer prices if this is the only way to ensure adequate supplies.

New "rules of the game": challenging strategic default

The culture of strategic default by smallholder borrowers in Africa is a major deterrent to commercial investment in smallholder agriculture. Politicians have done much to encourage this damaging mindset. They should provide the lead in moving to the new "rules of the game" in liberalised markets. The message in the late 1990s should be that the rules of the game have changed. In liberalised marketing systems, reliable repayers should be rewarded with access to future lending, whilst defaulters will find themselves unable to profit from borrowing.

The role of the state in encouraging commercial service provision

The case studies provide plenty of examples of how carefully designed and executed interventions could produce efficiency, equity and environmental benefits in the liberalised marketing systems studied. Unless the right preconditions are in place, the commercial supply of interlocked input and output services in highly imperfect markets may bring few direct benefits to the poorest producers and cause producers in remote areas facing few alternative income-earning opportunities, to become trapped in debt. At the same time, the nature of relationships in interlocked systems presents major challenges to sensitive and effective regulation of service provision. Moreover, the studies show that, so far, where governments (national and local) have intervened in liberalised market systems, often with good intentions, the benefits have rarely been unqualified and often have been clearly outweighed by the costs. This is perhaps not surprising when many of the failures of liberalised markets can be traced to inadequate capital and/or information - two commodities that chronically under-resourced administrations also lack.

Conclusions

The major role for the state (assisted by donors) in improving the efficiency of liberalised market systems should be to increase trader competition by reducing barriers to entry. This will be achieved most notably by encouraging strong, liberalised financial sectors and reducing the cost of information. Investments in physical infrastructure, especially rural roads and telecommunications, are the most important step in achieving the latter aim. Encouraging commercial investment in processing should also be an objective, as this will have an impact on provision of pre-harvest services. Prerequisites for success, in addition to the policies already mentioned, include: sound and stable macro-economic and sectoral policies; commitments to minimal interference in, and transparent dealings with, private investment, and investment in rural electrification. Of course, such policies should encourage private investment in more than just agricultural processing.

There is evidence that where opportunities for profit-making exist, private sector actors will innovate to overcome failures in important markets, including those for seasonal credit and inputs. This process can be encouraged by donors and academics through facilitating exchange of experience and best practice. Institutional innovation should not be confined to traders however. There remains an important role for commercially-oriented NGOs to assist farmers, individually and in groups, to benefit from the opportunities presented by marketing liberalisation.

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