Financing Agricultural Term Investments
Many investments in agricultural production and related activities are capital intensive or characterised by long gestation periods. Invested funds amortise only over longer time horizons. Financing these investments may require access to term finance products, such as medium- and long-term loans, leasing or equity. The potential demand for term finance includes farmers and rural small and microenterprises that have ‘graduated’ out of rural microfinance programmes, as well as many of the better clients of former agricultural banks, or even farmers that have never had access to term finance.

For rural financial institutions (RFIs), the provision of term finance is probably the most complex field of finance, since the general constraints on rural lending related to risks and transaction costs are exacerbated by the increased uncertainties associated with longer time horizons. The absence of term finance limits the ability of entrepreneurial farmers, with growth potential, to undertake investments that enhance the scale or productivity of farming operations or exploit new market opportunities. From a macroeconomic perspective, the absence of suitable rural term finance products has economic costs in terms of slower growth and lower competitiveness of the agricultural sector, reducing its contribution to rural development and poverty reduction.

This volume focuses on the ways in which RFIs can provide term finance successfully by adjusting financing products and technologies to the specific cash flow and risk profiles of rural clients and farm investments. It draws on empirical research on rural term finance providers in various parts of the world. Some cross-cutting issues are also discussed, related to the economic, legal, institutional and policy environments that determine the supply and effective demand for term finance. These include improving the legal and institutional environment for secured lending, reducing asset liability mismatches, and managing systemic yield and price risks. Key areas are highlighted for government and donor support to financial institutions, clients, policy reforms and other complementary measures.

This publication is a continuation of the series *Agricultural Finance Revisited*, produced under a joint FAO/GTZ Initiative. With its particu-
lar focus on financing long-term investments, it complements numbers 3 and 4 of the series.

1. Agricultural Finance Revisited: Why?
2. Agricultural Finance: Getting the Policies Right
3. Better Practices in Agricultural Lending
4. Sources of Funds for Agricultural Lending
5. Prudential Regulation and Supervision of Agricultural Finance
6. Enhancing Farmers’ Financial Management Skills
7. Financing Agricultural Term Investments
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The author further wishes to thank Lynn Ball for her thorough editing of the final draft.
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AFR</td>
<td>Agricultural Finance Revisited</td>
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<tr>
<td>ALM</td>
<td>Asset/Liability Management</td>
</tr>
<tr>
<td>ANED</td>
<td>Asociación Nacional Ecuménica de Desarrollo</td>
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<td>BAAC</td>
<td>Bank for Agriculture and Agricultural Cooperatives</td>
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<td>BAB</td>
<td>Banco Agrícola de Bolivia</td>
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<tr>
<td>BASIX</td>
<td>BASIX Group</td>
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<tr>
<td>BNDA</td>
<td>Banque Nationale du Développement Agricole</td>
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<tr>
<td>CECAM</td>
<td>Caisses d’Epargne et de Crédit Agricole Mutuel</td>
</tr>
<tr>
<td>CIDRE</td>
<td>Centro de Investigación del Desarrollo Económico</td>
</tr>
<tr>
<td>CLA</td>
<td>Caja los Andes</td>
</tr>
<tr>
<td>FECECAM</td>
<td>Fédération des Caisses d’Epargne et de Crédit Agricole Mutuel</td>
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<tr>
<td>FI</td>
<td>Financial Institution</td>
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<tr>
<td>GTZ</td>
<td>Deutsche Gesellschaft für Technische Zusammenarbeit</td>
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<tr>
<td>JVC</td>
<td>Joint Venture Company</td>
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<tr>
<td>LRCF</td>
<td>Land Reform Credit Facility</td>
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<tr>
<td>MCRB</td>
<td>Mulukanoor Cooperative Rural Bank and Marketing Society</td>
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<tr>
<td>MFI</td>
<td>Microfinance Institution</td>
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<tr>
<td>MIS</td>
<td>Management Information System</td>
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<tr>
<td>MLR</td>
<td>Minimum Lending Rate</td>
</tr>
<tr>
<td>NBFI</td>
<td>Non-Bank Financial Institution</td>
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<tr>
<td>NES</td>
<td>Nucleus Estate Smallholder Scheme</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>RBP</td>
<td>Rural Bank of Panabo</td>
</tr>
<tr>
<td>RFI</td>
<td>Rural Financial Institution</td>
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<tr>
<td>SACCO</td>
<td>Savings and Credit Cooperative</td>
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<tr>
<td>SME</td>
<td>Small and Medium Enterprise</td>
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<tr>
<td>VCF</td>
<td>Venture Capital Fund</td>
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Globalization brings about enormous challenges and opportunities for small- and medium-scale farmers. On the one hand, structural adjustment policies have reduced urban bias and farmers may obtain higher prices and better access to export markets. On the other, trade liberalization has exposed farmers to increased competition in both domestic and export markets. Some farmers will respond to these challenges by diversifying into non-farm activities or gradually leaving the farming sector. However, another group of small- and medium-scale farmers – entrepreneurial and commercially oriented – has the intention and capacity to remain in the agricultural sector. This group frequently needs to invest in their productive assets to intensify production and enhance the productivity of their existing farming operations or to diversify into new enterprises.

Many investments in agriculture (and in farm machinery, irrigation, land purchase, and post-harvest and processing facilities) require larger amounts of capital that only amortize over several years. Other investments, such as the establishment of tree-crop plantations, are characterized by long gestation periods. These term investments are often beyond the self-financing capacity of farmers and require access to term finance, which allows spreading the investment costs over several years. Term finance comprises various financial instruments such as term loans, leasing, and equity finance.

Obviously, providing larger amounts of funds over longer time horizons is more risky for a financial institution and requires specific skills to manage these risks at a reasonable cost. Thus financial institutions are often reluctant to provide such finance. In the past, governments and donors have frequently stepped in to enhance the supply of term loans through agricultural development banks and credit projects. However, after the recognition of the poor performance of directed credit, both in terms of outreach and sustainability, most credit programmes have been phased out and many agricultural development banks have been liquidated. Moreover, the liberalization of marketing boards in many countries has dismantled interlinked credit arrangements, which constituted another important source of working capital for small farmers that lacked tangible collateral. Even non-agricultural and urban small and
medium enterprises (SMEs) frequently do not have access to medium- or long-term investment finance.

This decline in funds for agricultural term lending has not yet been compensated by other financiers. Even in countries that have implemented financial-sector reforms for development of the financial market and often have a booming ‘microfinance industry’, the availability of term finance for small and medium-scale farmers has remained extremely limited or non-existent.

Despite this apparent gap between the supply and demand of longer-term investment finance in many rural areas, the topic has been given little attention by donors and the microfinance industry over the past decade. However, the shortcomings of conventional microfinance for financing term investments for urban and rural SMEs (including farmers) are increasingly being recognized. There is a growing interest in exploring ways to adapt medium-term loans, leasing and equity finance instruments to meet the financing requirements of medium, small and microenterprises. At the same time, there is a renewed interest among donors, researchers and practitioners in revisiting agricultural finance as an important part of rural finance.

Apart from an enabling economic, legal and policy environment, suitable financing technologies and products are critical to the ability of financial institutions to offer term finance. This publication focuses on innovative, sustainable approaches to providing term finance to market-oriented small- and medium-scale farmers. It also discusses complementary measures and policy options for enhancing the environment for both the supply and the effective demand for term finance.

Research was carried out over a two-year period by FAO in collaboration with the World Bank. Case studies were conducted in Bolivia, India, Indonesia, Madagascar, the Philippines, South Africa, and Thailand. They included diverse types of rural financial institutions such as agricultural development banks, rural banks, commercially ori-

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1 Agricultural Management, Marketing and Finance Service (AGSF) and the Investment Centre Division.
2 Agriculture and Rural Development Department II, Africa Region.
3 The full version can be downloaded from http://www.fao.org/tc/tci/sectors/Finlgtm.htm
ented microfinance institutions, mutualist financial institutions and financial NGOs. Moreover, the experiences from other domestic term finance providers in Benin, Ghana, Kenya and Mali, as well as from donor agencies and international finance institutions, have been assessed through remote surveys, interviews and a review of the literature.

The text is structured in four parts comprising a total of 10 chapters. Part A (chapter 1) reviews the different types of risk involved in financing agricultural term investments. It distinguishes between general risks of financing agricultural term investments and the specific risks faced by financiers, and discusses which of these risks can be managed by financial institutions and farmers and which are beyond their control and may require policy reform or access to specific risk-management tools. It then analyses the cost of providing term finance in comparison with seasonal- and microfinance.

Part B (chapters 2-6) illustrates the design of term finance instruments in practice and discusses the technology of financing. Chapter 2 presents the features of the case-study institutions and their motives for engaging in agricultural term finance. Chapter 3 discusses general issues and guiding principles in building up a term finance portfolio and controlling the associated risks and costs. Chapter 4 takes a closer look at term lending and discusses the main elements of a successful lending technology as analysed in the case studies. Chapter 5 highlights the basic principles of leasing and its possibilities as an alternative for the medium-term financing of farm equipment. It further discusses the issues in using financial lease in informal businesses in rural areas. Chapter 6 briefly touches on other financial mechanisms and institutional arrangements for financing larger-scale investments in the context of vertical integration, including equity finance, nucleus estate smallholder schemes, and joint venture companies.

Part C (chapters 7-9) deals with generic constraints that limit the expansion of term finance in rural areas and may require action or support by governments and donors. Chapter 7 focuses on legal and institutional constraints affecting the use of collateral, highlighting some options for legal reform. It also discusses complementary measures such as guarantee funds and credit bureaus. Chapter 8 outlines policy options and instruments for managing systemic risk. Some innovative approaches to
providing crop insurance are presented that may warrant further attention and support. Chapter 9 discusses the role of donors and governments in enhancing the availability of suitable funding sources to term finance providers.

Part D (chapter 10) summarizes the main findings, the recommendations for financial institutions, and some options for governments and donors.
PART A

AGRICULTURAL TERM INVESTMENTS
Agricultural term investments are investments in production assets used from one production cycle to another, usually over several years\(^4\). Term investments are characterized by long amortization of the invested capital or by long gestation periods before revenues are produced. For example, the purchase of farm machinery and equipment requires a large initial lump-sum payment compared with the annual cash flow generated by the investment. Thus the invested capital only amortizes over a period of several years. Perennial crops take several years to mature, while staggered expenditures for land preparation, weeding, fertilization, etc. accrue during the immaturity period. Investments in irrigation systems or farm buildings may require considerable engineering and construction work before they are ready for use.

Term finance can be categorized in different ways. Depending on the time horizon, a distinction can be made between medium-term finance (from one to five years) and long-term finance (above five years). According to the source of funds, internal or self-finance through retained profits or other income sources of the farm household can be distinguished from external finance using funds owned by third parties. External finance can be provided through different financial instruments such as term loans, leasing or the temporary investment of third-party equity (equity finance), whereas self-finance strategies may use deposit instruments.

![Figure 1: Dimensions of Term Finance](image)

\(4\) Intangible term investments such as education, rights, concessions, etc. are not covered in this study.

Part A: Main Issues and Challenges
The crucial role of external term finance

There is a trade-off between profitability and risk in the use of internal versus external finance. On the one hand, external term finance allows farmers to ‘save down’ by anticipating future income, including the incremental cash flow generated by the investment, in order to finance present investment costs. This has two main advantages over self-finance:

- It allows farmers to carry out profitable investments earlier by leveraging their equity and existing cash flow.
- Investment costs can be spread over a period of several years, enhancing the affordability of ‘lumpy’ and larger (but often more profitable) investments.

On the other hand, external term finance and particularly term loans increase the risk exposure of farmers. Agricultural activities are affected to a significant extent by risks beyond the control of the borrower, and the uncertainties increase over time. If the investments fail, farmers lose not only their capital and the labour invested, but also any physical asset pledged as collateral or any ‘social capital’ such as access to future loans. Thus term loans are a double-edged sword for farmers, and their feasibility and benefits have to be weighed carefully against their costs and risks.

Term finance may not always be required in order to finance agricultural term investments. For example, smaller or divisible investments that can be gradually expanded (e.g. small livestock) may to a certain extent be financed out of existing cash flow or – in the case of lumpy investments – through the ‘saving up’ of funds5 (Rutherford, 2000). This, of course, presupposes that farmers dispose of sufficiently large and diversified income sources. Financing investments in new activities or technologies through term loans is quite risky, and farmers often prefer enterprise diversification on a limited scale using their own funds, while seeking loan finance only to expand proven and successful activities. However, self-financing of lumpy assets or larger investments may be difficult if investment costs are high in relation to the existing farm

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5 Saving up does not always imply monetary savings. In the absence of safe and convenient deposit facilities, farmers frequently save in kind by investing in relatively liquid assets such as livestock, which can be sold to finance other investments or in case of emergencies.

FINANCING AGRICULTURAL TERM INVESTMENTS
household cash flow. Financing long-term assets out of current operations may take a long time and will reduce the funds available for working capital or consumer needs. To accumulate funds faster, farmers may cut consumption or save on proper maintenance of productive assets (inputs, repairs, etc.), which in turn reduces the profitability and economic life of the investment. Also, claims from immediate family members, relatives and friends often make it difficult to save larger amounts of cash. The use of short-term borrowing to finance long-term assets exposes the farm household to high liquidity risk, and in the case of major adverse events, the household may have to sell assets.

Thus entrepreneurial but poor farmers, who have to rely completely on their own funds for financing lumpy investments, may face considerable difficulty in scaling up profitable operations, adopting new technologies and reaping economies of scale. Access to well-designed external term finance can have a catalytic effect on the ability of entrepreneurial farmers to realize profitable investment opportunities, allowing them to grow faster and to exploit promising market opportunities. Financial institutions (FIs), which are able to assess the risk and profitability of investment opportunities and provide appropriate term finance products, make an important contribution to growth and value adding in the rural economy.

Understanding structural constraints: risks and transaction costs

The scarcity of examples of successful term finance arrangements in agriculture points to the intrinsic difficulty of this activity compared with other fields of banking. Providers of agricultural term finance have to address the general constraints of agricultural finance together with those related to longer time horizons. Most of these constraints are related to risks and transaction costs.

Many risks and transaction costs affect both farmers and financial institutions and are major determinants of the sustainable supply of and effective demand for term finance. Moreover, there are specific risks affecting the supply of term finance. Some risks can be managed by farmers and FIs, while others are beyond their control and require access to specific risk-management instruments or may have to be addressed by

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6 Effective demand refers to the willingness and ability of clients to fulfill their repayment obligations.
governments through policy reform and other measures. Financial institutions considering agricultural term finance need to have a good understanding of the impact of specific risks and transaction costs on the feasibility of term finance, as well as of the scope for designing appropriate financial products and technologies to manage risk at a reasonable cost. The feasibility of term finance has to be assessed carefully from the perspectives of both the financier and the investor in order to avoid default and the associated costs. Such assessment is also important to governments and donors in designing appropriate policies and programmes that support the expansion of sustainable supply and effective demand for term finance in rural areas.

Past approaches have often been skewed towards expanding the supply of term finance, without paying sufficient attention to the underlying structural factors related to risk, transaction costs and asymmetric information affecting both the supply and effective demand. All too often, access to credit, particularly long-term credit, was perceived as the main bottleneck inhibiting the growth of small farmers. The failures of targeted and subsidized credit lines, which have been widely analysed elsewhere, illustrate that agricultural term finance cannot be used as a shortcut to rural and agricultural development7. Measures aimed at enhancing the supply of term finance should be part of a broader and longer-term strategy, framed by coherent, enabling macro and sectoral policies, and closely coordinated with other policies and programmes to promote rural development, commercial agriculture and rural financial services.

Given the crucial importance of risk to the feasibility of term finance, the following section discusses major types of risk and classifies them either as risks common to investors and financiers or as risks faced specifically by term finance providers. The costs of providing term finance will be analysed and compared with the costs of short-term finance.

1.1 Risks of Financing Agricultural Term Investments

Any investment appraisal is based on certain assumptions about technical and production parameters, future demand for and prices of agricultural products, cost and availability of inputs, and investor management practices. However, uncertainty about the future development of these parameters increases with longer time horizons, as does the likelihood that unforeseen external events will affect the feasibility and profitability of the investment. Thus, appraising risk and profitability becomes more difficult as amortization or gestation periods lengthen.

An important distinction can be made between idiosyncratic and systemic risks:

- **Idiosyncratic risks** are non-correlated and only affect individual farmers. They include technical risks, such as breakdown of farm machinery, but also risks related to the investor and his family, such as illness or the death of a family member.
- **Systemic risks** are covariant and affect all producers in a region or of a certain commodity. They include climatic events such as droughts and floods, major outbreaks of pests and diseases, sudden price declines or drastic changes of macroeconomic parameters (exchange rate, inflation, etc.).

In practice, many risks lie somewhere between pure idiosyncratic and systemic, because they may affect farmers in different ways. First, external shocks differ in their intensity and frequency. Second, location factors and management practices shape the impact of adverse events on individual farm households.

The next section discusses the general risks of financing agricultural term investments before turning to the specific risks affecting the supply of term finance.

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8 Also called individual or independent risks.
9 Also called covariant, correlated or dependent risks.
1.1.1 Common Risks Faced by Investors and Financiers

Table 1 provides some examples of the types of risk faced by investors. In the case of external finance, these risks also have an impact on the financier in the sense that they affect the repayment capacity of the investor.

Table 1
Types of risk related to agricultural term investments

<table>
<thead>
<tr>
<th>Types of risk</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Production risks</td>
<td>• Failure of wells due to insufficient ground water.</td>
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<td></td>
<td>• Mortality or theft of cattle.</td>
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<tr>
<td></td>
<td>• Damage to immature tree plantations from animals, pests or fire.</td>
</tr>
<tr>
<td></td>
<td>• Major climatic events (drought, flooding, frosts).</td>
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<tr>
<td></td>
<td>• Spread of new pests and diseases.</td>
</tr>
<tr>
<td>Client risks</td>
<td>• Illness or the death of family members.</td>
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<tr>
<td></td>
<td>• Poor agricultural, business and financial management skills.</td>
</tr>
<tr>
<td>Market risks</td>
<td>• Cyclical and seasonal price fluctuations of agricultural commodities.</td>
</tr>
<tr>
<td></td>
<td>• Political intervention in commodity markets (changes in taxes, tariffs and quotas).</td>
</tr>
<tr>
<td></td>
<td>• Declining demand for the product due to changes in consumer preferences, the advent of new product substitutes, etc.</td>
</tr>
<tr>
<td>Macroeconomic and policy risks</td>
<td>• Devaluation of the currency, affecting the profitability of the product.</td>
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<td>• High and fluctuating interest and inflation rates.</td>
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</table>

Production risks

Production risks include all factors that affect the productivity of crop and livestock activities and thus the profitability of related investments. Due to the high dependence of investments in agriculture on biological processes, external events such as drought, flooding, pests and diseases are major sources of production risk. These risks are systemic since they tend to affect a large number of producers in a region. On the individual farmer level, poor husbandry practices are an important source of idiosyncratic production risk. Technical risks, such as the breakdown of machinery, are a subset of production risks and involve the proper functioning of the technology used to enhance the productivity of farming. Technical risks are mostly idiosyncratic.  

Depending on the type of investments, production and technical risks can affect either the gestation period, before the investment is fully functional, or a later stage, reducing its expected economic life. For example, investment in a groundwater-pump irrigation system may fail if bore wells are drilled in an area with insufficient ground water availability, or, at a later stage, the installed pump might break down.

FINANCING AGRICULTURAL TERM INVESTMENTS
Technical and to a lesser extent other production risks can be reduced but not fully neutralized by good farm management practices and access to agricultural support services. For example, risk related to investment in orchard plantations can be reduced by a proper selection of sites and planting material, fencing, weed control and application of fertilizer and pesticides. The yield curve and economic life of a mature plantation depend on harvesting techniques, pruning and other agricultural practices. The management skills of the investor and sufficient availability of working capital are important factors in reducing technical risks. However, even if good management practices are applied, the plantation might still be destroyed by fire or new pests, or diseases may break out.

**Client risks**

Other risks are related to the family and household of the investor. Illness or the death of a family member may lead to labour shortages or increased expenditures for medical expenses, funeral costs, etc. This may affect the allocation of sufficient time and resources to proper operation and maintenance of the investment, affecting its profitability and economic life. Due to the fungibility of money, client risks have an impact on the use of external funds as well as of the income generated by the investment, and these risks increase over longer time horizons.

**Market risks**

Market risks may be due to factors affecting timely delivery of produce to markets or the quality of the produce (e.g. poor feeder roads and storage/transport facilities in combination with perishable, bulky produce), as well as to changes in the demand or price. The latter are particularly important to term finance. Agricultural commodity markets are characterized by seasonal and cyclical price fluctuations, often exacerbated by long-term negative price trends. Whereas seasonal or short-term price volatility can be managed, at least in principle, through commodity risk-management instruments such as futures and options, cyclical fluctuation over periods of several years is particularly problematic in the financing of agricultural term investments (see Figure 2). The so-called ‘hog cycle’ is a typical feature of markets for agricultural commodities such as livestock products and perennial crops, where gestation periods create a time lag between investment and the supply of produce.
Currently, no proper risk-management instrument is available to investors or financial institutions to protect against cyclical price fluctuations. However, market studies and projections based on historic price data may help assess risk and allow investors and financiers to make anti-cyclical investment and financial decisions.

A long-term declining price trend does not necessarily imply that investments in the respective subsectors cannot be profitable. First, long-term price declines are often superseded by cyclical fluctuations characterized by periods of increasing prices and price peaks, which may last several years, as shown in Figure 2. If investments are carried out during a price slump, the investor may receive higher prices when the crop comes into production. Second, lower prices can be offset by higher productivity or improved management practices, and most term investments are motivated precisely by this purpose.

Long-term price trends are influenced by changing income levels, consumer preferences, the advent of substituting or competing products, trade policy, etc. Changes in these factors are normally gradual and may be assessed through market studies. However, a considerable element of uncertainty is introduced by external factors such as policy changes regarding trade policy, internal price policy, etc., which may severely impact price trends and market prospects. Exchange rate fluctuations have a considerable impact on tradable agricultural products and inputs, and may reverse the projected profitability of an investment.

Figure 2: Cyclical fluctuations and long-term trend in coffee prices

 ICO composite indicator price, 1983-2003, annual average

FINANCING AGRICULTURAL TERM INVESTMENTS
Macroeconomic and policy risks

Unstable macroeconomic conditions, such as high or fluctuating inflation and interest rates, limit the possibility for longer-term financial and investment planning and increase the associated risks. They also increase asset/liability risks for FIs engaged in term finance. The stability and predictability of key macroeconomic parameters, such as the rediscount rate, inflation, and foreign exchange rate, depend to a significant extent on a sound and prudent government macroeconomic policy. Macroeconomic management has generally improved in the developing world over the past two decades, but considerable differences among developing countries remain. However, important sources of uncertainty are beyond the control of individual governments. Fluctuations in international commodity prices affect the macroeconomic stability of those developing countries that depend to a significant degree on the export earnings of a limited number of primary commodities. The recent financial crises in Asia and parts of Latin America have illustrated the contagious effects of such events within or even across entire regions: the crises not only led to increased cost and limited supply of external capital, but – as a consequence of currency devaluations – to an export boom followed by a major price decline in major agricultural commodities.

1.1.2 Risks Specific to Term Financiers

From a financier’s perspective, the risks of financing term investments are exacerbated by problems of asymmetric information and moral hazard, quality of collateral and enforceability of contracts. Systemic risks pose difficulties for asset/liability management (ALM) and may threaten the overall quality of the portfolio.

Asymmetric information and moral hazard risks

Some risks faced by a financial institution are rooted in asymmetric information between lender and borrower. The lender does not have the same information as the borrower regarding the specific factors affecting the feasibility and profitability of the proposed investment or the financial conditions of the farm household. Moreover, the lender does not know whether the borrower will use the funds for the stated purpose or whether he/she intends to repay. Asymmetric information, in combi-
nation with contract supervision and enforcement problems, increases the risk of moral hazard risk: the borrower might change behaviour after a loan contract has been signed, at the expense of the lender. The main types of moral hazard risks are:

- **Diversion of funds.** The borrower might not use the loan funds for the stated purpose. This may affect the repayment capacity if loan repayment depends to a significant extent on the incremental cash flow produced by the investment.
- **Poor management practices.** The commitment and discipline of a borrower regarding the proper maintenance of equipment and the application of good agricultural practices are important determinants of the success of an investment and the repayment capacity of the borrower.
- **Wilful default.** There is always the possibility that the borrower does not intend to repay a loan. Long grace periods are particularly dangerous in this regard because the borrower may ‘forget’ about his/her repayment obligations. Also, loan waivers or forgiveness are particularly harmful for financial institutions, because they imply moral hazard problems, which may undermine the credit culture in rural areas.

The risk of moral hazard increases in proportion to the term and amount of a loan.

**Risks of political intervention and poorly designed credit programmes**

Rural financial markets are prone to government interventions such as loan waivers and debt forgiveness programmes, which may seriously undermine the repayment discipline of borrowers and the credit culture in rural areas. This might be especially problematic in regions where larger and politically well-connected farmers have lobbied successfully for loan-forgiveness programmes, and where foreclosure on collateral cannot be enforced. Loan waivers often form part of election campaigns of politicians and may discourage the provision of term finance, because the likelihood of their occurrence increases over longer time horizons.

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11 This might be especially problematic in regions where larger and politically well-connected farmers have lobbied successfully for loan-forgiveness programmes, and where foreclosure on collateral cannot be enforced and governments and donors confuse loans with grants, taking a soft stance towards default.
Ill-conceived government or donor programmes using targeted and subsidised credit are further sources of risk for the development of sustainable term finance arrangements. If term loans are used as an instrument for meeting pre-defined physical output or investment targets or as a disguised tool for income transfer to certain target groups, proper incentives and enforcement mechanisms to ensure loan repayment are seldom in place. The co-existence of poorly managed and enforced term loans under specific programmes or projects with RFIs also striving for financial self-sufficiency is problematic, since laxity in loan enforcement tends to confuse borrowers and have a negative impact on the rural credit culture.

Collateral risks

To a certain extent, idiosyncratic risks, including those related to asymmetric information and moral hazard, can be reduced by the use of collateral. However, its use in rural areas of developing countries is subject to risk and transaction costs that might undermine its suitability as a risk-management and coping instrument. Box 1 sets out the main functions of collateral and the determinants of the collateral value of rural assets.

Many farmers can only offer assets with low collateral value (see Box 2, page 13). Moreover, in many developing countries, severe deficiencies in the legal and administrative framework constrain the expansion of secured lending in rural areas. For example, land titles, where existent, are often outdated, and lenders face difficulty in ascertaining that there is no senior claim on the asset. Registry systems may exist only for certain types of assets and are often located in major cities far from rural areas. Even if a security interest in the asset can be created and perfected, there are risks related to high transaction costs and delays in foreclosing and selling. Long legal procedures are especially harmful in the case of movable assets such as machinery, equipment or livestock that may depreciate over time (see chapter 7).

Apart from legal and administrative constraints, other factors may affect the value of collateral as a risk-management and coping instrument. First, collateral might depreciate, as mentioned, or be stolen or lost.

12 Taken from Fleisig, Aguilar and de la Peña, 1994, p. 16.
Box 1
Main functions of collateral

Collateral refers to the assets pledged as security by borrowers until their loans are repaid. It has two important functions. First, it serves as a screening device to reduce wilful default. Borrowers providing collateral, and especially large amounts relative to the loan size, are signalling an intention to make good-faith efforts to fulfil their loan contracts. Second, it reduces lending risk by providing an additional asset that can be liquidated for repayment of the loan. Collateral is more important for rural term lending than for short-term, working-capital loans due to the greater uncertainty regarding borrower willingness and ability to repay.

The quality of collateral depends on the following criteria 13:
- Creation of an enforceable security interest must be inexpensive in relation to the size of the transaction.
- The lender must be able to determine with certainty and at low cost, before the loan is made, whether any other lender has existing claims on the security (publicness of security interests).
- The lender must be protected from claims of third parties, including secured and unsecured creditors, the trustee in bankruptcy and some purchasers of the security (priority of security interests).
- Enforcement of the security interest must be inexpensive in relation to the value of the asset.
- The security must produce real commercial value for the lender when enforced.
- The value must be easy to assess and should not be subject to unpredictable depreciation.

Second, its sale at its estimated value depends on demand and the size of the market. Collateral might work well to protect lenders against idiosyncratic risks caused by moral hazard or other events. It is, however, a poor protection against major systemic risks affecting a number of borrowers. In the case of systemic shocks, causing the default of a large number of borrowers, a lender would have difficulty selling the asset because the demand and prices for rural assets might collapse.

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13 Secured lending refers to a loan contract in which the lender establishes a legally enforceable claim (security interest) over an asset of the borrower (collateral), which can be foreclosed on and sold if the borrower defaults on loan repayment obligations.
Box 2
Profiles of agricultural term investments

Risk profiles:

- **Length of the gestation and amortization periods and cash flow.** Investments with long amortization periods, especially those with long gestation periods (e.g. rubber, coconut and forest trees), are generally more risky than investments with short gestation periods that produce fairly even cash flow (e.g. dairy cows, tea plantations).

- **Asset specificity.** Investments serving multiple purposes are less risky than specialized investments. Multipurpose equipment such as a tractor can be used for a number of activities and is thus less subject than a harvesting machine to the price or production risks of single commodities. Investments in land purchase or development (e.g. irrigation) broaden the range of crops that can be grown. Land may also be rented out or sold (depending on the legal/institutional environment), and the value may increase over time.

- **Collateral value.** Some investments can be used as collateral or increase the value of other, potential collateral. Farm machinery and equipment can be used to secure loans, e.g. through leasing. Other investments, such as irrigation and drainage infrastructure or land development, may raise the value of farmland, increasing its collateral value.

Risk-reducing and profitability-enhancing features:

- **Production risks and income diversification.** Investments in irrigation and drainage facilities help investors protect against drought. Moreover, they allow diversification into high-value crops, increasing the number of harvests per year, which leads to a better and less-seasonal cash flow.

- **Market risks.** Investments in storage and processing facilities reduce post-harvest losses and allow farmers to sell part of their produce when prices are more favourable.

- **Expansion and intensification of production.** Purchase or rental of farmland allows expansion of farming operations and makes possible diversification or specialization.

Techniques for maximizing the use of rural assets as collateral in combination with collateral substitutes are discussed in section 4.2, while 7.1 deals with legal and regulatory problems in the use of collateral and outlines areas for policy reform.

**Asset/liability management risks**

An RFI engaged in term finance has to manage risks resulting from mismatches between the terms (i.e. the amounts, maturities and costs) of assets (e.g. loans) and of liabilities (sources of funds). Three main sources of asset/liability risk can be distinguished:
• **Liquidity risk** is caused by maturity mismatches between assets and liabilities: transforming short-term liabilities into longer-term loan assets is a high-risk activity and requires considerable skill.

• **Interest-rate risk** occurs if term loans with fixed interest rates are funded through liabilities with variable costs, such as deposits and short-term loans. Increasing the cost of funds may seriously affect the profitability of a financial institution.

• **Foreign exchange risk** is found where a financial institution borrows from outside the domestic currency area and no intermediary is prepared to assume the potential costs of a slide in the value of the local currency. It may also affect customers that borrow in hard currency and produce for the domestic market.

Issues related to asset/liability risk are discussed in section 3.8 and chapter 9.

### Table 2
Examples of risk and risk-management/coping options for investors and financial institutions

<table>
<thead>
<tr>
<th>Category of risk</th>
<th>Examples</th>
<th>Investors</th>
<th>FIs</th>
</tr>
</thead>
</table>
| **Idiosyncratic risks** | Breakdown of machinery | - Appropriate operation and maintenance.  
- Financial planning to ensure availability of working capital. | Careful selection and supervision of investors and equipment.  
- Partnership with suppliers to ensure after-sales services.  
- Financing new equipment.  
- Providing access to working capital and emergency loans.  
- Appropriate collateral/leasing. |
| Illness or the death of family members | - Investing in labour-saving technologies.  
- Savings in cash or kind.  
- Engaging in social networks. | Careful borrower selection (e.g. age limits).  
- Savings facilities/emergency loans/life insurance.  
- Appropriate collateral. |
| **Systemic risks** | Drought | - Irrigation.  
- Drought-resistant varieties.  
- Temporary migration.  
- Crop insurance. | Portfolio diversification.  
- Appropriate loss provisions.  
- Linking with insurance providers.  
- Financing irrigation. |
| Price fluctuations (seasonal) | - Diversification.  
- Storage.  
- Contract farming.  
- Futures/put options. | Emergency loans/credit lines to investors.  
- Using futures/options.  
- Suitable refinancing facilities. |
| Price fluctuations (cyclical) | - Farm/enterprise diversification.  
- Sale of assets. | Portfolio diversification.  
- Appropriate loss provisions.  
- Loan rescheduling. |

FINANCING AGRICULTURAL TERM INVESTMENTS
**Portfolio risks**

Portfolio risks are caused by the concentration of single or correlated risks in the loan-asset portfolio of a lender. This may be the case if a few large loans account for a significant share of the total portfolio, or if there is a concentration of loans with similar credit-risk profiles (correlated risks). In either case, loan default would have a significant impact on the total portfolio of the institution. Due to their larger sizes and sensitivity to systemic risk, agricultural term loans lead to a concentration of portfolio risk. This may prevent smaller rural financial institutions (RFIs) from providing agricultural term loans. In order to pool correlated price and yield risks, financial institutions have to diversify their portfolio, either by expanding into different regions or by servicing different types of customers.

**1.1.3 Capacity of Investors and FIs to Manage and Cope with Risk**

Risk-management strategies address risk-related problems *ex-ante*, while risk-coping strategies deal with the consequences of risk *ex-post*. The ability of investors and FIs to manage and cope with risk and their related strategies has an important impact on the effective demand and supply of term finance. Table 2 shows some examples of risk-management and coping strategies used by investors and FIs.

Farmers typically manage risk by using good agricultural practices, diversifying into different farm and non-farm activities, building savings in cash or in kind, providing self-insurance through informal networks, etc. They may also invest in low-risk/low-return activities. Risk-coping strategies include reducing consumption, taking out loans (mostly from informal sources) or sales of assets. Options for financial institutions in managing risk will be discussed in part B. They include careful selection and supervision of clients and appraisal of the investment, portfolio diversification, risk-based pricing, securing loans with collateral and appropriate loss provisions. Risk-coping strategies include foreclosure on and sale of collateral, or rescheduling/restructuring of loans and taking out loans from other financial institutions to offset liquidity shortages.

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14 Dercon (2001) provides an excellent synthesis of the literature on the scope for and limitations of farmers in managing and coping with different types of risk.
These strategies might work well in the case of idiosyncratic risks, as well as of systemic risks of a lower intensity, frequency and outreach. They are, however, insufficient or may even collapse in the case of major external shocks. For example, diversification into other farm and non-farm activities to a certain extent helps investors reduce their vulnerability to commodity-specific risks such as price shifts or pests and diseases. However, due to the close interrelationship of these activities, external shocks affecting farm income also reduce the demand for products and services from non-farm activities. 

Even the best financing technology or use of collateral cannot protect against major systemic risks such as drought, flooding, pests or sudden price declines. Systemic risk may force FIs to manage portfolio risk through diversification into different rural areas or into rural and urban areas. There is a trade-off between diversification and specialization in certain activities. The broader the range of clients and regions, the less specific is a lender’s knowledge about clients, economic activities or local conditions. The institution must either become larger or lose specific client knowledge, thus increasing credit risk (Skees, 2003).

Table 3

<table>
<thead>
<tr>
<th>Cost components</th>
<th>Examples</th>
<th>Main determinants of costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of funds</td>
<td>Direct cost of funds</td>
<td>Nature of funds: commercial versus concessionary. Maturity of funds: costs increase with maturity.</td>
</tr>
<tr>
<td></td>
<td>Indirect cost of funds</td>
<td>Reporting requirements for concessionary funds. Asset/liability management costs.</td>
</tr>
<tr>
<td>Transaction costs</td>
<td>Risk-related (appraisal, supervision)</td>
<td>Absolute cost increase in relation to credit risk. Relative cost decrease in relation to loan amounts and maturities.</td>
</tr>
<tr>
<td></td>
<td>Non-risk-related (administration, promotion)</td>
<td>Fixed per transaction, independently of loan size and amount.</td>
</tr>
<tr>
<td>Risk costs</td>
<td>Loss provisions</td>
<td>Characteristics of investment (e.g. length of amortization period, collateral value, expansion/replacement versus start-up, etc.). Characteristics of investor (e.g. experience, skills, cash flow, collateral). Characteristics of financier (experience, skills and size). Market environment and access to support services. Macroeconomic and policy environment. Legal and institutional environment for collateral and contract enforcement.</td>
</tr>
<tr>
<td></td>
<td>Write-offs</td>
<td></td>
</tr>
</tbody>
</table>

15 Non-farm income is often positively correlated to shocks affecting farm income. Crop failure leads to a collapse of the demand for local services and crafts, limiting the use of diversification to handle risk.

FINANCING AGRICULTURAL TERM INVESTMENTS
1.2 Costs of Providing Term Finance

From the perspective of a financial institution, term lending costs have three components:

- cost of funds;
- transaction costs of loan appraisal, administration and supervision; and
- risk costs, such as loss provisions or write-offs.

In practice, these cost components are often interrelated: managing risk implies costs both *ex-ante*, to protect against default, and *ex-post*, after a default has occurred. In order to manage and reduce risk, information has to be collected and analysed, which increases transaction costs and staff time. If transaction costs are reduced by diminishing the time and effort spent on assessing loan applications or supervising borrowers, risk costs might increase. High arrears, in turn, increase the cost of funds, because a lender with high levels of default has to pay more. Secured lending might involve costs for inspection, valuation, registration and possibly foreclosure and sale of collateral. However, collateral may considerably reduce moral hazard risk and help the lender cope with other risks related to agricultural term finance. Table 3 summarizes the main determinants of these cost components, which are then briefly discussed in terms of the differences between short- and long-term loans.

Cost of funds

Cost of funds varies according to the type of funding source. An important distinction can be made between concessionary and commercial funds. Concessionary funds have lower direct costs such as interest rates, but may have hidden costs such as reporting requirements (Giehler, 1999). The costs of commercial funds such as deposits, bonds and equity increase in proportion to the maturity of funds. Term loans require more sophisticated asset/liability management, which adds to the transaction costs. Financial institutions with a strong equity base have to calculate only the opportunity cost of funds.
Transaction costs

Transaction costs comprise appraisal of loan applications, administration of loan accounts and supervision of borrowers. A significant part of appraisal and administration costs are fixed per transaction and do not vary significantly by loan size or maturity. These include costs for loan promotion, application (helping clients complete application forms), disbursement and defaulted-loan collection. According to a recent study of 14 microfinance institutions (MFIs) in Ecuador, El Salvador and Paraguay, these costs constitute over 90 percent of the unit loan costs (Gheen, 1999, cited in Westley, 2003). Spreading these fixed costs over a longer time period results in a considerable reduction of overall costs.

Other transaction costs for managing and coping with risk depend on the maturity and size of the loan: larger sizes and longer maturities require a more comprehensive appraisal of the creditworthiness of the borrower and the proposed investment (feasibility and market studies, etc.). Collateral has to be appraised, registered and – in the case of default – foreclosed. Larger loans may not be approved at the branch level, but by credit committees at higher levels of the FI, increasing costs. Moreover, larger investment loans usually require supervision, especially if the asset financed has a significant impact on the borrower’s repayment capacity or serves as the main collateral for repayment. The absolute amount of transaction costs for granting term loans is usually well above those for short-term loans.

However, this picture changes considerably if transaction costs are related to the amount and maturity of loans. Due to their larger size and longer maturity, term loans offer considerable economies of scale in the costs of appraisal and administration. For example, if US$ 10,000 is disbursed as a term loan with a maturity of five years, only one appraisal is needed. If the same amount is disbursed as five subsequent short-term loans of US$ 2,000 each, five loan appraisals would be required. The difference would be even more pronounced if the amount is disbursed as 50 microloans of US$ 200 each, which would require 50 loan.

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16 The related costs depend on the legal and administrative system and may vary considerably among countries.

17 Transaction costs for lenders depend to a significant extent on the availability and quality of basic rural infrastructure, such as roads and communications systems, as well as on population density.
appraisals. For this reason, high interest rates are needed to cover the cost of microlending operations. Thus term loans might be provided at significantly lower transaction costs than are short-term or microloans.

Risk costs

Apart from risk-related transaction costs, there are direct costs for managing and coping with risk. Loan-loss provisions are geared to protecting the lender against potential default. They are based on the expected default rate and include costs for enforcing repayment of overdue loans, foreclosing and selling collateral. Whereas transaction costs are often charged to the borrower as loan appraisal fees, risk costs tend to be added as risk prime to the interest rate. Both add to the total cost for the borrower.

Term loans generally require higher loss provisions due to the elevated level of uncertainty. Also, as compared to short-term loans, term loan amounts, terms and conditions cannot be easily adjusted to changing circumstances. However, these risks (and the costs of managing them) vary considerably depending on the type of investment, characteristics of the investor, market environment, availability of risk-management instruments, and other factors related to the economic, institutional, legal and political environment.

Whether the aggregate risk costs of term loans are below or above the costs of seasonal or microlending may depend on the capability of the lender in establishing cost-effective procedures for accessing and evaluating information, supervising borrowers, etc. An FI starting out in term finance may face considerable set-up costs, as will be discussed in chapter 3. Transaction and risk costs tend to decrease as a lender gains experience in term finance, a suitable financing technology has been developed, and costs can be spread over a larger portfolio. FIs accumulate specific knowledge of their client base and a better understanding of key risks and the potential of specific subsectors and markets. A successful track record also lowers the cost of an FI’s access to funding sources.
1.3 DETERMINANTS OF THE FEASIBILITY OF TERM FINANCE

The feasibility of term finance depends on the profitability of financed investments and the ability of investors and financial institutions to manage risk at a reasonable cost. In some cases, risks are prohibitively high: for example, in the case of uncertainty so great that it leads to risk avoidance rather than management. In such cases, there is neither supply nor demand for term finance. In other cases, risk may be manageable, but at high costs that undermine the profitability of the investment.

A precondition for term finance is a stable macroeconomic environment characterized by low and stable inflation and interest rates and realistic foreign exchange rates. Moreover, a certain level of political stability, a profitable agricultural sector, a rural credit culture and a legal and institutional framework for contract enforcement are indispensable. If these conditions are absent, there is little scope for providing term finance, or its provision may actually impact negatively on the financial health of financial institutions and lead to the decapitalization of farmers.

Some additional factors influence the risks of term finance and thus the cost of providing it in a sustainable manner. They need to be analyzed in assessing the feasibility of term finance:

Type of investment. The risk profile of term investments depends on physical and economic characteristics such as size of the investment, length of the gestation and amortization periods, specificity of the asset, its market and collateral value, and its technical sophistication and requirements in terms of maintenance and skills. The risks related to financing of a term investment have to be traded-off against its risk-reducing and profitability-enhancing features.

Type of investor. Important determinants of the risk profile of clients include skills and experience, stability of the business, level and diversification of income sources, collateral assets, relationship with market partners and previous experience with loans. Clearly, it is less risky to finance the expansion of an existing business than diversification into new activities or adoption of new technologies.
Market environment. There are significant differences among agricultural commodities in volatility and in trends in demand and prices. Marketing relationships such as contract farming or other forms of vertical integration may reduce risk related to market access, and sometimes also to price fluctuation.

Availability of support services. Extension, farm-business and financial-management advice reduce production, technical and client risks. The same applies to the availability of suitable technology, after-sales support services, spare parts, planting material, fertilizer, agrochemicals, etc. Financing farm machinery is less risky in areas in which a 'machine culture' already exists.

Legal environment. The legal and institutional framework for the use of rural assets as collateral and the enforceability of contracts has an important impact on risk as well as on the transaction costs of using collateral as a risk-management tool.

Availability of specific risk-management instruments. Risk-management instruments such as insurance or hedging allow investors to transform systemic risks related to climate factors, pests or commodity prices into \textit{ex-ante} premium payments. This makes it easier for both investor and financier to determine the risk-adjusted returns of an investment and compare them to investment alternatives.

Characteristics of the term finance provider. The size and experience of the term finance provider impact on its ability to offer term finance and on the related costs. For example, larger FIs are in a better position to manage portfolio risk through diversification and access to a wider range of funding sources.

From this discussion it can be concluded that despite the generally higher risk, there might be scope for term finance, both on cost grounds and with a view towards its risk-reducing and profitability-enhancing features. However, the feasibility of term finance depends on a number of factors that are highly situation-specific and may vary considerably according to local conditions. Feasibility has to be assessed on a case-by-case basis. Part B will illustrate how this can be done, based on the experiences of the case-study institutions.
From a dynamic perspective, the provision of term investment finance to promising clients can benefit financial institutions: it enhances profitability and reduces the risk profile of clients, creates a sustainable demand for other financial services such as short-term loans, and provides incentives to short-term borrowers to honour their repayment obligations in order to become eligible for term loans.
PART B

AGRICULTURAL TERM FINANCING IN PRACTICE
Most financial institutions are reluctant to provide term finance to farmers due to the issues discussed in chapter 1. Though the scarcity of such finance might be partly attributable to the difficulties of this field of banking and the often hostile environment, it may also point to a lack of dynamism, innovation or competition in the financial system. Under the past directed-credit paradigm, banks were forced to lend to agriculture even in an adverse economic environment and without a proper financing technology. The present financial liberalization has often led to the opposite extreme: commercial banks in several developing countries are characterized by high levels of excess liquidity, which they prefer to invest in low-risk, low-return assets such as treasury bills. Lending is often restricted to well-established medium- and large-scale companies in the commercial, service and industrial sectors. Microfinance institutions, on the other hand, often concentrate their activities in urban or peri-urban areas, focusing on non-agricultural activities with a quick turnover, such as commerce and services.

Despite this bleak overall picture, there are some encouraging examples that illustrate that the problems of risk, transaction costs and asymmetric information can be overcome through an appropriate financing technology. Case studies were conducted in 2001 and 2002 in Bolivia, India, Madagascar, the Philippines, South Africa and Thailand\(^{18}\). Moreover, experiences with agricultural term finance in Benin, Ghana, Indonesia, Kenya and Mali were analysed\(^{19}\). Due to the scarcity of examples, simple selection criteria were chosen: case-study institutions were to be financially viable and to use innovative approaches to term finance, in the sense of not repeating the failures of the directed-credit approach.

\(^{18}\) The full version can be downloaded from: http://www.fao.org/ctc/tci/sectors/Finlgtm.htm

\(^{19}\) These include the Fédération des Caisses d’Epargne et de Crédit Agricole Mutuel (FECECAM) (Benin), Ghana Oil Palm Development Company (Ghana), Equity Building Society and rural savings and credit cooperatives (SACCOs) linked to the coffee, tea and dairy subsectors (Kenya), Banque Nationale du Développement Agricole (BNDA) and mutualist R.FIs (Mali) and smallholder tree-crop development schemes funded through the banking system in Indonesia.
2.1 FEATURES OF THE INSTITUTIONS

The main features of the case-study institutions and their term finance portfolios are summarized in Table 4, which shows their great variety in terms of type, size and exposure to term finance. The two agricultural development banks are by far the largest and have the largest term finance portfolios, including both medium- and long-term loans. Through its 587 branches, the Bank for Agriculture and Agricultural Cooperatives (BAAC) has a national outreach. More than half its portfolio is invested in medium- and long-term loans to small- and medium-scale farmers. The Land and Agricultural Development Bank of South Africa (Land Bank) also has a large term loan portfolio, though the bulk of it is lent to medium- and large-scale, white commercial farmers. The provision of medium-term loans to black farmers is still rather limited.

The other institutions are comparatively small, with smaller term finance portfolios. They are composed of non-governmental organizations (NGOs), non-bank financial institutions (NBFIs), and mutualist FIs. Some operate in a single region – Centro de Investigación del Desarrollo Regional Económico (CIDRE) and Mulukanooor Cooperative Rural Bank (MCRB) – while most are present in several, either through branches – Caja los Andes (CLA), BASIX, Asociación Nacional Ecuémica de Desarrollo (ANED) – or a federation – Caisses d’Epargne et du Crédit Agricole Mutuel (CECAM). Most have been quite innovative in pioneering the introduction of new products and financing technologies. Only one successful example could be found of a non-financial institution providing term finance to small- and medium-scale farmers: Umthombo, formerly called the Financial Aid Fund, is a revolving fund capitalized by the South African Sugar Association. It provides medium-term loans for the establishment of plantations and the purchase of irrigation equipment.

Most case-study institutions focus on the provision of medium-term loans with maturities of three to seven years. Only the agricultural development banks and second-tier institutions such as the Land Reform Credit Facility (LRCF) are able to provide long-term loans with grace periods. With the exception of Land Bank, all case-study institutions focus on market-oriented, small- and medium-scale farmers and non-farm small and medium enterprises (SMEs). Loan sizes generally range...
from US$ 2 000 to 20 000, although several institutions offer larger loans for land development, buildings, specialized farm machinery and agroprocessing facilities.

20 No clear figures exist. However, 5.5 percent of all loan contracts are above US$ 5 000, and 13 percent of the portfolio is in agriculture.
21 Production loans, most of which are from 1 to 3 years.
22 Loans to black emerging farmers in parentheses.
2.2 Motives for Engaging in Agricultural Term Finance

In view of the general reluctance of FIs to offer rural term finance, this section takes a brief look at the motivations of the case-study institutions for engaging in this activity:

- Retaining clients. Institutions with a microfinance background or mutualist FIs realized that their more advanced clients required access to larger loans with longer repayment periods, e.g. to purchase equipment. Medium-term finance allowed them to continue to service these clients. Such investments also strengthened the clients’ businesses and thus future demand for short-term loans as well.

- Servicing new clients. In several cases, market surveys revealed the existence of farmers/rural entrepreneurs with good investment opportunities, who needed term finance to buy equipment or other assets to expand their businesses. These investors were too ‘big’ for microfinance loans, but too ‘small’, or unable to offer suitable collateral, to be regarded as viable by mainstream FIs. In some countries, these farmers were the better clients of now-closed agricultural development banks and no longer had access to formal financial institutions.

- Diversifying from saturated urban markets. Some urban-based FIs such as CLA and the Rural Bank of Panabo (RBP) have faced increasing competition in urban markets for consumer and small-business finance, whereas rural markets were largely underserved by formal financiers.

Ownership structures and the influence of major shareholders, institutional mission, and support from governments and donors were other driving forces in all cases.

- Shareholder influence. Owners need to have a strong commitment and long-term business strategy to enter this market. For example, the owners of RBP were willing to put a substantial amount of capital at risk to develop a viable approach to smallholder lending, despite the losses the bank had experienced in the past in this market. In the case of the mutualist RFIs MCRB and CECAM, the
Box 3
Background of selected case-study institutions

Asociación Nacional Ecuménica de Desarrollo (ANED) is a financial NGO in Bolivia. Its institutional mission is to provide loans to the rural population in diverse regions of the country. After several years of experience with group-based microlending, the shortcomings of this approach for financing larger investments became clear. Many existing clients requested larger amounts, to be repaid over longer terms. First ANED tried to adapt its group lending technologies to the financing of tractors and other equipment, but governance problems and a weak legal framework for enforcing loans frustrated these attempts. Then ANED introduced leasing in areas in which non-financial NGOs had created a valid demand for irrigation equipment and tractors by training significant numbers of farmers in their use.

Caja los Andes (CLA), Bolivia, started as a financial NGO in 1992 and converted into an NBFI in 1995. After success with its urban microfinance portfolio, CLA found that this market became increasingly saturated. Many competitors relaxed appraisal standards, so that clients could take loans from various lenders or pledge assets several times, which led to increased default rates. However, since the closure of the agricultural development bank in the mid-1980s, rural areas were largely underserved. In order to expand and diversify its portfolio, CLA adapted its character and its cash-flow-based, individual lending technology to the rural environment, where many potential clients received a significant share of their income from agriculture and demanded longer repayment terms. CLA has only one rural loan product that can be adjusted to the cash flow of an individual client. Amounts of up to US$ 30,000 and terms of up to five years are offered to the most progressive clients, who can offer tangible collateral.

The Bank for Agriculture and Agricultural Cooperatives (BAAC) is a government-owned agricultural development bank with the specific mandate of providing financial services to the farming community in Thailand. After negative experiences with lending through farmer cooperatives, BAAC developed a highly efficient, individual lending technology, based on joint liability groups that screen and supervise borrowers. Once a core client base had been established, BAAC started to offer medium- and long-term loans to farmers with a track record in short-term borrowing. Its scale, efficiency and access to funding sources have allowed the bank to offer comparatively low interest rates, facilitating the expansion of the term loan portfolio.

The Rural Bank of Panabo (RBP), a small rural bank in the Philippines, has had a chequered history in its lending to small farmers. Earlier attempts to provide unsecured, short-term loans to rice farmers failed. However, in urban areas, it faced increasing competition from other rural and commercial banks, whereas in rural areas, farmers were only accessing loans from traders at high interest rates. In the mid-1980s, it invested in a rice mill, established as a joint venture with 185 small rice farmers, through which farmers could obtain inputs and extension services and market their rice at competitive prices. The mill also allowed RBP to collect loans through deductions from the sales proceeds. Moreover, with every seasonal loan repaid, farm-
majority of shareholders are farmers, many of whom were willing to
remain in the agricultural sector.

• **Institutional mission.** This is most obvious in the case of the agricultural development banks, whose core functions include the provision of medium- and long-term finance to farmers. Despite the fact that most of them have failed due to weak management and political pressure to provide loans beyond prudential banking norms, some of them have been successfully reformed – BAAC, for example. Also, some NGOs have a mandate to assist farmers in financing productive investments.

• **Government and donor support.** In many cases, governments have played an important role in supporting RFIs that engage in term finance. Most case-study institutions have also been supported by donors, both in terms of technical assistance and of seed capital for developing term finance products.

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23 Formerly the Financial Aid Fund.
2.3 PERFORMANCE OF THE PORTFOLIOS

The quality of the term finance portfolios of the case-study institutions has generally been satisfactory. The repayment rate or on-time lease payment rate of most is above 90 percent. However, in some cases the quality of the agricultural term asset portfolio is difficult to assess, because the management information system (MIS) does not generate data according to maturity or purpose. This is the case, for example, with CLA. Other institutions, such as Land Bank, have only recently moved into providing agricultural term finance to emerging commercial farmers, and they cannot supply data yet on portfolio quality. Table 5 provides the repayment rates for the institutions for which this data is available.

While BASIX and BAAC have lower repayment rates for term loans than for seasonal loans, in the case of CECAM and ANED, lease payment rates are higher than those for loans. BAAC is a particular case because of its loan-loss provisioning policy: term loans are collected through single, yearly installments, and loans might be rescheduled if the default is not caused by moral hazard problems and the borrower intends to repay (see section 4.7). For each year that a loan is overdue, only 10 percent of the portfolio at risk is written off. Though on-time repayment rates for term loans had been quite low, less than 0.3 percent had been written off completely over much of the period prior to the financial crisis of 1997.

<table>
<thead>
<tr>
<th>Table 5</th>
<th>On-time repayment rate of case-study institutions (%)</th>
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<tbody>
<tr>
<td></td>
<td>CLA</td>
</tr>
<tr>
<td>Term loans</td>
<td>n.a.</td>
</tr>
<tr>
<td>Total loan portfolio</td>
<td>90.3</td>
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</tbody>
</table>

24 Divestment of equity in the first ‘corporative’ has been successful and replications are still in an early stage. The repayment rate for short- and medium-term loans is 100%.
3 ISSUES IN DEVELOPING A TERM FINANCE PORTFOLIO

This section discusses basic issues and principles that financial institutions intending to engage in term finance in rural areas must address. Based on the lessons of the case studies, it provides guidance for practitioners as well as for the donors and governments supporting them.

3.1 DESIGNING PRODUCTS AND DEVELOPING A FINANCING TECHNOLOGY

The suitability and relative advantages of different term finance instruments largely depend on the characteristics of the potential demand, the legal and institutional framework for contract enforcement and the capacity of the RFI in terms of risk management and access to long-term funding sources. There may also be legal provisions that restrict the use of leasing or equity finance to certain types of financial institutions.

The effective demand for term finance products should be assessed through thorough market research. This should include an analysis of types of investment opportunities in terms of their profitability, capital requirements, cash flow and the scope for expansion of related economic activities. The risk profile of potential clients should be drawn up according to their farming and business skills, track record as borrowers, diversity and stability of income sources and expenditures, potential collateral, etc. Box 4 provides a checklist of the key elements of a market survey intended to guide the introduction of term finance products.

Though the suitability of term finance instruments has to be assessed on a case-by-case basis, some of their strengths and weaknesses will be briefly highlighted:

Term loans are well known and easily understood by farmers and may be used to finance a range of purposes by adjusting loan sizes and disbursement and repayment schedules. There are seldom restrictions on the type of financial institutions that can provide term loans; in principle, even non-financial institutions such as processing companies or equipment suppliers can provide them. The main difficulty in using term
loans is the need to fix the repayment schedule ex-ante, based on assumptions that might change over the repayment period. Once the loan has been disbursed, adjusting the repayment schedule is problematic, for example, to a major adverse event undermining the repayment capacity of the borrower. A second constraint involves problems of asymmetric information, moral hazard and adverse selection, which require tangible collateral and an effective legal and institutional framework for secured lending (see sections 4.2 and chapter 7). Thus very long-term loans are only feasible in a stable environment and where suitable risk-management tools and collateral are available.
Financial lease has the advantage that it reduces or even eliminates the need for additional collateral and problems related to the creation, perfection and enforcement of security interests – the financier is the owner of the assets financed. It may thus be particularly suitable in countries where weak legal and institutional frameworks create severe constraints on the use of rural assets for securing term loans. However, several issues have to be taken into account in designing leasing products for informal clients in rural areas. First, the concept of financial leasing is often unfamiliar to farmers, RFIs and local institutions, and its introduction may thus require higher set-up costs for capacity-building of local stakeholders. Second, since the financed asset is the main security and source of lease payments, leasing requires more supervision, resulting in high transaction costs. Finally, legal and regulatory provisions may restrict the use of leasing to certain FIs, or the tax treatment may discriminate against leasing.

Equity finance by existing or new shareholders has the advantage that it avoids fixed repayment schedules and costs. The participation of the financier as shareholder in the enterprise reduces moral hazard problems related to asymmetric information, and the enterprise in turn benefits from management expertise. The main limitations of equity finance relate to high transaction costs for appraisal and monitoring. This limits its use for smaller investments. It may, however, be suitable for financing larger-scale investments in processing and marketing that then enhance the profitability of farm-level investments. In this context, equity finance could be used for capitalizing joint venture companies of farmers, financial institutions and agribusiness. Equity finance requires specific skills that may restrict its use to specialized equity and venture capital funds and development finance institutions.

3.2. Importance of a Gradual Approach

The introduction of financial innovations usually requires several steps before a product can be launched and marketed on a larger scale. Apart from the market survey, they include the development and pilot testing of prototypes, followed by strict monitoring and adjustment.25

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25 See Wright et al., (2001) for a comprehensive discussion of whether a microfinance institution is ready to expand its product offerings and, if so, how it should do so.

Part B: Issues in Developing a Term Finance Portfolio
Adhering to such a gradual, phased approach is especially important in the case of more complex products, such as term loans or leasing, which expose the financial institution to greater risk and may require considerable adjustment of operational procedures and investment in institutional and human capacity. Staff have to develop new skills, for example in the appraisal of agricultural investment projects, including the assessment of market trends and production-related risks over longer time horizons. Moreover, term finance providers have to deal with legal and institutional issues regarding collateral and complex tasks in managing asset/liability and portfolio risks. The MIS also has to be customized to allow monitoring of the term finance portfolio and managing of these risks.

Most case-study institutions started with the provision of seasonal loans to farmers before venturing into term finance. This helped them become familiar with local production and marketing conditions, the specific risks of different agricultural activities, the importance of non-farm income sources, types and quality of collateral that can be offered by farmers, etc. Their presence in rural areas also allowed them to establish good relations with local authorities, community leaders and other local institutions that can facilitate the screening of borrowers and instil loan repayment discipline. Knowledge of clients reduces moral hazard risks and allows flexibility regarding loan conditions and collateral requirements.

Once a sound rural clientele base is established, offering longer terms becomes less risky. Term loans can be offered first to promising clients with a sound track record as borrowers and proven farming and business skills. When the financing technology is tested, term finance can then be offered to new clients. Such a gradual approach helps minimize losses and institutional learning costs during an initial period of trial and error.

3.3 Identifying Suitable Regions

Selection of suitable regions is an important first step in venturing into term finance. Following the gradual approach, it is generally advisable
to begin developing an agricultural lending technology in regions with high agricultural potential and relatively low risk and transaction costs. Once the financing technology and operational efficiency are satisfactory, and a pool of profitable clients has been established, the financial institution can gradually expand into other regions.

Good agro-ecological conditions (soil and climate), access to markets or processing facilities, and availability of inputs and support services such as extension and business advice are preconditions for commercial agriculture and thus for an effective demand for term finance. Irrigation and drainage facilities have an important impact on production risk. The existence of contracts between farmers and agribusiness enterprises or traders reduces risks related to the marketing of produce and availability of inputs. It may also provide scope for tripartite arrangements among financial institutions, farmers and buyers of produce.

Good infrastructure for transport, communications and marketing reduces transaction costs for lenders and borrowers, increasing the profitability of agriculture and reducing the cost of financial service provision. Population density is another important factor. Peri-urban areas are characterized by high population density and a higher share of non-farm income. The latter facilitates diversification of the loan portfolio. Moreover, clients with a broader range of income sources are less exposed to seasonal and agricultural risks and may be able to make more frequent loan payments.

Most case-study institutions started their term finance operations in high-potential regions, often in proximity to urban areas. However, one important caveat applies: underserved markets with relatively low risks and costs attract competition. This is in principle a healthy situation, contributing to a broader range of financial services and improved quality. However, it might lead to additional risk for lenders if clients begin borrowing from different sources and overindebtedness develops (see Box 5). Such a situation may occur if collateral is not available or cannot be registered and enforced properly, or if lenders are reluctant to share information about their borrowers, as happened in Bolivia in the late 1990s. Also, in regions with relatively low risk and high profitability, investors have increased access to finance from informal sources such as traders, processors and suppliers of agricultural inputs and...
equipment. These entities are often in a better position to enforce their claims.

An alternative strategy might be to gradually diversify lending into more remote areas. Here, a low degree of competition from other financial institutions facilitates assessment of the client’s debt situation and increases the scope for non-registered rural assets as collateral. Moreover, investors have a stronger incentive to maintain a good relationship and a sound reputation with the lender and are thus less likely to default. Such an approach might be especially viable if processing companies are located in these remote areas. Bulky, perishable crops such as palm oil, tea and sugar cane require immediate processing after harvesting. Frequently, optimal agro-ecological conditions for growing these crops are found in less populated areas at a greater distance from major urban centres.

Box 5
Increased competition between RFIs in Bolivia

In Bolivia in the mid-1990s, high competition in urban areas prompted several microfinance institutions to diversify into rural areas that had remained severely underserved since liquidation of the former state-owned Banco Agrícola de Bolivia (BAB) in 1985. The collapse of BAB, which was to a significant extent attributable to strategic loan default by politically well-connected large producers, left many small- and medium-scale farmers outside the financial system. Most financial institutions and NGOs concentrated their rural operations in the same lower-risk peri-urban and rural areas, in proximity to major roads and with a reliable water supply. The use of group guarantee mechanisms, pledging of household goods, farm equipment and land became problematic. In some areas, farmers began taking out loans from different financial institutions, offering the same assets as collateral. Only regulated financial institutions such as banks and private financial funds had access to the credit bureau of the Superintendence of Banks, whereas NGOs were the most important providers of rural credit.

Lenders that also serve more marginal areas, such as CIDRE, an NGO operating in the Cochabamba region in Bolivia, often report better repayment performance in locations where farmers do not have access to comparable funding sources and thus try to maintain a good relationship with the formal lender.
3.4 Catalytic Role of Ancillary Investments and Support Services

Though starting with seasonal finance is generally the recommended approach for RFIs, two case studies demonstrate that, in some situations, complementary term investments are needed to address critical production and marketing risks, before short- and medium-term loans can be provided on a sustainable basis.

Box 6
Financing term investments as a precondition for rural lending

*The Rural Bank of Panabo* used a venture capital approach to set up a rice mill, which served as a vehicle to provide inputs and extension services to farmers and to collect loan repayment in kind. This has enabled it to provide loans to farmer-shareholders of the mill with low risk and transaction costs.

CIDRE, an NGO operating in the Cochabamba region in Bolivia, has identified production risks, caused by an unreliable water supply, and market risks, due to insufficient storage facilities, as major constraints on rural lending. In response to these constraints, CIDRE has financed small pump irrigation schemes in drought-prone areas, addressing critical production risks and enabling the intensification of dairy production and diversification into other products. Moreover, milk cooling tanks were financed to help producers increase the quality of the milk and thus achieve higher prices. These investments were managed by existing farmer groups under the close supervision of CIDRE. The most entrepreneurial group members could also obtain individual short- and medium-term loans. Recently, CIDRE has begun making equity investments in small- and medium-scale processing enterprises, and this has important backward linkages to primary producers.

However, both institutions already had a long-standing presence in their rural areas, which facilitated the selection of viable clients and suitable regions. Moreover, they had accumulated considerable technical and economic knowledge in their activities. Few RFIs have the necessary skills, capacity and capital to manage and finance larger and more complex term investments and replicate the approaches developed by these two case studies. Coordinated approaches with diverse stakeholders will be needed in areas where ancillary investments are preconditions for the sustainable provision of short-, medium- and long-term finance to investors. RFIs may engage in partnerships with agroprocessors, NGOs, local governments and donor-supported programmes. Equity finance and joint ventures might be possible instruments for funding larger-scale
investment linkages between primary producers and processing companies (see chapter 6).

Term finance providers need to ensure the availability of quality inputs and non-financial support services\(^\text{26}\) as important determinants for the risk and profitability of term investments. Some case-study RFIs have established partnerships with non-financial institutions such as NGOs or equipment suppliers. Cooperation with such institutions is most effective if the latter share the credit risk. This provides an incentive to ensure quality training and after-sales services, as well as to participate actively in the monitoring and supervision of borrowers.

Other RFIs provide non-financial support services – business development, strengthening of producer organizations or extension – either directly (CIDRE) or through specialized subsidiary companies (BASIX). The advantages of this approach are lower transaction costs and control of the quality of the services provided. However, there are related moral hazard risks if the lender chooses the equipment or provides support services, because the borrower could use ‘faulty advice’ from the lender as an excuse for loan default. Provision of financial and non-financial support from the same institution should thus be regarded as a second-best option.

### 3.5 Adopting a Relationship Banking Approach

An important lesson from microfinance is that small and informal businesses value a stable banking relationship with an RFI that can service the various financing needs of the household and the farm business(es). Reliable access to financial services helps farmers self-insure against and cope with risks, finance life-cycle events such as marriages or funerals, and invest in the expansion of existing activities or diversification into new ones. It provides an incentive to honour their repayment obligations. Moreover, repeat transactions allow investors to establish a track record with the lender. It strengthens the ties between RFI and farmers

\(^\text{26}\) These include extension, technical support and repair facilities for equipment, veterinary services, market-information systems, business development and financial management.
and may contribute to enhancing mutual trust within a long-term relationship. Clients may establish social capital with the lender and become eligible for term loans.

Such a relationship helps the lender obtain information on the character, cash flow and skills of a client. This allows better screening of potential applicants for term loans and a more realistic assessment of the risk. As a result, a lender might be able to rely more on cash flow and less on collateral, which may to a degree overcome problems related to the limited availability of loan collateral. Longer terms at lower interest rates might be offered, which provides an additional incentive to maintain a good relationship with the lender.

A relationship banking approach also increases the viability of term finance in rural areas. Term loans or leasing may be introduced to complement other financial services and may be made available to more advanced and entrepreneurial clients to finance productive investments or even consumption goods if sufficient repayment capacity exists. The possibility of obtaining a term loan or a lease may provide an incentive to existing clients to repay short-term loans on time or, vice versa, convenient, fast access to seasonal finance and emergency loans may provide strong repayment incentives to borrowers of term loans.

Relationship banking works best in areas with low competition, for the reasons mentioned earlier. However, even in situations of increasing competition, it may be an important mechanism for FIs to retain their more profitable clients. Different incentive mechanisms (discussed in more detail in chapter 4) can be used to allow good clients and repeat borrowers faster access to loans, with more flexible terms, lower interest rates and lower collateral requirements.

3.6 Offering A Range Of Financial Products

Offering a variety of financial services, including deposit facilities, short-term production or multipurpose loans and different term finance products, is a precondition for a relationship banking approach. However, it conveys a number of additional benefits to investors and providers of term finance.
Easy and reliable access to deposit facilities and short-term loans for production or emergency purposes helps farmers manage their farm household cash flow better and make frequent small loan payments. Access to emergency loans, credit lines or overdraft facilities may also have an indirect effect on the ability of rural households to self-finance investments in productive assets: some of the funds that would normally be kept idle or liquid in order to cope with emergency situations or for unforeseen expenditures can be used to finance risky start-ups or to complement term loans.

Attractive savings facilities help farmers accumulate equity to self-finance investments in new activities or to adopt new technologies on a pilot scale, before venturing into larger investments funded through debt financing. This allows them to gain management experience and establish a track record, which in turn facilitates access to larger loans with longer maturities for expansion. The accumulated funds can also be used for equity contributions or down payments, which reduces the risk in a term loan or lease.

Short-term loans sometimes finance term investments directly, especially those that can be expanded gradually or require staggered disbursements over several periods. For example, the planting of tree crops might be financed by the rolling over of short-term loans if the farm household has sufficient income from other sources. Using short-term loans for investment purposes might be indicated in unstable environments with high, fluctuating interest rates or for financing diversification into new and risky activities. Moreover, larger-term investments often increase working-capital requirements and thus the demand for short-term loans. Shortage of working capital may have a negative impact on the proper management and maintenance of investments and thus on the investors’ repayment capacity for term loans.

Access to short-term emergency credit as well as withdrawable savings can greatly facilitate consumption smoothing, and thereby increase the risk bearing capacity of farm households (Zeller, 2001). This, in turn,

27 Asset accumulation through the repeated use of short-term loans is most common in areas in which smallholders form part of an organized cash-crop subsector (e.g. coffee and tea in Kenya) and where access to agricultural input and output markets is assured and extension services are provided.
may enable poorer farmers to adopt new technology and undertake more medium-term investments more easily.

3.7 **Strengths and Weaknesses of Types of Term Finance Providers**

**Financial versus non-financial institutions**

Non-financial institutions such as suppliers and processors are important sources of seasonal finance in rural areas (buyer and supplier credit). The provision of credit is often interlinked with the marketing of produce.

Equipment suppliers may be interested in using deferred payments or leasing to promote the sale of equipment to potential clients unable to pay in advance, without the additional transaction costs and delays involved in seeking bank finance. Their main strengths compared to FIs are their technical knowledge of the equipment and the capacity to train clients and provide after-sales services such as warranty, spare parts and repair facilities. Processors might be interested in financing farm-level investments such as irrigation systems or (re)planting of perennial crops to ensure reliable quality and quantity of raw material. Their strengths lie in their ability to provide additional non-financial support services, such as inputs and extension, and a secure marketing outlet.

However, there were few examples in which equipment suppliers or processing companies provided term loans or leases to farmers. Equipment suppliers are either not involved in financing transactions at all, or they only agree to short-term deferred payments. In the few cases in which suppliers accepted deferred payments over longer periods, requirements for collateral and down payments tended to be at least as restrictive as those applied by financial institutions. Traders and agribusiness companies limit their financing activities mainly to in-kind provision of seasonal inputs. Direct financing of term investments is rare and involves situations in which a single-channel marketing outlet reduces the risk of

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28 Evidence of this was found in Bolivia and Tanzania.
loans default caused by outside selling to third parties (see chapter 6). Some agribusiness companies provide services that require capital-intensive investment in assets, such as land preparation or transport. These companies have better access to term finance, can reap economies of scale, and ensure appropriate handling and maintenance of the equipment.

This points to some important weaknesses of suppliers and processors in providing term finance: their limited skills in appraising the creditworthiness and repayment capacity of farmers; the high cost of setting up and managing a loan administration and monitoring system; and their limited access to long-term funding sources.

Processing companies tend to have a narrow perception of farmers as suppliers of a specific raw material, not as complex household/business entities. Farmers are often encouraged to produce as much of the cash crop as possible and are not allowed to use inputs supplied on credit for any other purpose. This may result in overspecialization, which might not be problematic as long as product prices are high. It does, however, increase the vulnerability of farmers to price shocks or to losses from pests and diseases that attack the main crop. The likelihood of default increases if farmers do not have alternative farm or non-farm activities to meet subsistence and immediate cash needs, or cannot draw on savings or consumption loans. Moreover, in-kind provision of inputs does not substitute for the need to properly assess the complex interactions between farm and household cash flow: inputs are fungible and can be used for different crops or sold.

Larger equipment suppliers are often located in provincial capitals, which raises the cost of supervising clients. Smaller, village-based equipment dealers, who have better knowledge of their clients and increased possibilities for supervision, face limited access to long-term funding sources. This is often exacerbated by a legal framework that does not allow the use of inventory or outstanding term loan/lease portfolios to secure refinancing from banks.

In view of the complexities involved, the direct provision of term finance through non-financial institutions should generally be regarded as a second-best option. A possible exception may apply to perishable, bulky
products that require immediate post-harvest handling and processing. Tripartite arrangements (e.g. among agribusiness companies, financial institutions and investors) are more promising, since they allow each party to concentrate on its own strengths. Financial institutions have economies of scale in administering loan accounts and can make use of existing software and MIS. They should also be involved in the screening and selection of borrowers, the design of loan products and loan appraisal. A further advantage of financial institutions is their ability to offer additional financial services, such as savings, emergency and consumption loans, which are particularly useful to poorer households (Zeller et al., 1997). Non-FIs can provide tailor-made training, a timely supply of quality inputs and extension services, post-harvest handling and marketing of outputs. Contracts need to be designed in a way that shares risks, costs and benefits and provides incentives to maintain the relationship over long time horizons.

**Strengths and weaknesses of types of FIs**

The case studies demonstrate that term finance can be provided by different types of financial institutions, including financial NGOs, mutualist FIs, agricultural development banks and NBFIs. The role and potential of specific types of financial institutions varies according to local conditions. This discussion will focus on the impact of location, size and legal status on the ability of FIs to provide term loans or leasing to farmers and rural microentrepreneurs.

Size and location are key issues. FIs based in rural areas face lower transaction costs in obtaining information about clients and local production and marketing conditions and, accordingly, in loan appraisal and borrower supervision as well. They can build on their existing knowledge and social networks and introduce term finance to expand the existing range of products. However, smaller RFIs are more vulnerable to local systemic risks, such as drought or pests. Diversification into different client categories or regions may help manage such risks, but smaller RFIs have limited possibilities for developing the skills, knowledge and financing technology that such diversification requires. Large institutions can diversify both their asset portfolio and their liabilities, thus combining the advantages of specialization and diversification.
To a certain extent, smaller FIs may compensate for their disadvantage in size by building networks and second-tier structures, which allows horizontal exchange of liquidity to cope with temporary shortage or excess. Through an apex body, they might also be able to access commercial funds, such as credit lines with commercial banks. Networks can also facilitate capacity-building and sharing of information and innovations.

A second issue relates to the legal status of a financial intermediary. Unregulated FIs may have greater flexibility in adjusting financial products and technologies to the specific features of their target market. They do not have to adhere to strict banking regulations, e.g. regarding the use of collateral and loss provisioning. This may allow them more flexibility in dealing with late payments if these are clearly the result of an adverse external event, beyond the responsibility of the borrower. However, this potential advantage also constitutes a major threat to the financial health of the RFI. This may be the case particularly for borrower-dominated FIs or financial NGOs with no clear ownership structure and weak internal control.

Legal status also determines which financial services can be offered and which funding sources can be mobilized. Due to the reasons mentioned in 3.5, FIs that are able to offer a range of complementary financial services are better able to establish a long-term partnership with clients. Regulated FIs have easier access to a broader range of funding sources (see next section).

In general terms, RFIs such as mutualist financial institutions, financial NGOs and other rural MFIs enjoy the advantages of proximity to clients and outreach in rural areas, but face the challenge of managing portfolio and asset/liability risks. Commercial banks are in the opposite position: they have good possibilities for diversifying asset portfolio and liabilities, but low outreach in rural areas, often combined with a cultural distance from the rural clientele. Agricultural development banks have the potential advantage of combining outreach in rural areas with size, but are often plagued by weak management and governance structures and by political influence on lending decisions. Still, BAAC and Land Bank have shown the sustainable outreach that reformed agricultural development banks can potentially reach if governance issues are tackled effectively.
3.8 **Funding a Term Asset Portfolio**

**Importance of asset/liability management**

As was pointed out in part A, financial institutions with a term finance portfolio must develop effective strategies for minimizing asset/liability mismatches and the associated liquidity, interest-rate and foreign-exchange risks. This topic is discussed in more detail in *Agricultural Finance Revisited* (AFR) No. 4 (Giehler, 1999). In view of the crucial importance of ALM for financial institutions engaging in term finance, some issues and options for funding a term finance portfolio from the perspective of financial institutions will be discussed. Policy implications for governments and donors will be outlined in part C.

**Suitability of different funding sources**

The suitability of different funding sources for refinancing a term finance portfolio depends on the characteristics of the portfolio regarding maturities, share of term assets in the total asset portfolio and the use of fixed or variable interest rates. Open positions (i.e. mismatches between asset types and funding sources) can relate to three areas: interest rates, amounts and duration of funds received and provided. FIs engaged in medium- and long-term finance should try to minimize open positions by accessing funding sources that closely match the terms and conditions of their asset portfolio. The generic features and suitability of different funding sources will be briefly discussed.

Equity such as retained earnings, paid-in shares or grants has the advantage of not having fixed costs or maturities (see chapter 6). Thus using equity to fund a term asset portfolio avoids interest-rate and liquidity risks. RFIs with a strong equity base are well equipped to engage in term finance.

*Equity* can be obtained from concessionary (donors, governments, development banks) or commercial sources (existing or new sharehold-

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29 Only part of the equity can be used to finance a loan asset portfolio; another part is usually invested in fixed assets of the financial institution, such as buildings, office equipment, vehicles, software systems, etc.
ers, investment funds, etc.). Many of the case-study institutions have received concessionary equity or grants from donors or governments, especially during the start-up phase. Member-owned institutions such as CECAM and MCRB collect shares from their owners and borrowers in different ways. To become members and thus be entitled to take out loans or leases, a minimal number of shares must be bought, which are only repaid upon termination of membership. Moreover, the size of the loan or lease a member can access is linked to the number of shares. This provides an incentive to buy more shares, enlarging the capital base of the RFI. Finally, equity is increased by deducting a certain percentage from each loan or lease.

One caveat applies to the use of equity: it may have serious implications for the ownership and governance structure of the RFI (Giehler, 1999). Both member- and government-owned institutions are under continuous pressure to expand lending and improve the terms for borrowers, often at the expense of lower prudential lending requirements.

**Subordinate loans**\(^\text{30}\) have fixed repayment periods, but rank below other commercial borrowing (senior debt) in the case of bankruptcy. The principal is usually repaid in one single instalment at the end of the maturity period (balloon repayment). These loans are normally unsecured or can be secured through a secondary claim on the company’s assets. Thus they require a higher risk prime and have higher costs than normal bank loans.

Subordinate loans are provided by commercial banks, venture capital funds, private investors with specific investment interests and single-purpose mezzanine funds. They may also be available from national and international development finance institutions. The providers of subordinate loans do not participate in the management of the borrowing company.

The advantages of subordinate loans are longer terms, flexibility in designing the repayment schedule and the absence of influence in management decisions. The main disadvantage lies in the higher costs as compared with secured loans.

\(^{30}\) Also called mezzanine finance.
**Bonds** normally carry fixed-interest rates and can be issued with longer maturities. This reduces interest-rate and liquidity risks. However, not all financial institutions are allowed to issue debt instruments. Central banks and supervisory authorities often apply strict rules as to the type of financial institution allowed to issue bonds. Moreover, in order to attract funds from capital markets, lenders need to fulfil high standards of adherence to sound banking practices and good portfolio quality. Amounts, maturities and cost of funds depend on the rating in the capital market. The large fixed costs of issuing bonds make smaller amounts uneconomical and limit the use of this instrument to the largest and best-performing institutions.

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**Box 7**

**Using bonds for funding a term loan portfolio**

Only two case-study institutions have been able to use capital-market instruments to a significant degree: Land Bank and BAAC. Land Bank issues bonds in the national capital market that closely match the terms and maturities of its term loan portfolio. Despite lending exclusively to agriculture and related activities, Land Bank has a sound history as a financial institution. Three factors are responsible for its good rating in the capital market: the bulk of the portfolio is relatively low risk, since it is lent to established medium- and large-scale commercial farmers; most of the portfolio is secured by mortgages on real estate; and government ownership provides an implicit guarantee of solvency in case of major external shocks.

BAAC also refinances a part of its medium- and long-term loan portfolio through bonds. Government ownership has certainly supported BAAC’s success in mobilizing commercial funds through deposits and bonds, though the Government has only stepped in once during the recent financial crisis. However, compared with Land Bank, BAAC finances mainly small- and medium-scale farmers, and its term loan portfolio is secured only through collateral substitutes and mortgages on land titles issued under the agrarian reform, with limited market value. BAAC’s success in accessing capital markets is mainly attributable to the following key factors:

- development of a highly efficient lending technology based on joint liability groups, and a gradual diversification of loan products into term loans;
- a quasi-monopolistic position as the formal financier of loans with more suitable conditions, so that farmers wish to maintain creditworthiness with BAAC;
- high standards of staff professionalism and the existence of a ‘firewall’ that has largely protected the bank’s operational autonomy from political interference; and
- national scale, which facilitates pooling of systemic risks.

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Another capital-market instrument used prominently in developed countries for financing long-term loans is asset-backed securities. Retail financial institutions with a term loan portfolio backed by real estate mortgages can issue bonds on the secondary mortgage market.
Mortgage-based lending does, however, require an active market for real estate and an appropriate legal and institutional framework supporting the creation, perfection and enforcement of security interests, which will be discussed in chapter 7.

**Borrowing from national and international sources.** Term assets can be funded through loans from other domestic banks on the interbanking market or through certificates of deposit. If terms and maturity structures can be matched, liquidity and interest-rate risks can be minimized through commercial borrowing. However, three caveats apply in practice:

- medium-term loans from commercial sources are relatively costly;
- often only shorter maturities are available; and
- the availability of funds is volatile.

These issues become more important with the increasing maturity of a term asset portfolio. Longer term loans at fixed interest rates may have to be refinanced several times, which exposes the lender to significant interest-rate risk. Commercial loans are highly risk and interest-rate sensitive: if temporary external events affect the portfolio quality of a lender, macroeconomic stability, or the profitability of important economic sectors, commercial borrowing will only be available at higher cost and with shorter maturities. Due to this volatility, it is difficult to refinance a stable medium- or long-term finance portfolio primarily through commercial borrowing.

International borrowing in foreign currency may be available at lower cost and with longer maturities, but may expose the RFI to currency risks, especially if most assets are in domestic currency. Borrowing from concessionary sources is frequently available with long repayment terms, including grace periods, and often at below-market cost. A major caveat involves indirect costs for reporting requirements and, in some cases, limited autonomy in the use of funds (onlending conditions, target borrowers, etc.).

**Deposits** are an important and cheap funding source for those FIs allowed to mobilize them. However, using deposits for funding a term loan portfolio implies high liquidity and interest-rate risks and requires
considerable asset/liability management skill and a good MIS. The risks depend mainly on the term and size structure of the deposit base and its sensitivity to interest-rate fluctuations, as well as on the size of the financial institution and its access to refinance facilities.

**Size of the RFI.** Small RFIs with limited possibilities for coping with systemic risk are exposed to high liquidity risk. In the case of major adverse events, many depositors may want to withdraw their funds, while many borrowers may not be able to repay. In order to use deposits to fund a term loan portfolio, these institutions must have access to refinance facilities from the owners or from a second-tier institution.

**Structure of deposits.** The bulk of the deposits of RFIs often consists of a large number of small sight-deposit accounts of unknown duration. On the other hand, a significant share of the total deposits might come from a limited number of depositors, who might be interest-rate sensitive. Such a deposit structure increases the exposure of an RFI to liquidity and interest-rate risks.

Still, there might the possibility for those financial institutions that have established a suitable financing technology to use deposits to fund a limited portfolio of medium-term loans or leases. In rural areas with low levels of competition for savings, interest-rate sensitivity may be low and small rural deposits can provide a low-cost, stable base for funding. Some possibilities for using deposits for funding a medium-term portfolio include:

- using core deposits in combination with standing credit lines or liquidity pools within networks of FIs (see box); and
- designing term deposits and savings-cum-loan products.

There is little doubt that many developing-country banks could do more to develop savings products that are attractive, remunerative and designed to help clients participate more actively in the money economy. This is especially true of the development of term savings or savings-cum-loan products, i.e. adapting housing finance products for use in agricultural term finance. Several financial institutions in Africa, such as FECECAM, CECAM and the Equity Building Society, have recently introduced such products. The borrower would have to save a certain
amount each week or month until a target amount is reached. He or she can then apply for a term loan at preferential interest rates. Further research would be required to explore the scope of such instruments. Deposit insurance would be an important tool to support savings mobilization strategies by enhancing public confidence and safeguarding deposits. It would also reduce the danger of a bank run.

Main implications for funding a term asset portfolio

The discussion of the pros and cons of different funding sources indicates that FIs should aim to diversify their liability structure to facilitate the matching of terms and costs of funds and assets, but also to reduce dependency on single funding sources. Liability-structure management is important to guarantee the solvency, liquidity and profitability of a financial institution by ensuring sufficient equity, as well as a mix of debt instruments.

Equity and subordinate loans are the best suited to funding a term finance portfolio because they minimize ALM risks. This is especially
important for FIs with limited experience in term finance and for smaller FIs with little possibility of diversifying their liability structure. Long-term borrowing reduces liquidity risk for long-term assets and – if provided at fixed costs – interest-rate risk. However, in the case of international borrowing, currency risks have to be assessed carefully.

The ability of FIs to use deposits, bonds or central-bank rediscount facilities depends first on the banking legislation of the country. Core deposits and commercial borrowing might be important complementary funding sources. However, their use for funding term assets requires considerable ALM skill. They are most appropriate for larger, experienced institutions, which have a solid asset portfolio, a good rating in the financial system and a strong equity base. This applies even more to capital-market instruments such as bonds. Term deposits are interest-rate sensitive and may be used for financing medium-term loans at variable interest rates.
4 Term Loans and the Elements of a Successful Lending Technology

Term loans are the most widely used term finance instrument. They allow considerable flexibility in adjusting loan amounts, disbursement and repayment schedules to the cash flow of the investment and the farm household. Depending on the target clientele and the experience of the lender, medium-term loans can be designed either as general purpose loans or as investment loans for specific purposes.

This chapter discusses elements of a term lending technology: selecting borrowers and investments, using collateral and collateral substitutes, appraising repayment capacity, structuring loan disbursement and repayment schedules, pricing term loans, monitoring loans and supervising borrowers, and dealing with default.

4.1 Selecting Borrowers

A thorough screening and selection of clients is key to reducing the risks of term loans. Most case-study institutions provide term loans or leasing to individual farmers. Farmer groups often play an important role in screening and supervising clients, procuring inputs and marketing outputs (ANED, Rural Bank of Panabo), or as joint liability mechanisms (BAAC). The following are the most important factors determining the risk profile of a potential client:

Experience and skills. The level of general farm management skills as well as specific experience with the investment or activity are important determinants of idiosyncratic borrower risk. Thus many lenders restrict term loans to the renewal or expansion of existing activities in order to ensure that the client has relevant management experience.31

The extent to which previous work experience is a prerequisite for a loan depends also on the size of the investment, the quality of collateral and the loan appraisal method. For smaller equipment, such as power tillers or irrigation pumps, requirements regarding experience are less stringent. In the case of larger equipment – and to the extent to which

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31 Start-up finance might be acceptable if a loan applicant has gained experience as a worker on other farms or plantations.

Part B: Term Loans and the Elements of a Successful Lending Technology
loan repayment is linked to the incremental cash flow – the client must have the technical skills to operate and maintain the equipment and must have relevant work experience.

Multipurpose term loans, as offered for example by CLA, are basically an extension of short-term loans, to be repaid over a longer period. In this case, incremental net cash flow is not taken into account in fixing the repayment schedule. Financial institutions offering such loans based on existing cash flow assess only the stability of the business of the prospective borrower. They do not require specific technical experience as long as the investment does not have a profound impact on the existing cash flow.

**Character.** Multipurpose terms loans, by definition, eliminate the risk of diversion of funds and reduce the risk of improper management of the investment. Moral hazard risks increase to the extent that loan repayment is linked to the incremental cash flow produced by the investment. A progressive lending approach is one way to gain information about the character of the borrower. The credit history might also be checked with credit bureaus, other lenders or informal sources (other borrowers, farmer-group leaders or co-liable members, traders, village authorities or local institutions).

To a certain extent, a sound borrower track record can substitute for tangible collateral. However, larger amounts and longer terms will require collateral as an additional protection against moral hazard risk. Down payments or equity contributions are another way to ensure that the investor is financially committed.

**Cash flow.** Farmers with a variety of income sources from farm and non-farm related activities are normally preferred clients for term loans. Diversified income sources allow more frequent instalments for loan repayment, reduce the need for a grace period and provide an alternative source for loan repayment in case of lower than anticipated profitability of the investment activity.

To a certain extent, this may penalize more specialized farmers, who often have better technical and management skills in the activity financed. However, their larger exposure to systemic risk may force
lenders to apply stricter collateral requirements. Their eligibility also depends on the market environment and the availability of insurance and other measures to manage systemic risk. For example, a specialized dairy producer with a marketing contract, receiving relatively stable prices, may still be a low risk. Contract farming and other forms of vertical integration, availability of crop insurance, and mechanisms to manage price risks enhance the bankability of specialized farmers.

**Market partners.** For both existing and new activities, loan applicants should possess identified market outlets. Marketing risks are lower if proven farm enterprises are financed, given that marketing channels already exist. However, if a larger number of term loans are provided for a specific activity, care has to be taken, because the increase in productivity and output can lead to oversupply. For example, ANED experienced increasing problems of default after the rapid expansion of leasing of irrigation pumps for vegetable production, since the increased production resulted in declining prices in the limited local markets.

Vertical integration is also a good way to ensure marketing for incremental produce, especially if the processor has a stake in the financing of farm-level investments, either by providing loans directly or by guaranteeing loan repayment to a bank.

### 4.2 Using Collateral and Collateral Substitutes

**Collateral substitutes**

Unlike collateral, substitutes have little or no market value and contribute to enforcing loan contracts without the use of judicial proceedings. They comprise joint liability groups and co-guarantors, pledging of unregistered farm and household assets, liens on produce and other mechanisms. The key feature underlying all types of collateral substitutes is the linking of access to future loans with the repayment performance on existing ones.

The case studies show that there is scope for collateral substitutes in smaller term loans. They can be effective in guaranteeing repayment if
the client has a long-standing relationship with the lender and if there are few other sources of finance at comparable terms.

**Joint liability groups.** The most popular collateral substitute used by MFIs is some form of solidarity-group lending. Either group members are co-liable for the existing loans of fellow group members, and/or the failure of one member to repay a current loan results in all group members being denied access to future loans. Several instances have been observed in which group solidarity breaks down over time, and for term finance this is an important issue. When a certain number of members default, the paying members will weigh the utility of maintaining the group (access to future loans) against the need to repay several loans of peers in addition to their own commitments. This is particularly a problem with the greater amounts of term loans.

Similarly, a group might only be willing or able to guarantee a limited number of term loans, and the total amount guaranteed by the group may leave some members unsatisfied – again threatening group solidarity over time. Generally, the role of joint liability groups in term lending is more to help the RFI screen clients and to provide pressure for repayment, complementing other forms of collateral.

### Box 9

**BAAC: Use of joint liability groups**

BAAC uses such groups up to a maximum loan amount of 100,000 Thai baht (THB) (approximately US$ 2,000), irrespective of the term. These groups had already been established and maintained over a long period for short-term loans. BAAC is the only provider of loans for most farmers in Thailand and has by far the best conditions. Thus maintaining a good relationship with BAAC is extremely important for most Thai farmers.

**Pledging business or personal assets with high use value.** Some institutions have adopted techniques of questionable legality in accepting substitute items as collateral that are not readily marketable, but that constitute effective incentives because they are highly valued by the clients. For example, borrowers may be required to deposit land-reform titles with the lender or to sign documents authorizing lenders to seize goods such as tools and equipment used in production or TV sets and other
consumer durables in the event of loan default. Various institutions use this type of informal pledging of non-registered rural assets up to amounts of US$ 7 500 (CLA and Agrocapital).

Informal foreclosure might depend on the consent of the borrower, since formal foreclosure through the court system is normally costly and time consuming or may even be impossible. In a real sense it is the threat of action, rather than the action itself, that is useful in maintaining credit discipline. The effectiveness of this mechanism depends to a certain extent on the ignorance of the borrowers. A further disadvantage of using non-registered assets is that the borrower might pledge them to more than one lender.

**Third-party personal guarantees.** Under this arrangement, a third party (co-signer) assumes responsibility for ensuring repayment of the loan principal and interest in the event of default. This can be an effective guarantee if the party has sufficient income and/or assets that can be liquidated to pay any shortfall left by the defaulting borrower. It is expected that third parties will respond without the lender undertaking legal proceedings because they want to maintain their own creditworthiness. For example, BAAC accepts personal guarantors for smaller loans of up to US$ 1 000.

**Delegated agents.** Another collateral substitute involves tapping the knowledge and social position of local village agents. This approach was already mentioned in connection with the screening of group members by the group leader, as applied by CIDRE. In Uganda, local councils certify the creditworthiness of borrowers for livestock loans from the Ugandan Commercial Bank. Such ‘agents’ collect repayments and apply social sanctions to defaulting borrowers. This arrangement is effective if the agent has a strong and long-term interest in maintaining his or her own creditworthiness with the lender. Again, access to future loans and the ties between financial institution and agent are important preconditions. In the case of term loans, delegated agents might complement rather than substitute other forms of collateral.

**Compulsory deposits.** Some lenders require potential borrowers to save before applying for a loan in order to demonstrate their intention to develop a long-term banking relationship. When the amount saved
reaches a specified level, the lender will consider granting a loan, sometimes as a multiple of the amount saved. Some credit unions set loan sizes as a function of the amount of share capital the borrower owns (e.g. CECAM, MCRB). In this way, lenders limit the size of potential loan loss, because the borrowers are essentially borrowing some of their accumulated savings or capital. Though obligatory savings might be effective in helping control moral hazard risk, they increase the effective interest rate and are therefore expensive for the borrower.

**Interlinked contracts.** The use of agricultural produce as collateral appears to be limited to seasonal loans, mostly in the form of cash advances and in-kind supply of inputs (e.g. contract farming arrangements). In cases where term loans are provided within interlinked arrangements, additional collateral is generally required (see section 4.7).

The role of collateral and collateral substitutes in term lending – lessons learned

Collateral substitutes help lender and borrower overcome problems related to the availability and effectiveness of conventional collateral in rural areas. To a certain degree, they permit the substitution of physical capital with reputation or social capital. They are most viable within a strategy of graduation of clients into larger loans with longer maturities, and in a context of limited competition: if access to future loans from the same lender is the main incentive for repayment, then the lender must be able to effectively deny further access in case of default. These features limit the applicability of collateral substitutes for term loans: they cannot be used for first-time borrowers, and they are only effective if the clients need access to short-term loans from the same lender. Finally, lenders in most countries are only permitted to have a certain maximum amount of unsecured loans in their portfolio.

Collateral substitutes may also result in high costs for the borrower. Gradual access to increasing loan size may force more entrepreneurial but credit-constrained clients into taking a number of small loans that they may not need in order to access a term loan. Group liability implies high transaction costs for members, including non-financial ones, and possibly financial costs if some members default. Moreover, lenders tend to offset the higher risks inherent in collateral substitutes by raising the
interest rates. Though this might be less problematic in the case of micro or short-term loans, where access is more important than cost, it may lead to adverse selection problems in the case of term loans (see section 4.5).

As loan amounts and terms increase, there will be a need for additional collateral. Even if the financial institution considers the foreclosure of collateral only as a last resort, a credible threat of possible loss of assets is important in order to demonstrate the seriousness of the financial institution and to set the basic standards for good credit discipline among borrowers. For the same reason, the case-study institutions have occasionally taken recourse to legal action, even if the involved transaction costs exceeded the value of the seized assets. The securing of larger term loans with tangible collateral is also necessary from the supervisory perspective of the national monetary authorities, in order to ensure the health of the financial sector.

In view of the limitations inherent in the use of conventional collateral (high costs and delays in foreclosing and selling), most institutions combine traditional collateral with social collateral. For example, farmers may be required to provide registered pledges or mortgages of land or movable assets, combined with third-party guarantees and the endorsement of the loan by a village or group leader. Still, there may be considerable advantages in comparison with mainstream financial institutions, both regarding the type of acceptable collateral and the percentage of the loan amount that has to be covered by collateral. Mainstream banks often do not accept agricultural land and may require 150-200 percent coverage of the loan amount through collateral.

Expanding loan amounts, terms and conditions require that governments take measures to address the structural constraints inhibiting the use of secured transactions in rural areas (see chapter 7).
4.3 APPRAISING REPAYMENT CAPACITY

The main purpose of loan appraisal is to assess the technical, economic and financial feasibility of the proposed investment and the repayment capacity of the borrower. A good appraisal technique is the key to extracting viable proposals from a number of loan applications. It allows RFIIs to switch to cash-flow lending, instead of basing their lending decisions primarily on the quality and amount of collateral provided, thus expanding the ‘frontier’ of term lending in rural areas.

Box 10
Rural multipurpose term loans

CLA uses the same lending technology for financing seasonal inputs and term investments. The maturity and frequency of loan repayments basically depend on the client’s existing cash flow, while the amount depends on the track record in the financial system, worth of total assets of the farm household and collateral. No appraisal is carried out of the incremental cash flow created by the investment. This reduces the need for loan supervision and thus saves transaction costs. Moreover, particular attention is paid to the reality of small businesses, which are engaged in a number of activities in which financial resources are extremely fungible and farm and household cash flows are closely intertwined.

Existing household cash flow

The difficulties in appraising the cash flow and repayment capacity of a potential borrower lie in the informal character of most farm and non-farm rural enterprises. Financial statements are seldom available and, if they are, may not be a reliable source of information. Due to the fungibility of money, it is important to assess all sources of income and expenditures of a farm household. On the income side, this may include sales proceeds from crop and livestock activities, non-farm income from other businesses, remittances, salaries, pensions, etc. On the expenditure side, working-capital requirements of the productive activities have to be assessed: seed, fertilizer, farm machinery services, hired labour, water fees, veterinary expenses, etc. Household expenditures may include food, medical treatment and school fees.

Footnote:
32 Finance ‘frontier’ refers in this context to the type of clients and rural areas that can be serviced with term finance instruments.
In view of the long repayment period, the loan officer has to assess the seasonality of incomes and expenditures, the stability of the business and the related cash flow. This requires a good knowledge of the business cycle of farming and non-farm activities, as well as an understanding of the likely future trends in terms of demand, prices and competition. The relative productivity and growth potential of farmers depend on their age, experience, farming and management skills and their current productivity.

The repayment capacity is also affected by the quality of the productive assets: the loan officer has to assess the state and condition of machinery and equipment, age of existing tree plantations, functionality of the irrigation system, or health of livestock. If equipment has deteriorated, expenses for major repairs or replacement are likely. The age of a tree plantation may determine the cash flow it will generate.

On the household side, the ages and health of household and other family members are important determinants, both of the capacity to generate income and of the risk of expenditures due to marriage, illness or death.

Current liabilities with other financial institutions and informal sources also have to be assessed. It is difficult for a loan officer to get a complete picture of household cash flow during the first appraisal visit. This highlights the benefits of a gradual approach and the importance of a long-term relationship in obtaining client information. In the case of first-time borrowers, the repayment capacity has to be based on very conservative assumptions, or strict collateral requirements have to be applied. In the case of repeat borrowers, the RFI has a better picture of the cash flow and repayment capacity of the farm household.

**Incremental cash flow**

The appraisal of investments, including the projection of incremental cash flow, is more risky than appraisal of existing cash flow and requires the specific skills of loan officers, credit committees and branch managers. Regarding investment costs, it is important to consider not only the initial expenditure but also incremental working capital requirements and the likely costs of operation, maintenance and repair.
Assessment of the incremental income generated by the investment is based on assumptions regarding technical parameters, e.g., future prices or the impact of the investment on farm productivity. This requires knowledge of current yields and market studies of price development. Particularly for investments with long gestation and amortization periods, it is important to assess the long-term price trends and volatility of the main agricultural commodities. Seasonal price fluctuations should be taken into account when fixing the repayment schedule. Cyclical fluctuations are a particular concern. However, a specialized lender may be able to counteract these by waiving principal payments during the slump or even providing additional liquidity.

The extent to which incremental income is taken into account in appraising the repayment capacity and establishing the repayment schedule depends on the risk profile of the client and of the investment, the amount of the loan in relation to existing cash flow and the skills and experience of the lender. Loan appraisal methods vary among the case-study institutions. For example, CLA, the Equity Building Society (Kenya) and RBP use a conservative approach to assessing the repayment capacity of the client: they only consider the existing cash flow of the farm household plus the incremental expenses related to the investment, without taking into account the projected incremental income generated by the investment. This reduces credit risk related to failure of the investment or fungibility of money within the farm household. Further advantages are lower costs for loan appraisal and supervision of borrowers.

Most case-study institutions carry out a more comprehensive appraisal of household cash flow, taking into account both existing and projected incremental cash flow. The extent to which the latter should be considered in deciding the loan amount and determining the loan repayment schedule depends on the:

- experience of the financial institution in appraising loan applications for investments;
- experience of the farmer with regard to the proposed investment;
- types of collateral provided; and
- risks related to the investment.
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It is important to base the estimated incremental cash flow on conservative assumptions.

Generally, the multipurpose loan approach is indicated for financial institutions that are gradually diversifying into agricultural term lending but have not yet developed the necessary skills to appraise more complex investment proposals. It may also be appropriate for small term loans or to finance start-up investments in new technologies or activities with no proven track record. The investment-loan approach can be adopted by more experienced lenders and is particularly important for financing investments that alter farm income significantly, such as irrigation technology or purchase of land.

Successful term lenders have accumulated an internal pool of knowledge and information on technical production parameters, price ranges of main inputs and outputs, other specific risk factors and market trends. They use relatively simple, standardized appraisal methods for small term loans and more comprehensive loan appraisal methods as terms and amounts increase. Here a lender has to trade off additional transaction costs against a lower level of uncertainty regarding the investment. For example, BAAC uses a simple cash-flow analysis for small term loans below BHT 500 000 (around US$ 12 000). For loans between BHT 500 000 and 1 million (US$ 12 000 - 24 000), a more comprehensive cash-flow analysis is carried out, accompanied by a feasibility study. For larger term loans above BHT 1 million (above US$ 24 000), additional indicators are calculated (NPV, IRR and B/C) and a sensitivity analysis is carried out.

### 4.4 Structuring Loan Disbursement and Repayment Schedules

The disbursement schedule depends on whether the investment can be purchased ready for use (such as farm machinery and equipment) or whether a gestation period for construction work or biological processes is required. In the case of investments with a gestation period requiring several staggered expenditures, loan disbursements should be phased accordingly. This allows the lender to monitor the progress of the investment.
The borrower’s capacity to repay term loans depends on the extent to which the schedule of repayments has been adjusted to the farm household cash flow including the investment. Farm machinery and equipment that can be bought ready for use usually requires repayment terms of from three to five years. The repayment instalments should not exceed a certain percentage of the estimated yearly cash flow. Many case-study institutions apply a limit of 30 percent of the estimated net cash flow for the repayment instalments, taking into account gestation periods and incremental working-capital requirements. The estimated annual income may or may not include incremental cash flow created by the investment.

Structuring loan repayments requires trading off borrower demand for longer terms and less frequent payments against the lender’s risk considerations. From the borrower’s point of view, longer terms increase affordability, because repayment instalments are smaller in relation to cash flow. However, a lender has to consider parameters such as moral hazard and other credit risks, inflation and interest rates, the quality of collateral and the types and maturities of funding sources. Though the preference of most lenders for shorter terms might be understandable on moral hazard grounds and to reduce uncertainty, it may increase the risk of default if the repayment schedule is poorly adapted to the cash flow.

The frequency of loan repayments is another important issue: Frequent repayments might be preferable from the lenders’ point of view since they reduce moral hazard risk and ease liquidity management. However, they might only be feasible in the case of investments that create a steady cash flow\(^{33}\), or for farmers with additional, counter-cyclical sources of income that can be used for loan repayments. Farm households that depend to a large degree on seasonal income require flexible treatment. Agrocapital, ANED and CLA offer the option of varying the amounts and periods of the payment instalments according to the cash flow throughout the year. Repayment can be made every 2, 3, 4 or 6 months. Different instalments may apply in cases where there are a main and a second harvest, or in periods with increased household expenditures, such as payment of school fees. Generally, the borrower has the option of prepaying instalments, thereby reducing his total financial costs. Finally, the high transaction costs for borrowers must be considered,

\(^{33}\) For example, dairy cows, tea, farm machinery and transport equipment.

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especially in rural areas in which repayment at the RFI’s office involves travelling long distances.

The financing of investments with long amortization or gestation periods poses considerable challenges to the lender. Examples are investments in perennial crops, herd development, purchase of farms or investments requiring major construction work, such as land levelling or irrigation development. In these cases, the repayment capacity increases over time, as the investment matures and reaches its full production potential. If loan maturities are too short in relation to the cash flow generated by the investment, the borrower may face asset/liability mismatches that increase the risk of illiquidity and, in consequence, the likelihood of default. Investments with long gestation periods may require a grace period. In these cases, the lenders usually insist on the payment of interest to ensure a minimum regular contact with the borrower and to reduce moral hazard risk. This also reduces the borrower’s total financing costs by avoiding the capitalization of interest rates.

Due to the high uncertainties related to long-term loans, it may be necessary to build flexibility into the loan repayment schedule to respond to unforeseen changes in the key parameters underlying the investment appraisal.

One important issue is the impact of inflation. Loan repayments are normally calculated as fixed annual instalments34, while the productivity of the investment may only reach its maximum after several years. If a modest, constant inflation rate of 5 percent over the term of the loan is assumed, and the net cash flow of the farmer increases by 5 percent per year in nominal terms while the nominal amount of the repayment instalments remains constant, then the real costs of loan repayment decrease over time. These mismatches between the real costs of a loan and the repayment capacity might be tackled by starting loan repayment with modest amounts that increase over time according to the nominal inflation rate or the nominal prices of major farm products.

34 The capital recovery factor is used to transform the loan principal into periodic annuities at the interest rate of the loan. If the real interest rate is positive, inflation does not affect the real value of the loan principal and the spread of the lender is covered in the instalments.
A second issue is the cyclical fluctuation of commodity prices. While short-term price fluctuations might be managed through forward contracts, put options or hedging, no risk-management instruments are currently available to manage cyclical price fluctuations. This is particularly problematic if the main farm income comes from a crop characterized by such fluctuations, such as many perennial crops or livestock products. One possibility would be to tag the repayment schedule of a term loan to the price of the main cash crop. A price band could be established within which the repayment schedule set out at the time of loan appraisal remains valid. If the price declines below the established trigger price, the borrower would have the option of reducing the instalment amounts, together with a prolongation of the repayment period for the outstanding amount. A similar mechanism could be designed for interest-rate fluctuations if the loan carries flexible interest rates. Such a mechanism would, however, increase the liquidity risk of the lending institution and should be backed by the refinance facility of a second-tier institution.

A further possibility would be the establishment of a deposit account funded from loan repayments during the first years. The deposited funds could be used as a protection against default. If no default occurs, the deposited amount plus interest would be refunded to the borrower. This type of guarantee fund would protect the lender from default and provide additional repayment incentives to the borrower. The deposit would be collected through a surcharge on the interest rate (compliance fee). The downside of this approach is that it increases the interest rate and thus the financial burden on the borrower.

4.5 Pricing Term Loans

The interest-rate level is crucial from the perspective of both the lender and the borrower. Lenders need to cover cost of funds, operational costs, a provision for expected loan losses and a profit if expansion of operations is envisaged. However, the level of interest rates has an important impact on the financial viability of agricultural investments. With increasing loan maturities, the effective demand for term loans becomes more sensitive to interest rates, and due to the compounding of
interest rates, high financing costs for the borrower increase exponentially in proportion to loan maturities. Larger investments with long amortization periods often have lower rates of return than small investments with quick turnover such as those of many microfinance clients. High interest rates may even lead to problems of adverse selection, thus increasing the share of high-risk clients in the lender’s portfolio.

As mentioned earlier, there might be some scope on cost grounds to offer term loans at lower interest rates than short-term loans due to the economies of scale in appraising and administering. Thus risk primes and cost of funds are the most important determinants of the level of interest rates for such loans. In practice, several RFIs apply lower interest rates for term than for short-term loans. However, care must be taken to avoid huge interest-rate differentials between these loan types in order to minimize the incentive for loan diversion.

Adding risk primes to the interest rate is just one way of managing risk – and probably not the most suitable one in the case of term loans. A lender should try to manage risk through other mechanisms: careful selection of borrowers and loan appraisal, appropriate collateral requirements for larger and longer term loans, loan supervision and other elements of a good lending technology. The associated higher transaction costs may be more than compensated by the reduction in credit risk. An increased equity participation or down payment is another way of reducing credit risk through a lower gearing ratio. The quality of collateral also has a significant impact on the level of risk primes as part of the interest rates.
Land Bank: risk categories of clients

- **Gold, Gold Premium and Platinum loans** cover existing products and target commercial farmers. To be considered a Platinum client, the debt-to-equity ratio must be less than 30 percent. For Gold Premium, the ratio must be between 30 and 35 percent, and for Gold clients, between 35 and 60 percent. The client must also be able to provide land as collateral to qualify for these risk categories.

- **Silver loans** will apply to farmers with experience and proven abilities, but with insufficient traditional forms of collateral. For example, farmers that cultivate larger areas of land with secure tenure rights but without formal ownership titles fall into this category. This product range also consists of long-, medium- and short-term loans. Borrowers must pay a small interest-rate premium to cover higher risk.

- **Bronze loans** carry a higher risk-fund levy. This lets the bank lend to people that have never dealt with banks, have no financial track record and no or little collateral. These are typically emerging farmers, who lack training in production, financial management and marketing. They include beneficiaries of the South African land-reform programme and farmers on communal land. Again, the products cover long-, medium- and short-term loans. Borrowers must pay a small interest-rate premium to cover higher risk.

A risk fund has been created that will cover inadequate conventional collateral levels of Silver and Bronze clients. The fund charges a fee above the base interest rate. The money is pooled and topped up by the bank to cover default by medium- and high-risk clients. To date, only a limited number of loans have been written off and the fund has been able to cover the exposure.

BAAC: past performance of borrowers

In 1999 a risk-based, interest-pricing client rating was introduced, based on past repayment records. Preferred or lowest-risk clients (AAA rating) are charged the minimum lending rate (MLR). Interest rates increase in proportion to risk, and the maximum interest rate to clients with a B2 rating is MLR+6 percent. Interest on both medium- and long-term loans is calculated daily on the principal balance and becomes payable as the loan instalment falls due. A penalty rate of 3 percent per annum is charged when a loan becomes past due.

<table>
<thead>
<tr>
<th>Classification of Borrowers</th>
<th>Symbol</th>
<th>Record of Debt Payment</th>
<th>Interest-Rate Structure</th>
<th>Interest Rates % (3/2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime</td>
<td>AAA</td>
<td>Full and timely repayments for three consecutive years</td>
<td>MLR</td>
<td>8</td>
</tr>
<tr>
<td>Very good</td>
<td>AA</td>
<td>Full and timely repayments for two consecutive years</td>
<td>MLR+1</td>
<td>9</td>
</tr>
<tr>
<td>Good</td>
<td>A</td>
<td>Full and timely repayments in the previous year</td>
<td>MLR+2</td>
<td>10</td>
</tr>
<tr>
<td>General</td>
<td>B</td>
<td>Past-due loans Newly registered borrowers Restructured loans</td>
<td>MLR+3</td>
<td>11</td>
</tr>
<tr>
<td>Default</td>
<td>B1</td>
<td>Past-due with reasonable cause: due date has been extended</td>
<td>MLR+4</td>
<td>12</td>
</tr>
</tbody>
</table>
There are considerable differences between the case-study institutions regarding the spread (interest rates over cost of funds) that is charged for term loans. BAAC and Land Bank have considerably lower spreads than smaller and less experienced institutions such as ANED, CLA, CECAM or CIDRE. This is mainly due to characteristics of the FIs, such as size, skills and experience, that were outlined in section 3.7.

A financial institution may consider cross-subsidizing term loans through income from other, more profitable activities, at least during the initial period of introducing such products. This might be justifiable in view of possible benefits of term loans for a lender, discussed earlier, such as retaining good clients, providing incentives for short-term borrowers, strengthening the client’s business by reducing production or marketing risks, or enhancing the demand for complementary working capital.

In view of the very different risk profiles of different clients and term investments, it is inappropriate to charge a standard interest rate for term loans. For example, Land Bank applies different interest rates according to the risk profile of the client based on criteria such as track record, equity contribution and quality of collateral provided. First-time borrowers or those with poor collateral pay a risk prime, but may have subsequent loans at better conditions. BAAC bases interest rates on the past repayment performance of clients (see Box 12). Moreover, most RFI s offer performance-based, interest-rate rebates, refunding a part of the interest paid after successful repayment.

The use of fixed versus flexible interest rates is another important issue. Fixed interest rates are generally preferred, since they facilitate the appraisal of term loans and establishment of a repayment schedule. However, their feasibility depends on the structure of the funding source of the RFI and the macroeconomic environment: fluctuating inflation and interest rates expose the lender to a high level of interest-rate risk if refinance facilities at fixed rates are unavailable. In unstable environments, interest rates should be pegged to the inflation rate, especially in the case of long-term loans.

Flexible interest rates attenuate asset/liability management problems of the lender, but may increase credit risk. The borrower may also be given
a choice of fixed or flexible interest rates, with flexible rates priced below the fixed rates, because the borrower would then carry the interest-rate risk. An intermediate solution might be to periodically revise and – if necessary – adjust the interest rate to changes in market rates and cost of funds. Certain boundaries for maximum and minimum interest rates could be agreed on beforehand to reduce uncertainty for the borrower. Moreover, if the interest rate has to be increased, the lender may offer a longer repayment term for the remaining principal so as not to increase the instalment amounts, always assuming that this would not lead to unsustainable liquidity risks for the lender.

4.6 Monitoring Loans and Supervising Borrowers

The larger the size and the longer the term of the loan, the more important are frequent contacts with and supervision of the borrower to control the risk of loan arrears. Supervision should ensure that the disbursed loan is used for the purpose stated in the loan contract. This is particularly important if repayment is based on projected cash flow generated by the investment. Borrower supervision enables loan officers to determine if any eventual failure of the investment is attributable to external factors and outside the control of the borrower (e.g. due to climatic factors or natural disasters), or to mismanagement and diversion of loan funds. Contact with the borrower should be frequent. A visit just prior to harvest to estimate probable yields is of particular importance.

Needless to say, frequent supervision is costly and time-consuming, especially in sparsely populated rural areas. Different measures have been developed by the case-study financial institutions to reduce supervision costs:

- Disbursement in kind reduces the risk of diversion of funds. Even experienced borrowers might be tempted by the sudden availability of a large amount in cash, or might come under heavy pressure from friends and relatives. After the loan applicant has identified a particular asset (e.g. a tractor or pump), the loan would be disbursed directly to the supplier. In the case of tree-crop development, seedlings and fertilizers can be provided in kind, leaving a cash com-
ponent only for requirements of seasonal hiring (however, physical assets are also fungible in rural areas).
- Efficient planning of travel schedules of loan officers can reduce costs by combining loan appraisal with supervision and other tasks in the same region.
- Social collateral, such as joint liability groups and personal guarantors, exerts strong peer pressure for repayment and transfers part of the supervision to the group.
- Frequent repayment instalments of at least the interest ensure regular contact between lender and borrower.
- Collaboration with equipment suppliers: in the case of farm machinery and irrigation pumps, special arrangements with equipment suppliers can provide training, technical assistance and maintenance and repair services. Financial institutions can be informed promptly should problems affecting repayment arise.
- Partial interest-rate rebates for timely repayments and charging of penalty rates in cases of default are common tools for influencing the repayment behaviour of borrowers.
- Loan follow-up should be based on accurate and timely monitoring of loan accounts. This requires good records and preferably a banking MIS that produces automatic reports of loan due dates and past-due loans and provides regular, updated information to management. If the measures listed above are in place, borrower supervision through field visits might be limited to problem accounts to save costs (e.g. CLA). Frequent loan monitoring is a prerequisite for portfolio management, taking into account the performance of specific types of loans according to loan purpose, terms or classes of borrowers.

4.7 Dealing with Loan Default

Many rural and microfinance institutions apply a zero-tolerance policy for overdue loans and arrears. This implies stringent loan recovery, even though the reasons for default or late payment may lie outside the responsibility of the borrower. At first sight this policy seems reasonable in the light of the “culture of non-repayment” that is prevalent in many rural areas. Any loan rescheduling may provide the wrong signals to
## Box 13
### Using interlinked transactions

Interlinking credit disbursement in cash or kind with output marketing is a powerful tool to minimize the need for conventional loan collateral and to reduce transaction costs related to loan collection, especially in scarcely populated areas. It has been widely used by non-financial institutions such as traders, marketing boards, cooperatives and contract farming schemes to provide seasonal inputs on credit, to be recovered through deductions from the produce. Some RFIs provide loans to farmers with tripartite arrangements with marketing or processing enterprises to facilitate repayment through deduction at the source.

Interlinked transactions are particularly important in areas in which other forms of collateral are unavailable, such as in most of sub-Saharan Africa. Though the main role of interlinking is the financing of seasonal working-capital needs, it has been used in some cases for financing term investments such as the establishment of perennial crops, e.g. sugar cane growers in South Africa, tea growers in Kenya or oil palm growers in Ghana or Indonesia. There are also a number of mutualist RFIs in Africa that provide various loan products, including term loans, to those farmers linked to certain export-commodity chains. However, only in exceptional cases can it completely substitute for conventional collateral in term lending.

Interlinked transactions, especially those involving longer term loans, require a de facto control of the lender over the output to avoid default caused by outside selling. However, these situations are disappearing, because monopolies related to domestic and export crops have been liberalized in most countries in the wake of structural adjustment programmes. In the case of bulky, perishable crops, the need for immediate processing may place processors in a local monopsonistic position in certain areas. However, competition and freeloading are likely to emerge after some time. Another potential weakness of interlinked transactions is the danger of laxness in loan appraisal procedures if lenders are too confident of repayment through automatic deductions at the source. This may lead to overindebtedness of investors and declining portfolio quality. Moreover, even a monopsony situation does not protect against default through crop failures or diversion of inputs.

Vertical integration - through joint ventures in which investors acquire shares in processing enterprises - may facilitate the use of interlinked transactions to provide loans and non-financial services also for non-perishable crops such as rice.

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35 Equity Building Society and SACCOs provide similar loans to tea, coffee and dairy farmers.
36 The South African Sugar Association provides medium-term loans of up to seven years to smallholder farmers on communal land. Sugar cane is bulky and has to be processed within hours after cutting, thus ensuring control by the mills over the output.
37 The Kenya Cooperative Bank has financed a number of coffee factories run by marketing cooperatives. The availability of donor funds and the ability to deduct loan repayment at the source have undermined scrutiny in loan appraisal and contributed to oversized projects in an environment of declining international coffee prices.
38 Diversion of inputs is more likely if in-kind provision of inputs is the only source of credit and farmers need liquidity for other consumption and productive purposes.

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borrowers, further undermining the repayment culture. Thus lenders must show their ability and willingness to enforce loan repayment in case of default. As the case studies from Bolivia and India show, this is particularly important for new institutions that diversify into agricultural finance.

However, the high exposure of agriculture to external risks beyond the responsibility of the borrower calls for a more differentiated treatment of loan arrears. Defaults due to drought, flooding and other natural calamities, as well as unexpected price fluctuations, may justify loan rescheduling. A blind application of a zero-tolerance policy might not only be inappropriate, but also costly for the lender, because of the transaction costs and delays involved in executing security interests. Successful lenders deal more flexibly with such transitional defaults if the loan officer is convinced of the borrower’s willingness to repay as soon as possible.

It is important for banks to be seen as serious regarding the possibility of foreclosure. However, within the context of a generally strict policy of loan recovery, most case-study institutions consider collateral foreclosure as a last resort. Apart from the legal and institutional difficulties in foreclosing on collateral, there is a preference for establishing a long-standing, positive relationship with the client. There is much reliance on the borrower’s interest in maintaining his good reputation, both in the community and with the financial institution. Moral pressure is exerted by publishing the names of defaulting borrowers, or announcing their names on the local radio network.

Among the case-study institutions, BAAC has the most borrower-friendly policy for treating loan defaults. If the reasons for default fall outside the control of the borrower, payment of the due amount is postponed. Moreover, loans are completely written off only after ten years. During the past decade, this policy has resulted in a nearly complete recovery of BAAC’s past-due loans up to 1997 because borrowers have had to repay earlier loans in order to apply for new ones. This was also possible

39 In some cases such as in Bolivia, the regulatory framework for classification of past-due loans is not adapted to the specific conditions in rural areas. In this case, flexibility implies high costs for the regulated financial institutions due to the specific requirements of loan-loss provisioning.
because of the effectiveness of joint liability groups in controlling moral hazard risks, the long-established relationship between borrowers and loan officers, and the position of BAAC as the sole formal lender providing larger amounts to farmers on terms geared to their needs.
5 LEASING: AN ALTERNATIVE INSTRUMENT FOR FARM EQUIPMENT

5.1 BASIC PRINCIPLE OF LEASING

A lease is a transaction in which an owner of a productive asset (the lessor) allows another party (the lessee) to use the asset for a predefined period of time against payment of rent (lease payment). Both movable assets (farm machinery, draught and dairy cattle) and immovable assets (land, buildings) can be leased.

The key feature of leasing is separation of legal ownership of the asset from its economic use. The leased asset is assumed to generate the main source of income for the lease payment. It serves simultaneously as security for the contract, eliminating or reducing the need for collateral.

5.2 MAIN TYPES OF LEASING

Financial or full-payment lease

A financial lease is an alternative medium-term instrument for financing the purchase of assets that are ready for use. The lessor buys an asset chosen by the lessee and hands it over to the latter for use, while retaining the ownership title. The lease period normally amounts to two-thirds of the asset’s economic life to protect against the risk of accelerated depreciation. During the lease period, the lessee meets all operational and maintenance costs and makes regular lease payments that cover all costs incurred by the lessor, including depreciation, interest on capital invested, insurance, administrative costs and profit margin. At the end of the agreed lease period, the lessee has the option of purchasing the asset at the residual value stated in the lease contract. Alternatively, the lessee can return the asset to the lessor and perhaps engage in a new lease contract for another asset.

Hire-purchase is similar to financial lease, but the lessee assumes increasing ownership of the asset with each payment made. The down payment is regarded as the first instalment towards purchase. At the end
of the lease period, ownership of the asset is automatically transferred to the lessee (Mutesasira et al., 2001).

Operational lease

An operational lease is a contract allowing the client to use a piece of equipment for a certain period of time, and it does not involve transferring an asset’s ownership. Normally, the asset is rented to a lessee for a period much shorter than its useful life (typically one production period). It is thus more a rental, rather than an asset-financing mechanism.

Leaseback or retro-leasing

Another modality is leaseback, a type of pawning. This modality can be used for working- and investment-capital finance. Its key advantage is the potential to circumvent deficiencies in the legal and institutional framework regarding conventional collateral.

5.3 Advantages and Disadvantages of Different Types of Leases

A financial lease is a very close substitute for medium-term loans in financing equipment purchase. The main advantage compared to other
Part B: Leasing: an Alternative Instrument for Farm Equipment

An operational lease is less attractive for both lessee and lessor due to difficulties in controlling moral hazard problems regarding proper use and maintenance. Farmers and microentrepreneurs generally prefer to own an asset, which provides more flexibility and control over the business and constitutes in-kind savings that can eventually be sold or pledged. An operational lease does not provide such incentives (Mutesasira et al., 2001). Moreover, the lessor might have difficulty assessing the depreciation of the asset realistically during the lease period and thus its residual value. If the depreciation is calculated too conservatively, resulting in high lease payments, there might be limited or no demand for the service, and the incentives for proper maintenance might be further reduced. On the other hand, if lease payments do not cover real depreciation, there is a serious risk of decapitalization (Westley, 2003). Thus the provision of hiring services might be more viable than operational leasing for farm machinery and equipment.

Leaseback might be an attractive possibility for obtaining working or even investment capital. It could serve as a substitute for emergency loans by facilitating access to liquidity and preventing the sale of assets that might be vital to the farm household in case of adverse events. It might also be used to finance expansion of existing operations. It does
not require mortgaging, because the financial institution becomes owner of the asset. However, in practice, there are several restrictions on the use of leaseback in rural areas in developing countries. First, the lessor must be in a position to evaluate the technical integrity of the asset, its realistic market value and the likely depreciation during the lease period. Second, since two sales transactions are involved, the possible impact on taxes has to be taken into account.

Due to the limited empirical evidence for leaseback, the rest of this chapter will concentrate on financial leasing.

5.4 **Main Advantage of Financial Leasing Compared with Lending**

The main advantage is the stronger legal position of the financial institution for seizure and sale in case of default. As the lessor remains the legal owner of the asset, repossession is easier, which reduces or even eliminates the need for collateral. This advantage can be considerable in countries where the legal and institutional environment poses severe constraints on secured lending (discussed in more detail in chapter 7).

Secured lending requires four steps:

1. creating a security interest in the collateral;  
2. perfecting the security interest through registration and enquiry about senior claims;  
3. seizing the collateral after obtaining a court order; and  
4. selling the collateral under court supervision.

Leasing avoids steps 1, 2 and 4. Step 3 is usually simpler, faster and thus less expensive. However, the advantages regarding seizure depend on the country context. According to Westley’s study in eight Latin American countries (2003), seizure is considerably faster in Bolivia and Ecuador (1-2 months), whereas in the other six countries (Chile, Colombia, El Salvador, Honduras, Mexico and Peru), the advantages are less pronounced or even non-existent.

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40 Thus ensuring that the asset can be used as collateral.
Not only do faster seizure and sales procedures reduce transaction costs and the costs of staff time. They are also vital for the use of movable assets, the value of which usually declines much faster than the value of immovable assets such as land or houses. The more easily movable property can be seized and sold in case of default, the more a financial institution will be inclined to accept it as collateral. This, in turn, can be a decisive factor in access to medium-term loans for many farmers that cannot offer conventional immovable collateral. Leasing is a way to circumvent problems related to the foreclosure and sale of movable assets.

Informal seizure might also be easier in the case of leasing, because defaulting lessees might be more willing to hand over equipment that belongs to the lessor than collateral equipment that belongs to themselves. According to Westley (2003), this has been an important reason for the recent interest of some Bolivian MFIs in leasing.

Advantages for the client are lower collateral requirements or even absence of additional collateral requirements and faster appraisal procedures. Obtaining a lease tends to be less cumbersome and faster than obtaining a loan. Moreover, they might benefit from a general increase in the supply of medium-term finance to the extent that leasing is able to overcome the collateral constraints attached to loans. However, many lessors in practice also require additional collateral. This reduces the advantage of leasing over lending.
5.5 Providers of Leasing Services

Depending on the legal and regulatory environment, leasing can be provided by banks, non-bank financial institutions such as leasing companies, and other financial institutions. It can also be used by equipment providers as an alternative to supplier credit.

Commercial banks often create leasing subsidiaries. This allows them to contract specialized staff and thus provide leasing more effectively. Moreover, all risks related to leasing are pooled into this separate entity, which also assumes all losses, insulating them from the main portfolio of the RFI. However, creation of subsidiaries adds considerably to costs, because it requires a separate management, computer system, legal department, lease officers, etc. Creating a subsidiary might be advantageous for lessors with a substantial portfolio, who wish to expand and further specialize their leasing business, or for lessors dealing with larger clients requiring more sophisticated equipment.

5.6 Leasing Experience in Developing Countries

As opposed to Europe or North America, in developing countries leasing is not yet widely used as an instrument for financing equipment in the small farm and SME sector, despite its potential advantages. In most of these countries, leasing is only available in the formal sector for medium and large enterprises (Bisa, 2001a). A recent study on medium-term equipment finance for urban small and microenterprise in Latin America found that of 25 MFIs, only three offered leasing (Westley, 2003).

This can be attributed partly to legal and regulatory constraints, but also to tax treatment that often discriminates against leasing as compared with lending. Moreover, lessors in rural areas face constraints similar to those faced by lenders in terms of exposure of clients to systemic risk, high cost of supervision and informality of businesses. Many commercial banks and leasing companies are urban based and unfamiliar with servicing informal rural enterprises. Moreover, supervision of scattered rural clients results in high transaction costs and makes leasing unattractive to these clients.
Since the 1990s, however, some microfinance institutions have begun developing leasing products for small and microenterprises. Most of these institutions target urban and non-agricultural clients. Examples include Grameen Leasing (Bangladesh), Orient Leasing (Pakistan), Selfina (United Republic of Tanzania) and Supreme Furnishers (Tanzania and Uganda).

Only two institutions could be identified that provide leasing for small farmers and rural non-farm enterprises: ANED introduced financial leasing of tractors, irrigation pumps, ploughs and other farm equipment in 1997 in different rural areas in Bolivia. CECAM, a mutualist network in Madagascar, introduced leasing in 1993 to finance draft animals and equipment (ploughs, harrows), small mills and presses, small motorized equipment and dairy cows. The following section illustrates the main elements of their financing technology in selecting clients and equipment, and in appraising the payment capacity of the client in order to protect against default. Reference is also made, for some aspects, to an analysis of leasing providers in Tanzania and Uganda, based on Mutesasira et al. (2001).

5.6.1 Financial Lease in Practice: the Case-Study Institutions

Lessors targeting small and microenterprises, including ANED and CECAM, mainly finance medium-term machinery and equipment. Many of the elements of the financing technology are geared to addressing the risks of equipment finance, and apply also to medium-term loans. Common issues are flexible payment schedules adjusted to the farm household cash flow or the need for long-term funding sources. This section focuses on the central role of the leased asset as the main security and source of payment. Given the absence of collateral, the skills and experience of clients, down payments, selection of equipment, and monitoring and supervision are even more important for lessors than for providers of term loans.

Selection of clients

Skills and experience. The most important selection criterion is the experience of the client, together with skills for handling the asset, especially in the case of larger leases. ANED’s clients for tractor leases have prior work experience as tractor operators (some have been trained by
a dairy development project funded by a bilateral donor). The farmers that lease irrigation pumps have received technical training from NGOs promoting the use of this equipment. Most clients of CECAM have some equipment or animals and use the lease to upgrade their equipment or increase the number of animals.

**Down payment.** A further criterion is the ability to make a down payment or deposit. In the case of ANED, the down payment amounts to 25 percent of the purchase price of the equipment, to counter the high depreciation of the asset during the first year. CECAM requires 20 percent down payment for new equipment, 25 percent for animals and 40 percent for used assets, to cover the higher risk of technical breakdown. In the case of animals and used vehicles, additional collateral is required amounting to 50 or 150 percent of the purchase value respectively. According to Mutesasira *et al.* (2001), lessors in Tanzania and Uganda usually require a deposit instead of a down payment, amounting to 25-30 percent of the asset value. This amount has to be deposited in a blocked account and is repaid after the lessee has completed the payment obligations. In many cases, additional collateral and guarantees are also required.

**Role of farmer groups.** CECAM involves farmer groups in the selection process. They verify the integrity of the applicant and the accuracy of the data provided in the application. They also assess the suitability of the equipment chosen by the applicant and supervise its use. In some cases, joint liability is used. This helps reduce transaction costs and risk. As the network has become more confident in the use of leasing, this requirement has been relaxed. Individual farmers can now obtain leases without requiring group guarantees.

**Selection of equipment**

Selection of the asset is crucial to success, because it constitutes the main source of payment and the only security for the transaction (if no additional collateral is requested). Due to the reasons discussed in chapter 4, lessors prefer to lease equipment that generates a regular income flow, can be easily sold on the second-hand market, has multiple uses rather than a single one, and has a clear ownership title for ease of repossession and liquidation (Mutesasira *et al.*, 2001).
New versus used equipment. Most lessors prefer new and more expensive equipment, which still has a warranty and is less prone to technical failure. However, this translates into high financial costs for the lessee, in terms of both the down payment and the lease instalments. Farmers and microentrepreneurs often prefer used equipment, which is much cheaper but still useful. However, from the lessor’s point of view, it is difficult to assess the quality and thus the expected useful life and real value of an older asset. In addition, in rural markets, there are often no titles of ownership for used assets. If the lease cannot be registered, the risk for the lessor increases. Some lessors finance used assets (e.g. in East Africa and Bolivia), but require some type of additional guarantee.

Another important issue is who should select the leased asset. According to Micro-Save Africa’s study on leasing markets in East Africa (Mutesasira et al., 2001), lessors always leave the selection of the asset to the client. This saves transaction costs and ensures that clients are comfortable with the equipment, which has a positive impact on attitudes towards lease payments and maintenance. If the lessor chooses the asset, the client could blame it if the investment fails. CECAM uses a similar approach, but the credit officer or the joint liability group has to assess the asset before the lease is endorsed. In the case of leased animals, a veterinarian might also be consulted.

There may be circumstances, however, in which the lessee is not aware of the best available choice. This might be due to lack of market information and the unavailability of equipment in rural areas. Another issue concerns the suitability of equipment for smaller producers. According to ANED, most of the farm machinery/equipment readily available in Bolivia is mainly suitable for larger-scale farmers, who constitute the main effective demand. ANED has adopted an intermediate approach by making a preselection of the equipment through contracts with one major importer (which guarantees support services, quality and warranty). The lessee can choose between two different makes of irrigation pumps and between two different models from each supplier. The contract with the importer and bulk purchasing allow ANED to negotiate better conditions, including prices, training and after-sales services.
Lease appraisal

While in principle a financial lease could also be structured as a multi-purpose lease, ANED and CECAM base the appraisal mainly on the incremental cash flow generated by the equipment, seeing this as the main source for lease payments. Lease appraisal requires considerable skill, particularly for larger and more sophisticated equipment. The loan officer needs technical knowledge of the equipment, as well as a general background in farm economics and related financial flows. The appraisal should take into account the entire farm household income in order to identify a secondary source of payment should the main activity decline. Cash-flow analysis should also take the incremental working-capital requirements into account. A tractor, for example, requires on average 100-150 percent of its purchase value for repairs and spare parts during its economic life.

Structuring lease payments

All institutions engaged in leasing for farmers and microenterprises try to adapt the lease payment schedule as closely as possible to the farm household cash flow. This flexibility includes:

- varying amounts during the year in order to reflect the seasonality of cash flow;
- scheduling higher payments in early years when repairs costs are low, but depreciation of the equipment is high; and
- providing a grace period (a maximum of six months).

Box 16

Importance of supply-chain development

An efficient and competitive structure of importers, manufacturers, wholesale and retail dealers and repair shops facilitates the choice of equipment for particular types of users and uses, and guarantees the availability of spare parts and technical support. Thus it significantly reduces the risk of technical failure. Developing medium-term finance products such as leasing should be accompanied by a comprehensive strategy for mechanization or irrigation development based on a private-sector-driven supply chain. Donors can play an important role in supply-chain development by facilitating financial and non-financial support services.
The institutions that use tailor-made schedules find that this has a very positive impact on the ability of lessees to make regular lease payments.

Terms and conditions

Lease terms are shorter than the economic life of the leased assets. This provides a cushion for the lessor against accelerated depreciation due to inappropriate handling. It also provides additional incentives to the lessee to make timely payments so that full ownership is hastened. Lease terms are normally from three to five years, depending on the asset. Smaller items such as pumps may require shorter terms, two years in the case of ANED. The lease rate is 16 percent of the asset value per annum, and the lessee is not allowed to return the asset before the end of the contract period. In the case of CECAM, the term is three years and the leasing rate 30 percent.

Monitoring and supervision

As in the case of term lending, a good MIS is important for monitoring the outstanding lease portfolio and identifying problem accounts. Monitoring and follow-up are even more critical in the leasing industry and involve visits to control the state of the equipment and assure its proper handling and maintenance. ANED and the East African leasing companies do this through frequent visits by loan officers. CECAM’s strategy for supervision is to use proximity structures such as members of the local credit committees or joint liability groups. The latter also exert pressure for timely payment.

Dealing with default

Immediate action is important to maintain credibility among lessees and to discourage other defaults. If a lease payment is overdue, the loan officer calls or visits the client to identify the cause. If it is not within the control of the lessee, a plan for making the outstanding payment is established. Should the client not meet this plan, repossession is initiated. Neither ANED nor CECAM have had massive problems with default (see Box 17). It has, however, been necessary to repossess items in some cases, when equipment was not maintained properly or had been sold.
5.7 Problems Encountered in the Application of Leasing

The limited use of leasing for asset financing of urban and rural small and microenterprises is the result of various constraints. The main problems encountered in the case studies by the lessors were:

- moral hazard risk related to the leased asset;
- high transaction costs in dealing with small-scale clients;
- lack of long-term funding sources;
- problems of repossession, particularly lack of awareness of local authorities of the legal issues;
- difficulty in selling repossessed assets; and
- an inappropriate tax environment.

Moral hazard

For the lessor, the main problem is moral hazard risk, such as inappropriate handling, damage, loss or sale of the asset by the lessee. These risks can be partly handled through careful screening and selection of the lessee, coupled with close supervision. However, this means higher transaction costs, which increase the lease rate and make leasing more

Box 17

Outreach and sustainability indicators from ANED and CECAM

Outreach. CECAM has provided 25,000 leases since 1993, for a total value of 20 billion Malagasy francs and 5.8 billion in 2001 (approx. US$ 1 million). Leasing accounted for about 20 percent of the total outstanding portfolio. However, a minority of borrowers, constituting only 4 percent of all members, have been found to be eligible. ANED has a smaller outreach than CECAM, partly due to the type of equipment (tractors), but also to the relative newness of the programme. There are indications that the markets for irrigation pumps and tractors in the areas where ANED operates are already satisfied (see the case study for details).

Sustainability. ANED and CECAM have achieved lease payment rates above 90 percent, which is satisfactory in view of the experiences of many term lenders. In the case of CECAM, the payment rate for leasing is even above the average repayment rate of their lending products. However, as mentioned earlier, both institutions benefited from long-term concessionary loans from donors and, in the case of CECAM, ongoing technical assistance to develop products and train their staff. The relatively high lease payment indicates high transaction costs in appraisal and supervision and possible operational inefficiencies.
costly to the lessee. The use by RFIs of informal mechanisms such as joint liability groups might be one way to reduce these costs, especially in the case of smaller leases.

Set-up costs

Introduction of leasing may require higher set-up costs than would be required for term loans, since staff of FIs must familiarize themselves with the legal, regulatory and tax requirements. Moreover, simple materials have to be produced to market leasing products and facilitate their understanding; contacts and contracts with insurance companies have to be established; and staff have to be trained in appraising the value of assets and in their potential to create additional cash flow in farm enterprises.

Need for sensitization

There is a clear need to improve the availability of information and to mainstream the concept of leasing, not only among local farmers and equipment suppliers, but also among local authorities. Lessors have to invest considerable time and resources in explaining the concept of leasing and the rights and obligations of lessors and lessees.

In some cases, repossession has been hampered by ignorance of the relevant law on the part of local authorities, especially the courts and police. In other cases, clients have denied the lessor access to their property. These issues can be overcome through awareness-raising campaigns on the concept and procedures of leasing and through the appropriate design of contracts.

Regulatory issues

In some countries, the banking regulations stipulate that financial institutions have to create special leasing subsidiaries. For example, Law 2 297 in Bolivia, approved on 20 December 2001, requires that any regulated financial institution must carry out its leasing operations through a subsidiary. Several regulated MFIs, including CLA, have cancelled their plans to offer leasing because of the considerable costs this would have implied. Similar legal provisions apply in Colombia and El
Salvador (Westley, 2003). Decisions regarding the pros and cons of leasing subsidiaries should be left to the management and owners of financial institutions and should not be prescribed by banking regulators.

In principle, unregulated FIs such as financial NGOs or some credit unions do not face restrictions on engaging in leasing. However, superintendencies in some countries have the right to regulate all financial activity, including which institutions may lease and in what form. Thus leasing is allowed only for certain types of financial institutions. In Mexico, for example, equipment suppliers are not allowed to provide leasing. No such restrictions apply for medium-term loans.

Such discrimination against leasing seems unjustified, since it cannot be considered more risky than lending. (This observation does not apply to operational leasing, which is exposed to significant damage, second-hand market and residual-value risks.) Thus bank supervisory authorities should adopt a clear definition of financial lease as opposed to operational lease, and should not restrict financial institutions that are allowed to provide medium-term loans from also engaging in leasing.

**Tax environment**

In some countries, tax laws and regulations discriminate against leasing, effectively increasing the cost. In other cases, tax depreciation benefits cannot be realized by lessees in the rural or microenterprise sector due to the informality of the business or low profits. Most farmers do not pay value added tax or income/profit tax. This deprives them of an important advantage that makes leasing attractive to formal lessors, such as medium and large enterprises (Mutesasira et al., 2001).

A study comparing the tax environment for leasing in eight Latin American countries concluded that the tax systems in most of these countries had a modest anti-leasing bias, at least when the lessors were informal enterprises.\(^{41}\)

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\(^{41}\) For a more in-depth discussion of tax issues related to leasing in Latin America see Westley, 2003.
Warranties

Due to the separation of the ownership of equipment from its possession and use, some disputes may arise. For example, if the equipment breaks down during the warranty period, the supplier may refuse to bear the cost of repair or replacement, claiming that the lessee had abused the machine. These and other types of issues resulting from the separation of ownership and use rights should be addressed in an appropriate legal and regulatory framework. In practice, they might be reduced if the lessor established partnership arrangements with equipment suppliers, as will be discussed below.

Absence of suitable insurance products

The availability of insurance against theft or breakdown of the equipment would considerably reduce supervision costs. However, the insurer would then face moral hazard problems, leading to high premiums. These range from 3 to 8 percent of the value of the asset in Tanzania and Uganda (Mutesasira, 2001). ANED considers the premiums in Bolivia too high in relation to the real moral hazard problems experienced.

A related issue is life insurance coverage linked to a lease, which would also apply to loans. This practice is used by Orient Leasing in Pakistan, where average leases amount to US$ 10,000. This not only reduces risk for the lessor/lender, but prevents an undue burden on the family in the event of the client’s death.

Access to long-term funding sources

This is a critical issue for lessors, both for initiating a leasing programme and for scaling it up. The examples of ANED and CECAM underscore the importance of the availability of long-term, cheap resources. These examples and the previous arguments show that considerable resources have to be invested in building local capacity among all actors in order to make leasing and hire-purchase work. This justifies an element of subsidy in the resources made available to those lessors that have demonstrated the capacity to operate effectively, that are in a position to expand their operations, and that are constrained only by liquidity issues.
From the lessee’s perspective

In the case studies, the following problems were encountered by lessees:

• high down-payment requirements and, in some cases, collateral requirements;
• rigorous selection criteria regarding skills and previous experience;
• reluctance of lessors to lease low-cost technology or used assets; and
• higher payments (compared to term loans) due to shorter lease periods.

Though these measures might be necessary from the lessors’ perspective, they limit the outreach of leasing and may prevent smaller-scale farmers from seeking and obtaining a lease. This applies especially to down payments of 30 percent with new equipment or the practice in Africa of requiring additional collateral or guarantors. In developed countries, one of the main advantages of leasing is that the down payment is very small (typically less than 5 percent of the value of the asset). Down payments and compulsory deposits reduce the working capital available to farmers and thus limit the advantages of leasing as compared with lending.

5.8 Measures to Increase the Sustainability and Outreach of Leasing

The previous discussion illustrated that leasing is not an easy panacea for the lack of medium-term agricultural asset financing. The following section suggests some measures for mainstreaming leasing in order to finance farm assets in developing countries. Some of the proposed measures would also apply to financing equipment through medium-term loans.

• Partnerships with projects and NGOs. These can play an important role in making appropriate technology available locally and in training farmers in selecting the right equipment and managing it properly. Simple technology (e.g. treadle pumps) can serve as a stepping
stone for small-scale and inexperienced farmers. More progressive farmers could be trained to use animal powered or motorized equipment. Projects and NGOs could train farmers in farm management skills, while lessors could provide financial management training. Savings-based financial institutions could offer diverse savings and loan products, helping farmers save the required down payment for a lease.

- **Partnerships with equipment suppliers/dealers.** Lessors could negotiate better conditions, especially price discounts for bulk purchases. They could also seek to arrange warranties, training and after-sales services (repairs, spare parts). Suppliers often have frequent contact with clients through promotional activities. However, care must be taken to avoid a supply-driven approach. An important cushion would be to share the default risks between lessor and supplier. In this case, suppliers would have an incentive to participate in the screening of clients, provide effective training and combine after-sales services with supervision.

- **Alliances with MFIs.** This strategy would seek to combine the strengths of formal leasing companies with those of MFIs. The former possess specific knowledge and appraisal techniques, MIS for portfolio management and better access to funding sources. The latter would contribute local presence and experience and techniques in dealing with small and informal clients and thus offer the potential to broaden markets. MFIs might also collect lease payments on behalf of the leasing company, as they have ongoing contact with their clientele through other financial transactions. Moreover, they could provide additional working capital if needed. The key, again, is to combine these strengths into suitable arrangements that share risk, cost and profits, and to design contracts providing the right mix of incentives, checks and balances.

- **Innovative savings products.** Savings-cum-lease products could help more clients accumulate funds for a down payment. For example, CECAM has developed a product in which an applicant makes monthly deposits over a period of at least one year. This serves as a screening device, while the client becomes used to making frequent payments. After having completed the savings plan, and if the application is approved, the client receives a lease at a down payment of 24 percent instead of the usual 30.
- **Designing multipurpose lease products.** Smaller leases may also be offered as multipurpose leases, analogous to the multipurpose medium-term loans offered by some RFIs. This would render the criterion of experience less important and would require fewer lessor skills in appraising the asset and the generated cash flow. It would also increase the scope for leasing second-hand equipment.

Some measures to improve the legal and regulatory environment are outlined in chapter 7.
6 OTHER INSTRUMENTS FOR FINANCING TERM INVESTMENTS

6.1 EQUITY FINANCE AND VENTURE CAPITAL

Equity is the capital paid into an enterprise by owners or shareholders. *Equity finance* has three key advantages over both leasing and loan finance, which require fixed payments for principal and interest on a predefined schedule. First, an equity investor has residual claims on the profits of a business only if a profit is made. Also, the sale of shares or divestment can be adjusted more flexibly to volatile conditions in agriculture and to changing profit and liquidity positions. Second, the investor has a certain influence in or control over the management of the enterprise. This reduces moral hazard problems caused by asymmetric information and may strengthen the management of the company. Third, equity enhances the stability of the enterprise and can be leveraged by additional loan finance. Thus equity finance allows better sharing of the risk of investments in unstable environments or in longer-term and larger-scale investments than do long-term loans, which carry fixed and predefined repayment schedules.

Providers of equity include individual investors, stock markets, risk-capital funds, national and international development banks and socially oriented investment funds. Providers of risk capital or international development banks usually invest equity in a company over a time horizon of 5-15 years, followed by a period of gradual divestment. These investors share the risk and profits of the investment and expect to gradually divest the capital over the amortization period, with a profit margin commensurate with the risk and transaction costs. *Venture capital* means the use of equity finance for capitalizing extremely risky investments such as start-ups, diversification into new markets and financing of investments with longer amortization periods, which would not be able to attract traditional bank finance.

International development finance institutions, such as the International Finance Corporation, the Commonwealth Development Corporation or the Deutsche Entwicklungs Gesellschaft, finance investments in plantation agriculture and agroprocessing. Moreover, the principles of equity finance are inherent in many Islamic financing instruments, such as *musharaka* (partnership finance), which avoid fixed interest payments.
However, two major constraints limit the use of equity finance for SMEs engaged in agricultural production and processing. The high risk of agricultural term investments and a secular decline in the terms of trade of agricultural products make it more difficult to obtain returns comparable to other sectors of the economy. Moreover, equity investments imply high transaction costs, both in appraisal of the investment opportunity – which normally includes sophisticated financial and economic analysis of the company, feasibility studies, business plans and exit strategies – and in monitoring and supervision of its management. Thus few commercially oriented equity finance providers are investing in the agricultural sector.

Despite the limited suitability of equity finance as a direct financing tool for small- and medium-scale farmers, equity investment in processing companies and plantations can have important backward linkages, enhancing the prospects for farm-level investments. The availability of processing and marketing outlets reduces risk for those farm-level term investments related to marketing and input supply. Moreover, they are often accompanied by investments in infrastructure such as roads, transport and storage or communications facilities.

Two institutional arrangements can be used to strengthen the links to small- and medium-sized farms engaged in primary production: contract farming arrangements, such as the nucleus estate smallholder schemes, and joint venture companies, in which farmers can acquire shares in production, marketing and processing facilities.
6.2 Financing Investments through Nucleus Estate Smallholder Schemes

Within nucleus estate smallholder schemes (NES), term loans might be provided by the processing company or a financial institution for long-term, farm-level investments such as land development, irrigation or planting of perennial crops. Loan repayment is usually collected in kind through the processing company. NES approaches have been used to finance perishable crops, which require close integration of production, processing and marketing, often in relation to export markets in vegetables, palm oil or sugar cane.

One of the main strengths of the NES approach is the planting of large areas under estate conditions, which allows economies of scale in production and marketing. It is particularly suitable for developing tree crops in sparsely populated areas, possibly in conjunction with settlement schemes. Moreover, in-kind collection means cost-effective loan recovery for crops with an immediate link to processing, provided that outside selling can be controlled.

Table 6
Advantages and disadvantages of venture capital

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<th>Advantages</th>
<th>For the VCF</th>
<th>For the company</th>
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<td>Possibility of achieving high returns.</td>
<td>• Less risky than bank loans (no collateral, no fixed financial obligations, dividends depend on profits).</td>
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<td>Control of investment through participation in management and better access to information.</td>
<td>• Better asset/liability structure and possibility of accessing additional bank finance.</td>
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<tr>
<td>Risk may be spread through portfolio diversification into various sectors, regions or countries.</td>
<td>• Administrative and management support, including improvement of information systems and management procedures.</td>
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<table>
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<tr>
<th>Disadvantages</th>
<th>For the VCF</th>
<th>For the company</th>
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<tbody>
<tr>
<td>High risk, exit not certain.</td>
<td>• The owner loses his management autonomy.</td>
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<tr>
<td>Investment manager must become familiar with management and production of the enterprise, which is extremely time consuming.</td>
<td>• New administrative and management methods imply significant changes, which might require training or recruitment of additional staff.</td>
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<tr>
<td>In the case of SMEs, poor management and accounting procedures limit analysis of the enterprise and the investment potential and risk.</td>
<td>• External control required by the VCF might increase internal bureaucracy.</td>
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<td>Covenants in the contract might restrict management decisions within an agreed strategy, reducing flexibility to adjust to changing situations.</td>
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However, the NES approach is also plagued by several weaknesses: One obvious problem occurs if there are competing buyers that can pay more for the produce (because no loan deductions have to be made). Outside selling to avoid credit repayment has been a particular problem for crops such as rubber and coffee, which normally have several marketing channels. This scenario is by no means uncommon, even for supposedly ‘safe’ crops such as oil palm. In West Africa, there are small-scale, village-level processors as competing buyers, whereas in Asia, increased density of oil mills and/or better road networks have led to increased competition. Though beneficial to the farmer, this undermines interlinking as a loan repayment mechanism.

A further problem is that nucleus companies and outgrowers are highly unequal partners in terms of access to information, educational background and market power. Moreover, they do not have the same objectives. A monopsonistic situation always conveys the danger of opportunistic behaviour by the mills. If farmers feel cheated, they try to

42 Mismanagement of accounts or large deductions to cover high overheads of the nucleus have occurred frequently in Indonesia.

FINANCING AGRICULTURAL TERM INVESTMENTS
Part B: Other Instruments for Financing Term Investments

Conflicts between smallholders and the nucleus are frequent, both in Indonesia and elsewhere. However, it has to be emphasized that outside selling can be minimized in well-managed NES schemes. Experience shows that efficient management and transparency in the calculation of deductions and the management of smallholder accounts are of utmost importance in achieving high repayment rates and creating a win-win scenario for all participants. This requires considerable input in farmer training and strengthening of farmer organizations, especially those in charge of account management.

6.3 Joint Ventures – an Alternative to Individual Term Investments?

Potential for a win-win scenario

The possibility of establishing joint venture companies (JVCs) between farmers and commercial partners such as banks and agribusiness in the form of joint stock companies has received increasing attention recently. Such joint ventures may have several advantages over conventional
approaches such as cooperatives or contract farming arrangements. They may overcome the typical management and capital constraints of cooperatives, while still enabling farmers to reap economies of scale, participate in profits of downstream activities and get reliable access to inputs, output markets and support services. If farmers are shareholders in processing companies, their income doesn’t depend only on farming but also on patronage refunds, dividends and increases in the value of shares, which are marketable. Joint ventures between commercial farmers and landless workers have been used as an alternative to conventional land redistribution programmes in South Africa. The limited profit margins in agriculture can be increased through vertical integration.

Agribusiness investors may have different interests in and benefits from such partnerships. Conflicts might be resolved between commercial farmers and their workers (southern Africa) or between big plantation companies and smallholders/workers (Indonesia, the Philippines). The efficiency of contract farming and interlinking arrangements can be improved by avoiding problems related to asymmetric information and lack of transparency, which create mistrust and the incentives for free-rider behaviour such as outside selling or buying. As the Equity Share Schemes in South Africa demonstrate, better incentives and a sense of ownership improve the productivity of workers and lower costs related to supervision.

The potential of JVCs lies in the long-term nature of the partnership, which conditions the behaviour and expectations of both parties into a long-term horizon. The “corporative” approach (the Philippines) shows that incentives are particularly strong if farmers can increase their shares and eventually become the majority shareholders of the enterprise. Such a dynamic approach enabled RBP to divest its capital and provide a range of loan products secured only by interlinked transactions between the corporative, farmers and the bank. RBP was interested in building up a clientele with greater incomes and expectations – leading to more business for the bank.

Joint ventures might be set up as tripartite schemes among an agribusiness company, an equity investor (probably a development finance institution) and a farmer group. For example, the agribusiness investor
would pay in the majority of the shares and manage the scheme. The equity investor would take a strong minority position. The farmers would make only a small initial contribution, with the option of gradually increasing their shareholdings, e.g. through deductions from the produce delivered. They would thus gradually buy out the equity investor.

Box 21
Examples of joint venture companies in agricultural production and processing

*The Philippines.* Inspired by the corporative approach developed by RBP, the Land Bank of the Philippines (LBP) initiated the Access Programme in 1999. LBP finances up to 40 percent of investment costs as equity in an agribusiness company, established as a joint venture between a commercial entrepreneur and farmer cooperatives as raw material suppliers. Over a period of five to ten years, the cooperatives gradually buy out LBP through deductions from the proceeds of their product deliveries. Joint ventures between plantation companies and workers are also being used as vehicles within the land-reform process.

*Kenya.* The Kenya Tea Development Authority (KTDA), a former parastatal agency in charge of the smallholder tea subsector, gradually established 65 tea factories cofinanced by the Commonwealth Development Corporation (CDC), through equity finance, and the World Bank, through loans. During the last decade, smallholders gradually bought out CDC and the Government of Kenya through deductions from tea proceeds. Farmers now fully own the tea factories and KTDA, which still serves as their management agent. The listing of shares on the Nairobi stock markets is now under discussion.

*South Africa.* Equity Share Schemes (ESS) between landless black farm workers and white commercial farmers have been introduced in South Africa as an alternative to land reform. The approach has been designed for areas where high-value export crops are produced (apples, table grapes and olives), and redistribution of land would be prohibitively costly. Typically, the original owner-operator remains the (co)owner-manager, with a portion of the owner’s shares allocated to the workers/shareholders (usually, but not always a minority). ESS normally have land redistribution and investment components. The model removes constraints on black farmers becoming individual commercial farmers - constraints related to high prices for suitable land and the lack of management expertise and bankability. The commercial farmer benefits from increased productivity and better working relations through an enterprise culture and may divest additional shares at a later stage to the workers’ trust.

A development bank or social investor could have a significant non-monetary impact on the long-term stability of the JVC by safeguarding the interests of the farmers, especially during establishment of the joint venture. It could also act as an arbiter in case of conflicts. NGOs could play a similar role.
Issues and constraints in the governance and financing of a JVC

The establishment of a JVC of farmers, agribusiness and financial institutions must overcome a number of challenges. Some issues emerging from the case studies in South Africa and the Philippines illustrate how closely governance and financing issues are interlinked:

**Profitability.** The key condition for the viability of JVCs is high profitability. This is particularly important if the increase in farmer shares is to be financed gradually through deductions from purchase prices of agricultural products, wages or dividends. JVCs, with unequal partners, are more sensitive to low profits than other enterprises. If farmers do not receive competitive prices for their products, there is always the danger of outside selling and disintegration of the JVC. Commercial investors are less sensitive to short-term losses, but would also expect a reasonable return on both their capital and management inputs over the long term.

**Asymmetric partnership.** The structure of the JVC must address the huge asymmetries of the partners involved and provide the necessary incentives and safeguards. Commercial investors and small farmers differ not only in terms of socio-economic and educational background, but also with regard to risk aversion and their time horizon for investment decisions. Farmers need to receive tangible benefits that improve their living conditions rather soon, in order to develop a sense of ownership and feel committed to the JVC. On the other hand, joint ventures require financial stability, especially during the initial years. The use of discretionary dividends is one way to address these issues: the commercial investor waves its dividends until the capital base of the enterprise has been stabilized.

**Distribution of shares among the parties.** A marginal participation by farmers should be avoided, since it would not allow them to reap the potential benefits of such a partnership and may reduce the stability of the arrangement. The option of eventually becoming majority shareholders in the enterprise would provide a strong incentive to farmers to increase their production and the delivery of produce to the company. It may, however, weaken the incentive to the commercial partner and thus bring into question the long-term sustainability of the enterprise. A
strong minority position for farmers might be the most feasible option, as it combines incentive to the main investor and availability of management expertise with meaningful participation by farmers, resulting in tangible benefits.

**Financing initial capital requirements.** Due to the high risk of investment in agribusiness, the initial capitalization should be based mainly on equity, subordinate loans or concessionary funds if available. This provides more flexibility to contingency operations, such as the waiving of dividends and divestments in order to ensure continuous payment of salaries and competitive purchase prices from shareholders. The gradual purchase of company shares by farmers should not be financed through loans. Moreover, farmers should also make a significant contribution at the outset of the venture in order to reduce free-rider problems.

**Capacity-building.** Farmers should become familiar with the basic concepts of company management and the rights and duties of shareholders. The issues of transparency and accountability must be resolved, especially if farmers are represented on the board of directors through a cooperative or trust. Mechanisms and procedures for conflict resolution must be established, and the drafting of related by-laws needs substantial external support. Once JVCs are introduced, sufficient funding must be earmarked for ongoing capacity-building and for support by competent legal and business advisors.

**Exit and entry arrangements.** Questions must be addressed regarding exit and entry options for existing and new shareholders, along with regulations on the tradability of shares. Can shares only be sold within the company or also to third parties? Do all farmers and workers automatically accumulate shares over time through deductions from their due payments, or can they opt for higher prices/dividends? When can shares be sold and what are the payment modalities? The sale of shares must be regulated to prevent windfall profits, particularly if grants are used for capitalization of farmer shares.

The limited evidence on using equity and loan finance to establish JVCs does not allow strong conclusions about the scope and replicability of this approach. Most equity finance and joint venture programmes supported by donors and governments are fairly recent. However, they show some promise and should be closely monitored.
PART C

CROSS-CUTTING ISSUES AND CONSTRAINTS
The analysis in Part A showed that an enabling environment in which uncertainties and transaction costs are kept to manageable levels is critical to the feasibility of term finance. Moreover, the difficulty of managing and coping with risks was pointed out, especially those of a systemic nature.

Elements of an enabling environment include: sound, stable macroeconomic policies; a legal and regulatory framework that ensures and promotes the health and efficiency of the rural financial system without introducing undue biases against rural financial intermediation; enabling, coherent agricultural- and financial-sector policies; and investments in rural infrastructure, such as roads, irrigation, communications and marketing facilities. The last element reduces the transaction costs of productive activities, as well as of the provision of support services such as input supply, extension, business development and financial services.

Though these elements are particularly important for term finance, they are preconditions for expanding rural finance and developing commercial agriculture in general. As such, they have already been discussed in other volumes of this series.

This part focuses on four issues of particular relevance to enhancing the outreach and sustainability of term finance and that require action or support by governments and donors. Each of these issues is complex and would merit in-depth discussion that goes beyond the scope of this publication. However, due to their critical importance to term finance, some key issues will be briefly considered:

- constraints on secured lending (chapter 7);
- managing systemic risk (chapter 8);
- reducing asset/liability management risks (chapter 9).

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43 See AFR 2 on enabling and coherent policy environments and AFR 5 on the role of regulation and supervision in enhancing rural financial intermediation.
Collateral issues have been largely bypassed by the recent expansion of microfinance, which has found innovative solutions to the absence of suitable collateral for small and short-term loans. Chapter 4 indicated that collateral substitutes could be used to secure a limited portfolio of medium-term loans, especially in a context of limited competition among formal lenders. However, it also pointed to the limitations of collateral substitutes in scaling up a term finance portfolio and in extending loan terms and reducing interest rates. In situations in which a proven demand for term loans exists and RFIs have successfully introduced them to farmers, the legal and institutional environment for secured lending may become a critical constraint on term finance.

7.1 ELEMENTS OF SECURED LENDING

An enabling environment for secured lending refers to the creation, perfection and enforcement of security interests in rural assets:

- **Creation of security interests** refers to the legal base for including certain assets as collateral in the loan contract.
- **Perfection of security interests** refers to the filing of security interests in public registries.
- **Enforcement of security interests** refers to the foreclosure and sale of assets used as collateral in case of loan default.

As argued in chapter 4, lenders are generally not interested in foreclosing on collateral, not only because of the usual delays and transaction costs involved, but also because of the confrontational stance, militating against good relationships with borrowers. However, the ability to foreclose and sell the collateral quickly in case of a serious default is not only important in limiting the losses of a lender, but also in controlling moral hazard problems and maintaining repayment discipline. The higher the transaction costs, delays and uncertainties regarding the creation, perfection and enforcement of security interests in assets, the less willing will a lender be to accept them as collateral. It may decide not to make the loan, or may require additional or varied types of collateral, such as urban real estate or cash. This may deprive viable clients of access to loans and leave profitable investment opportunities unfunded, leading to social and economic costs.
This section highlights some legal and institutional issues that limit secured lending in developing countries and then indicates areas for reform.

7.1.1 Constraints on the Creation of Security Interests

*Important assets of farmers and rural SMEs cannot be used as collateral*

Real estate is often the preferred form of collateral for larger, long-term credits, because these assets are more likely to maintain their value during the maturity of the loan (being less likely to deteriorate, devaluate or disappear). However, several problems can complicate the use of real estate in securing loans.

Farmers may not have formal rights (legally recognized and enforceable) to land or other fixed assets. This might be the case in customary land-tenure systems or if transfers of land rights through inheritance or sales have not been recorded properly. In other cases, land titles might exist, but legal restrictions regarding the transfer of property rights limit the collateral value of land. For example, in some countries land-reform laws restrict the sale of redistributed land. Homestead laws are designed to protect borrowers from losing their residences by protecting some property from being mortgaged or seized. Similar legal constraints can apply to tools and other means of production. Such provisions might be justified from the perspective of protecting the livelihoods of poor people. They do, however, restrict their choice to use their assets to secure term loans that could lift them out of poverty by enabling them to finance productivity-enhancing or risk-reducing investments. Inability to use their assets as collateral may force farmers to rely on other sources of loans, sources that may make smaller loans and may charge higher interest rates, but require little or no physical collateral. This problem may force capital-constrained investors into making less expensive but often less profitable investments, with shorter gestation periods. The distribution of economic activities is then tilted in favour of those who can offer the best collateral, preferably urban real estate.

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44 This is the case in Bolivia, Colombia, the Philippines and Thailand.
In countries where land sales or rental markets are poorly developed, legal provisions for using movable assets as collateral (farm machinery and equipment, cars or livestock) may be of crucial importance\textsuperscript{45}. In many countries, however, such a legal base is either not in place or inappropriate legal provisions constrain its use in practice. For example, some countries require the specific identification and enumeration of property offered as collateral, i.e. identifying the specific animals in a herd, rather than accepting a floating security interest in the cattle, described only by their total monetary value, as allowed in developed countries\textsuperscript{46} (Fleisig and de la Peña, 2003).

The possibility of using movable assets as collateral is not only important to farmers, but also to equipment suppliers and agroprocessors, which are often an important source of seasonal finance in rural areas. Their access to term loans from banks is often restricted by the absence of legal provisions enabling the use of business assets such as inventory or machinery as collateral. This also limits their ability to provide term finance by selling assets on a deferred payment basis or by prefinancing the establishment of perennial crops (Fleisig, Aguilar and de la Peña, 1994).

\textsuperscript{45} This also applies to crop hypothecation, though its limited suitability for securing term loans has already been emphasized, apart from the case of single-channel marketing outlets.

\textsuperscript{46} In such cases, lenders must be wary of the possible sale of specific cattle, because, unlike in certain developed countries, there is no automatic, continuing security interest in the proceeds of such sales, or in whatever asset the borrower subsequently acquires with the proceeds.

**Box 22**

Legal constraints on using rural assets as collateral

In Bolivia, the law differentiates between the solar campesino (small subsistence plot), which cannot be mortgaged, and the pequeña explotación agrícola (small farm), which can be. However, the delineation proves quite problematic in practice due to huge agro-ecological variations across the country.

Original titles issued under the land-reform law are often outdated due to inheritance or informal land-sale transactions. This creates insecurity for both lenders and borrowers regarding the legal status and enforceability of contracts. Moreover, tools and farm equipment cannot be foreclosed on. For those who either do not want to mortgage their land or do not possess title, this limits farmers’ scope for offering collateral.
**Fragmented legal provisions for the creation of security interests**

Several laws may govern secured transactions according to different types of assets or borrowers. This fragmentation may create problems in determining the priority of creditors against the same asset. For example, if lender A has the pledge on the future crop and priority under the Civil Code, while lender B has priority against the crop when harvested and placed in the warehouse under the Warehouse Law, who has priority when the farmer places the harvested, pledged crop in a warehouse? In this case, lenders might agree that the crop was valuable, but not accept it as collateral because of the possible priority conflicts.

### 7.1.2 Constraints on the Perfection of Security Interests

Registration of security interests ensures that there is no senior claim on the asset and avoids the possibility of the asset being pledged to different lenders. It requires laws that clearly define priority and provide for registration of the security interest against the asset within appropriate registration systems. Usually, there are different registry systems for different types of assets, such as real estate, cars, ships and airplanes. Registries for other types of movable assets are often non-existent.

Various problems increase the transaction costs of using the legal registry system. Registries are often located in major cities far from investors and rural lenders. Many are not computerized and require manual searching. This creates problems for the lender, especially in the case of movable assets, which might be registered in another region, making detection of existing claims difficult. Fees are often high, because the lender must register the whole security agreement or a lengthy abstract, which is usually checked by registry staff for its legal correctness. In some cases, access to the registry is restricted. In some Latin American countries, for example, an official permission is required, which is a further source of delays and costs (Westley, 2003). This undercuts the very purpose of a filing system: making such data public. The accuracy of the data is sometimes questionable as well.

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47 Ibid.
In sum, all of these constraints add to lender transaction costs\textsuperscript{48}, which are then transferred to the borrowers, who face additional costs for registering their property. The high cost of creating a mortgage in most countries may make it uneconomical for small farmers to use their land titles to secure loans. Notice filing systems have been suggested as alternatives to conventional registry systems (Fleisig and de la Peña, 2003): here, the lender simply files a notice of the existence of the security interest. Information requirements are limited to names and domiciles of the parties and a description of the collateral. Given the limited amount and standardized form of the information, the database can be posted on the Internet. Notice filing systems are thus much easier and cheaper to maintain and are more user-friendly.

7.1.3 Constraints on the Enforcement of Claims

Enforcing claims against mortgaged property in the event of borrower default is often costly and time-consuming (see Box 22, p. 76). The greater the transaction costs, the less acceptable will be the collateral for securing small loans and the higher the collateral requirements. The repossession and sale of mortgaged assets usually requires court action that may take months or years. The sale of collateral is then subject to complex procedures, including an appraisal of the property, a court-administered auction and provisions for revaluation if the property cannot be sold at the appraised value (Westley, 2003).

In Tanzania the judicial process was found to take from three months to two years, and in India up to five years. In Bolivia the legal procedures for foreclosing on collateral take on average 269 days, though according to the law they should be completed within eight days. If the client refuses the order, the average increases to 670 days (Fleisig and de la Peña, 1994). This clearly affects the practical utility of collateral, and as a consequence lenders restrict collateral-based lending. Movable property tends to depreciate over time, so lengthy procedures further diminish its value as collateral. The enforcement period may exceed the economic life of some assets, such as standing crops and inventories, and there is the risk to the lender that they will simply be consumed, sold or made to disappear in the interval. Even when procedures are not inher-

\textsuperscript{48} See also Yaron, McDonald and Piprek (1997).
Part C: Addressing Constraints on Secured Lending

ently complicated, legal systems are often overburdened and inefficient, so that debt-recovery tribunals and courts function extremely slowly.

Some countries admit movable assets such as farm machinery and tools as collateral but exempt them from being foreclosed. Again, such a provision prevents farmers from using these assets to secure loans. This is especially problematic in situations in which land cannot be used as collateral.

However, there are other factors constraining the foreclosure and sale of land and other rural assets: In some countries, local politicians pressure banks not to sell mortgaged property, while community solidarity discourages people from purchasing foreclosed property. Markets for used machinery and other assets may be so thin that it is difficult to locate buyers or obtain the value.

7.1.4 Areas for Reform of the Legal and Institutional Framework

Collateral issues require careful identification, analysis, and reform as part of a longer-term reform agenda to strengthen the creation, perfection and enforcement of contracts for secured lending. Amending legislation usually involves a long process of consultation in order to find a compromise between different stakeholders and interest groups and to reconcile rural finance with other concerns. Moreover, the cost of reforms has to be weighed carefully against the benefits both in the short and long term, taking into account the institutional capacity of each country to implement legal provisions. A discussion of concrete measures for legal reforms and their sequencing would have to depart from the prevailing legal tradition and the existing legal system in individual countries and goes beyond the scope of this book. However, some possible areas of reform will be outlined.

Steps should be taken to broaden the range of assets that can be used as collateral. Depending on the current country situation, this might translate into diverse measures:

- In many countries, a legal framework and registry system for movable assets such as equipment, livestock, crops, inventory and receivables may need to be created or the existing one improved. This
should include the possibility of creating floating security interests in livestock, inventory, etc.

- In countries without private land ownership, legal provisions may stipulate long-term use rights and leases for the securing of loans.
- Restrictions in land-reform laws and exempt property provisions on foreclosure and sale of rural assets should be carefully reviewed. The social benefits of protecting farmers must be weighed against the social costs of limited access to term loans. Instead of excluding the use of rural assets as collateral, governments may be better advised to enhance the availability of other risk-management instruments, such as the development of index-based insurance products and price-risk management tools.

Legal reforms should unify fragmented and sometimes ambiguous legal provisions and create a coherent legal framework and filing system for secured transactions, including leasing. Priority interests of different lenders on assets governed under different laws must be clearly defined.

Registration systems for filing security interests for real estate and movable assets should be reformed to enhance speed and convenience and reduce the cost of accessing information. This may involve the use of electronic data management systems where appropriate. In this case, however, additional costs for capacity-building have to be factored in. The feasibility of introducing notice filing systems might be explored.

Finally, legal provisions and administrative procedures should be reformed to ease contract enforcement and foreclosure on collateral. This could include non-judicial foreclosure, to save transaction costs and time, and the licensing of debt-collection agencies.

In countries where the basic institutional and cultural preconditions exist for rural land markets, the legal base for mortgage lending should be created. A mortgage law could stimulate the development of capital-market instruments, such as the securitization of mortgages on land and other types of asset-backed securities. This would open up additional sources of long-term funds for refinancing term loans for land development or the establishment of perennial crops.
As stated initially, legal reforms are likely to have the biggest impact on the supply of term finance in situations in which effective demand for term loans exists and RFIs have introduced them, but scaling up is constrained by missing or outdated titles, exempt property provisions or poor registry systems.

In view of the time horizons and complexity of legal and institutional reforms to expand secured lending, other measures could complement reform, including leasing. Chapter 5 highlighted legal- and tax-related discrimination against leasing, which merits attention and reform by policy-makers:

- **Regulations limiting the types of institutions allowed to engage in leasing.** Discrimination against financial leasing does not seem justified on risk grounds.
- **Requirements that commercial banks open specialized leasing subsidiaries.** This creates considerable additional cost, while the benefits are not always clear. The decision to create leasing subsidiaries should be left to FIs.
- **Slow procedures for repossession of assets.** In some countries, these reduce the comparative advantage of leasing over secured lending. Legal provisions may have to be reformed to ensure fast and non-bureaucratic repossession. In other cases, publicity campaigns and capacity-building of local courts and police may be needed.
- **Unfavourable tax treatment.** Tax treatment often makes leasing more costly than lending, especially when used as a financing instrument for small- and medium-sized farms in developing countries.

### 7.2 Guarantee Funds as a Risk-Sharing Mechanism

Guarantee funds are another alternative that might help FIs better manage idiosyncratic client risk. They might also provide a quicker response than legal and institutional reforms.

#### 7.2.1 Principles

Policy-makers often advocate guarantee schemes to help lenders manage collateral problems. Credit guarantee programs are risk-sharing mecha-
nisms intended to overcome the resistance of financial institutions to lending to targeted borrowers (individuals, households, farmers or small businesses). The objective is to stimulate lending to creditworthy borrowers that have feasible projects, but lack sufficient assets to offer as collateral. By sharing some of the lending risk, guarantee schemes are expected to leverage additional funds from the financial system (“induce additionality”) because lenders make loans that otherwise would not have been made. If successful, they are more efficient in expanding lending than the provision of an equivalent amount of resources for refinancing or loan revolving funds. Some programmes anticipate that, as a result of the guarantee experience, lenders will graduate to making these loans without guarantees once they learn that the targeted clients and/or investments are not as risky as originally perceived.

A typical guarantee scheme links three agents or participants: a guarantor, a lender and a borrower. A guarantee agreement provides the lender with the right to call on the guarantee to recover loan losses. The design requires an incentive-based contract that encourages all three agents to act responsibly and prudently: additional loans are made, borrowers work diligently to repay them, and the costs and losses ultimately borne by the guarantor can be covered by fees and investment earnings, rendering the scheme sustainable. Ideally, a guarantee is only called after the borrower has done everything possible to repay and the lender has exhausted reasonable efforts to collect.

A successful guarantee programme may have favourable benefits for both borrowers and lenders. Besides receiving loans that they would not have otherwise, borrowers may benefit because interest rates may be lower, terms may be longer and collateral requirements may be reduced. Lenders may gain through reduced transaction costs and risks, larger loan volumes, and new clients, who become potential customers for larger loans in the future and for other products and services.

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49 If a loan is guaranteed to 50 percent of its value, US$ 1 invested in a guarantee fund would create US$ 2 in additional lending (provided the bank would not otherwise have made the loan due to lack of collateral).

50 See Gudger (1998).
7.2.2 Empirical Evidence

Guarantee programmes for lending to small and medium enterprises (SMEs) have existed for several years in the U.S. and Europe. Many schemes have been introduced to expand agricultural lending in developing countries. More recently, guarantee schemes have emerged to support microfinance.

These examples are indicative of the chequered performance of guarantees. None of the European small- and medium-enterprise (SME) guarantee schemes are self-financing. Most in developing counties have failed or at best experienced limited success. Many failed because they were not financially sound and became moribund when they ran out of capital. Still others fell into disuse because the administrative arrangements were so expensive, complicated and time-consuming that lenders lost interest. Many schemes continue to depend on large subsidies, so they simply amount to credit subsidies dressed in different clothes.

7.2.3 The Way Forward: Better Practices in the Design of Guarantee Funds

Despite the problems cited above, there may still be circumstances in which a credit guarantee could be useful in leveraging agricultural term lending. This is especially the case in countries in which the absence of suitable collateral and legal and institutional constraints continue as major problems. Guarantee funds should not be used to circumvent
underlying structural problems. They can, however, be important ancillary instruments to support the introduction of term loans. The key is to identify the indicators of success and in the design avoid the problems that have plagued previous efforts.

For the lender, the additional benefits expected from making guaranteed loans must exceed the additional transaction costs and risks. The costs include securing the guarantee, conducting the required level of client monitoring and loan collection, processing guarantee claims and absorbing the lender’s share of losses not guaranteed. The risks include those inherent in lending to the targeted borrowers and the investments they make, and the risk that the guarantor will be financially unable or refuse to pay the guarantee claims.

For the guarantee fund to be sustainable, investment earnings and the fee and commission income must be adequate to cover operating costs and guarantee claims. Sustainable funds will tend to be well-capitalized, earn high returns on invested capital reserves, receive high fee and commission income, and be designed and administered so they have low operating costs and pay few guarantee claims.

Several considerations are involved in reducing moral hazard:

• Borrowers need to have something at risk and should be required to offer some collateral even if it is not normally required for a loan.
• Borrowers that default must be denied further loans from all lending institutions.
• Lenders should have at least 30-40 percent of the loan at risk, while guarantees of less than 50 percent may significantly reduce the interest of banks to participate in the scheme.
• Loan payments should be allocated in proportion to the risk shared and not credited fully to the lender’s risk portion.
• Borrowers might be classified by risk level and the structure of fees and guarantee coverage set at higher levels for the riskiest borrowers.

An important conclusion is that SME guarantees cannot be imposed on a faulty financial system, unsound and inefficient financing institutions, and a general culture and legal system that condone non-repayment of debts. Lenders must be interested in learning to work with the sector
and willing to commit themselves to developing the expertise to make good term loans. Without such a commitment, a loan guarantee scheme alone will not contribute much additionality nor develop a system of sustainable term lending. Moreover, no guarantee fund can solve fundamental structural problems if lending to agriculture is inherently too unprofitable and risky (Vigano, 2002).

Guarantee funds might be most effective if combined with the provision of technical assistance to the lender. If the designers of guarantees are correct in arguing that it is possible to identify borrowers and investments that are less risky than perceived by lenders, then it is necessary to train lenders to use appropriate client screening and lending technology. The guarantee then provides additional security to the lender in the short-term but becomes unnecessary in the long-term, once the improved lending technology is in place. Guarantees could therefore be structured as a temporary risk-sharing instrument to cover some of the high initial risk of institutions introducing term finance products. This may create further incentives for RFIs to put their own resources at risk and invest in staff training, product development and adjustment of operational procedures.

7.3 CREDIT BUREAUS

Specialized institutions that collect and disseminate information on borrowers’ credit histories, credit bureaus are another potential innovation for improving access to credit. As a source of information, they can produce multiple benefits by reducing lender transaction costs and risks, promoting greater transparency on the financial transactions and obligations of borrowers, inducing greater competition among lenders for good clients, and creating incentives for timely loan repayment, as borrowers come to appreciate the value of a good credit history. Credit bureaus may take on greater importance in countries where it is politically difficult to change laws and regulations to make it easier and cheaper to use collateral to secure loans. A number of start-up bureaus have sprung up in West Africa since 2000, but it is too early to see results.

Many developing countries, especially in Latin America, have developed private and public credit bureaus. They collect information on credit histories from affiliated financial institutions, assemble it into a standardized database, and for a fee provide their affiliates access to individual credit histories. This information is used by affiliates to screen clients and make loan decisions. In some countries, all regulated financial institutions must furnish data to public credit bureaus. Not all financial institutions become affiliates, however. For example, MFIs may not be members either because only regulated institutions are allowed to participate, or they find it too expensive for the benefits received, or the size of their transactions does not reach the minimum accepted for registration. Moreover, some institutions prefer not to participate because they have expended great effort accumulating information about their own clients and fear they may lose the best ones if the competition gets access to this private information.

Credit bureaus might be an effective way of reducing the costs and risks of term lending, but it is unlikely that they will be relevant in the near future, considering the nature of rural finance in most countries. They are most useful where there are many competing lenders, serving many clients, so that the total number of transactions is large and it is difficult for financial institutions to directly exchange information. Consumer credit typically represents this type of situation. Microfinance may be entering this stage of development in some urban areas, and even in some rural ones, as in the case of Bolivia. However, the rural finance situation in which term finance might be introduced does not always display these features. There is often only one or a few institutions involved, and usually they do not compete with one another in specific localities. Moreover, potential clients normally engage in only a few financial transactions, and they tend to use informal or microfinance sources that would not participate in credit bureaus. Term lenders in this situation can easily obtain information directly from the few relevant financial sources in order to compile credit histories on potential clients. Only at later stages of development will urban-based credit bureaus begin to expand into rural areas and serve important functions for rural term lending.
The analysis in Part A pointed out that one of the core constraints on term finance is the inability of investors and financial institutions to properly manage and cope with systemic risk. The measures discussed previously – an improved legal and institutional framework for secured lending, credit bureaus and risk-sharing mechanisms such as guarantee funds – are more suitable to managing idiosyncratic risk. The absence of proper instruments for managing systemic risk may force investors and RFIs into costly risk-avoidance strategies, foregoing opportunities for investment and growth. This underscores the importance of designing complementary risk-management instruments that address systemic risk.

8.1 POLICY OPTIONS

Governments may use various policy measures and instruments to reduce the level of systemic risk and strengthen the capacity of investors and financial institutions to manage and cope with its impact. The level of uncertainty can be reduced through stable macroeconomic and agricultural- and financial-sector policies and by abstaining from ad hoc political interventions in financial markets. This allows investors and FIs to concentrate on managing climate- and market-related risks. Governments can further support the risk-management strategies of farmers through the following measures:

- investing in irrigation and flood protection. The rehabilitation of irrigation systems may have important secondary effects on demand and supply for term finance. However, capital investments in infrastructure are only sustainable if accountable, efficient management structures are created and farmers participate both in management and in operational and maintenance costs;
- researching crop varieties that are resistant to pests or more drought tolerant;
- strengthening the input supply chain to enhance access of farmers to drought- and pest-resistant seed and planting material and to agrochemicals;
• promoting price-risk management instruments such as hedging, forward contracts and put options in order to protect against short-term price fluctuations; and
• introducing innovative approaches to crop and livestock insurance.

The suitability of these diverse strategies depends on the severity and frequency of risk. For example, improved varieties and agricultural practices or investment in water-management facilities may to a certain degree enable farmers to cope with frequent but less severe climatic risks or pests. Crop insurance may cover systemic risks that are less frequent but cause higher losses. Major external shocks such as drought or the temporary collapse of key export-commodity prices cannot be insured against at a reasonable cost and may require temporary government or donor assistance to mitigate the consequences on producers, financial institutions and the national economy.

Though necessary in extreme cases, disaster assistance should be used with care in order to not crowd out other risk-management strategies such as insurance. If free disaster assistance is periodically available, farmers are protected from the costs of coping with systemic risk. In the long-term, this may result in a distortion of their investment decisions into high-risk activities. Thus, if free aid is frequently available, disasters may become self-perpetuating.

Financial institutions respond to systemic risk primarily by diversifying their portfolio into different sectors and regions. The trade-off between portfolio diversification and the need to invest in a specific financing technology, thereby acquiring local knowledge to manage credit risks, has already been mentioned in chapters 1 and 3. This applies especially to RFIs of limited size. Access to refinance facilities in the case of major external shocks may help those RFIs with a viable term finance technology cope better with systemic risk. If idiosyncratic risks are manageable, this would allow them to expand their term finance portfolio. Such refinance facilities could be made available through second-tier or apex institutions. However, refinance should be restricted to extreme situations and care should be taken that only well-managed, financially sound RFIs qualify for such facilities. This will discourage laxity in loan appraisal and bail-out mentalities among lenders. Debt forgiveness programmes may present the same pitfalls as disaster assistance, as well as
undermining repayment discipline and careful scrutiny during loan appraisal.

8.2 **Innovations in Agricultural Insurance**

Innovative approaches to using index-based crop and livestock insurance might warrant attention and support by governments and donors.

**Problems of conventional crop-insurance programmes**

Agricultural insurance, and particularly crop insurance, has had a chequered history in developing countries. Along with lenders, agricultural insurers face moral hazard risks, adverse selection and high transaction costs, which are difficult to resolve under developing-country conditions. Some of the main problems of crop insurance are:

- Insurance of a large number of perils makes verification of claims extremely difficult, increases problems of moral hazard and leads to an increase in the number of claims.
- Verifying claims in scattered smallholdings and the processing of large numbers of claims are time consuming and costly.
- Public crop-insurance programmes often come under political pressure similar to that experienced by agricultural development banks, i.e. to make high disbursements in election years.

These factors lead to high costs that are seldom covered by premium payments. Thus public crop-insurance programmes in both developed and developing countries have been highly dependant on public subsidies. In most cases, the benefits to society have not been clear enough to justify these amounts of public resources (Skees, *et al.*, 1999).

**New approaches: area- and index-based crop insurance**

Novel ways of overcoming these difficulties through area- and index-based insurance products have recently been suggested. In these, the trigger for indemnity payments and the assessment of loss are done not on an individual basis (which is prohibitively expensive for small-scale
farms) but rather on either area yields or some objective weather event such as temperature or rainfall. Provided such data are secured against fraudulent adjustment, the cost of setting up and operating the trigger is very low. Moreover, moral hazard risks are eliminated so that deductibles – commonly used in traditional crop-insurance programmes to combat such risks – are not needed. Naturally, only some perils lend themselves to this type of approach. Drought is a prime candidate.

The effectiveness of an index-based insurance contract depends on how positively farm yield losses correlate with the underlying area- or weather-based index. Due to the incidence of microclimates or the different factors influencing area yields, the actual extent of a loss may vary from the trigger. The so-called base risk describes situations in which an insured person suffers a loss but does not receive a payment or vice versa. To calculate premiums adequately, index contracts require reliable data at the local level in order to determine homogeneous areas, or correlations between losses and weather events. Thus the key is to find areas that are homogeneously affected by an external event such as rainfall. Index-based insurance policies could be sold either to individual farmers or to RFIs. The latter possibility would to a certain extent avoid base risks affecting individual policy holders, and it would protect the lender against losses from default due to drought (Skees, 2003).

To date, there are few examples of index-based insurance systems in developing countries, and most experiences are still at too early a stage to draw strong conclusions. However, given their potential to allow farmers and financial institutions to manage climatic risks, governments and donors might consider supporting their introduction on a pilot basis in order to test their feasibility under specific local conditions. This would require technical assistance and seed funding. Technical assistance could include capacity-building among interested stakeholders – farmer organizations, local insurance providers, RFIs and government departments – regarding the concept of and institutional approaches to providing index-based insurance. Local insurance providers could be trained in identifying suitable indices, using information technology to monitor and analyse data in order to design contracts attractive to farm-

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52 The World Bank Group is studying the feasibility of weather-based index insurance in Argentina, Ethiopia, Mexico, Morocco, Nicaragua and Tunisia.
Part C: Managing Systemic Risk

Seed funding might serve a reinsurance function during the start-up period until the schemes have reached maturity. Subsequently, governments and donors might facilitate access to reinsurance or global weather-risk markets, while ensuring the financial viability of the providers.
9 REDUCING ASSET/LIABILITY MANAGEMENT RISK

Section 3.8 concluded that FIs should fund their term asset portfolios through long-term funds at stable costs in order to reduce asset/liability mismatches and the associated risks. Equity, subordinate loans and long-term borrowing in the national currency are the most suitable funding sources. However, these funds might be in short supply in developing countries with poorly developed capital markets. Also, certain types of funds are only available to regulated FIs or might be more suitable for larger FIs, as was discussed previously.

Three situations can be distinguished in which governments and donors might have a supporting role in mobilizing funds for term finance:

- the introduction of term finance by FIs with a limited track record in the financial system;
- refinance facilities to accredited FIs for providing long-term loans with grace periods; and
- refinance facilities to smaller FIs with viable term finance portfolios, but limited possibilities for diversifying their funding sources.

9.1 SUPPORTING THE INTRODUCTION OF TERM FINANCE

Access to long-term funding sources on concessionary terms is particularly important for young FIs with a limited track record in the financial system. At this stage, while systems and staff capacity are still being developed and a reputation built, special assistance is almost certainly required. The availability of long-term funds at stable costs avoids interest-rate and liquidity risks and allows financial institutions to focus on developing a sound lending technology. This also applies to FIs with a successful track record in short-term lending that are interested in introducing medium-term loans or leasing. Once the lending risks are manageable and a suitable financing technology is in place, funds from donors can be provided on more commercial terms and complemented

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53 A concessionary element can refer to the maturities and cost of funds, as well as to costs related to managing and coping with interest-rate and currency risks. Different situations may require different approaches.

Part C: Reducing Asset/Liability Management Risk
with other instruments such as borrowing and equity from commercial sources.

Access to equity, subordinate loans or long-term loans on concessionary terms doesn’t only reduce ALM risks. It may also partly compensate the RFI for higher initial unit costs per term loan or lease and avoid transferring these entirely to the client. FIs with a small term finance portfolio and limited experience, who still have to optimize their financing technologies, face higher costs and have to make higher loss provisions than experienced financiers. This translates into high interest rates or appraisal fees, which may reduce effective demand and leave many potentially viable investments unfunded. Moreover, adverse selection might become a problem in situations in which a financier has not yet fully developed the skills and instruments to properly appraise the financial viability of term loan or lease applications.

Through concessionary funding for the introduction of term finance products, governments and donors share the institutional learning costs. Such direct financial support to individual FIs might be indicated in situations in which term finance is not available to farmers and other SMEs in rural areas, despite the existence of effective demand. In view of the public good elements of the introduction of financial innovations and broadening of the financial infrastructure, this support could be justified from the perspectives of financial-system development and broader rural development. The successful introduction of innovative term finance products not only benefits individual FIs and their clients, but also has important spillover effects. On the demand side, financing of term investments may trigger intensification of production, value adding and the associated benefits of employment creation. On the supply side, the successful introduction of term loans or leasing by one RFI may prove the viability of such finance. Successful approaches might then be replicated by other FIs in the same country or elsewhere.

The case studies underline the importance of concessionary funds and equity in the early stages of an institution’s operational life, for example BASIX in India, which was originally capitalized by soft loans from donors. Similarly, the leasing programme of CECAM in Madagascar has depended heavily on long-term, cheap resources provided by the Government and the European Development Fund. The Bolivian MFIs

FINANCING AGRICULTURAL TERM INVESTMENTS
received equity, subordinate loans or long-term loans from donors and international development finance institutions during their institutional start-up phase, and eventually for the introduction of medium-term loans and leasing. Borrowing on commercial terms has only been used after the start-up period.

Experience with credit lines in the past highlights the importance of using and designing such instruments carefully. In order to minimize distortion, concessionary funding should honour the following principles:

- **Graduality.** Concessionary funds should be provided only on the basis of a genuine, proven demand. It is important that the management of FIs should never be placed in a position in which certain lending targets have to be met. Term finance requires skill and experience in assessing and managing risk and costs. If these are not sufficiently developed, then the push to lend will be paramount, and loss of quality in the term loan asset portfolio will be the inevitable result. It is also important that the RFI puts some of its own resources at risk.

- **Performance.** Portfolio quality and performance should be closely monitored, and technical assistance may be necessary. Financial assistance should only be provided to the extent compatible with effective demand and the institutional capacity of the RFI.

**Complementary measures.** When a lender has established a viable financing technology and a reliable pool of borrowers, support may be required to access other sources of funds. Technical assistance may be needed to strengthen the ALM skills of the RFI. Guarantee funds may offer another possibility for supporting small RFIs with a limited track record in accessing commercial funding sources.

### 9.2 Funding Long-Term Loans

Investments with long gestation or amortization periods, such as planting of certain tree crops, farm restructuring or processing facilities, usually require long-term loans, possibly with grace periods. While experienced FIs with good ALM skills may fund a medium-term finance port-
financing out of short- or medium-term liabilities, the provision of long-term loans requires long-term funding sources to avoid severe liquidity risk. These funds are seldom available in financial markets in developing countries.

Table 7
Change in BAAC’s sources of funds structure, 1967-2001

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<tbody>
<tr>
<td>Deposits from the public</td>
<td>15%</td>
<td>15%</td>
<td>12%</td>
<td>25%</td>
<td>48%</td>
<td>62%</td>
<td>76%</td>
</tr>
<tr>
<td>Mandatory deposits from CBs</td>
<td>--</td>
<td>--</td>
<td>39%</td>
<td>39%</td>
<td>7%</td>
<td>1%</td>
<td>-</td>
</tr>
<tr>
<td>Borrowing</td>
<td>19%</td>
<td>22%</td>
<td>35%</td>
<td>29%</td>
<td>32%</td>
<td>25%</td>
<td>13%</td>
</tr>
<tr>
<td>Shareholder equity</td>
<td>66%</td>
<td>57%</td>
<td>12%</td>
<td>6%</td>
<td>8%</td>
<td>7%</td>
<td>7%</td>
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<tr>
<td>Other liabilities</td>
<td>4%</td>
<td>4%</td>
<td>2%</td>
<td>1%</td>
<td>5%</td>
<td>3%</td>
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</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Deposit-to-loan ratio</td>
<td>14%</td>
<td>19%</td>
<td>21%</td>
<td>35%</td>
<td>66%</td>
<td>83%</td>
<td>98%</td>
</tr>
</tbody>
</table>

Source: BAAC

In Bolivia, for example, where several financial institutions have developed the capacity to provide medium-term loans with a maturity of up to five years, the provision of long-term loans is constrained by the lack of long-term refinance facilities. Even in many western countries, commercial banks provide few long-term loans due to their heavy reliance on short-term funds. Long-term finance is provided mainly by specialized institutions such as development banks and mortgage finance institutions. As long as the conditions for the development of mortgage-based securitization and other capital-market instruments do not exist, access to long-term refinance facilities might be crucial to enabling retail financial institutions to make such loans (particularly those with grace periods).

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The maturity of funds available in the national capital market is limited to two to three years.

FINANCING AGRICULTURAL TERM INVESTMENTS
9.3 FUNDING SMALL, SUCCESSFUL TERM FINANCE PROVIDERS

Access to refinance facilities with longer maturities might be important to smaller rural financial institutions with a proven term lending technology, but limited possibilities for diversifying their liability structure. This may be due to legal and regulatory constraints or to the high cost of long-term capital-market instruments such as bonds, which only amortize over a large portfolio. Using short-term funds such as commercial borrowing or deposits might still involve too high a risk to finance a significant term finance portfolio.

If there is a critical mass of retail lenders able and willing to expand rural term finance, the feasibility of second-tier refinance facilities such as apexes or wholesale banks might be explored. These can provide credit lines for term loans or leasing to eligible retail intermediaries, which would have to carry the lending risk. They may also provide training and capacity-building in ALM and other fields of banking. Such wholesale institutions could provide retail lenders with an opportunity to refinance a bad portfolio in the case of temporary, major external shock affecting a number of their clients (for example, drought or floods). However, this has to be assessed carefully case-by-case in order to ensure careful lending decisions by the retail institutions and discourage bail-out mentalities.

If long-term funds are provided to expand the existing term finance portfolios of retail lenders, they should be priced at market interest rates, above the interest rate of long-term deposits. The cost of funds should be adjusted periodically to changes in market interest rates. Moreover, it is important to ensure that a significant part of the credit risk is carried by the financial institution. The concessionary element would refer to the maturity, but not to the cost of funds.

In the long run, the development of capital markets should be stimulated, including mortgage-based securitization. Apart from sound and stable macroeconomic policies, this would require an enabling legal and regulatory framework, as well as effective supervisory institutions.
PART D

CONCLUSION
This chapter summarizes the findings and presents a series of recommendations for financial institutions wishing to embark on agricultural term finance. Its last section suggests concrete measures by which donors and governments can support financial institutions and enhance the economic, institutional and policy environment for expanding the frontier of term finance.

10.1 **Main Findings**

10.1.1. **Risk of term finance in relation to investment purpose and client**

Though term finance is generally more risky than short-term finance given its longer time horizon, risks vary considerably according to investment purpose, type of borrower and the legal, institutional and market environment. These factors are highly situation-specific: the feasibility of term finance and the suitability of different instruments have to be assessed on a case-by-case basis. For example, medium-term leases or loans to experienced farmers for the purchase of farm machinery or equipment are not necessarily more risky than short-term loans if the equipment is used to secure the transaction and generates a steady cash flow. However, long-term loans with grace periods, for the establishment of tree-crop plantations, for example, present high risks. Long-term finance depends to an even greater extent than short-term on a stable environment, the availability of specific risk-management instruments and access to suitable refinance facilities.

Moreover, some term investments such as irrigation or storage facilities reduce the exposure of farming operations to certain production and market risks. They may lower the risk profile of a client, increase the profitability of the business, and thus trigger further loan demand, e.g. for incremental working capital. The general risks related to longer-term finance have to be traded off against the risk-reduction features of term investments and their impact on future demand for additional loans.
Individual farmers vary greatly in their risk profiles, depending on their skill and experience, level and diversity of income sources, and their ability to make down payments and provide collateral. Financing the expansion of existing activities is clearly less risky than financing start-ups or diversification into new activities. Most of the case-study institutions target farmers that have experience or training in the planned activity. Identified marketing outlets and diversity of income sources are other selection criteria. Availability of support services, quality inputs, irrigation, and processing facilities shapes the risk and profitability of farming. Most term finance providers operate primarily in areas with good infrastructure, including irrigation, and in proximity to markets or processing companies.

10.1.2 Determinants of the cost of providing term finance

Costs are also situation-specific: transaction costs vary according to population density, the quality of road and communications infrastructure and the legal and institutional framework for secured lending and contract enforcement. In comparison with short-term and micro loans, term loans offer a considerable advantage in transaction costs if total costs are related to the amount disbursed. This may compensate for higher absolute costs for loan appraisal and supervision, cost of funds and loss provisions.

The level of loss provisions depends not only on the determinants of risk already discussed, but on the experience and skill of the financier as well. Experienced lenders – with a good knowledge of clients, agricultural activities and investment opportunities – can better assess risks, select viable loan applications and obtain and analyse information at lower transaction costs. This is then reflected in lower loss provisions and operational costs, enabling the lender to make larger loans with longer maturities at lower cost to the client.

10.1.3 A specific financing technology: the key to managing risk and costs

A good financing technology allows RFIs to single out viable investment projects and manage idiosyncratic client risks at a reasonable cost. Term finance requires specific skills to appraise the stability of the borrower’s
cash flow over time, the risks and profitability of investments and the quality of collateral. Providers of seasonal loans with an established pool of clients, familiar with local production and marketing conditions, are better equipped to engage in term finance. Still, considerable training and possibly recruitment of specialized staff with agricultural backgrounds may be needed.

Financing technologies and product design should be adapted to the characteristics of clients and the capacity of the lender. For example, less experienced lenders can first provide multipurpose term loans as a form of extended short-term loan. These loans reduce problems related to the fungibility of money and are suitable for financing smaller investments, new clients and risky activities such as diversification into new crops. More experienced lenders may offer specific-investment loans to finance larger investments that considerably alter farm household cash flow.

The scheduling of repayments involves a compromise between the lender's preference for short maturities and frequent instalments and the borrower’s preference for longer maturities and instalments adapted to the agricultural calendar. Long maturities and grace periods enhance affordability of investments for borrowers but increase moral hazard and liquidity risks for lenders. Short maturities and frequent instalments add to transaction costs and may lead to illiquidity for the borrower. Successful term finance providers demonstrate a high degree of flexibility in adjusting repayment schedules to the cash flow of individual borrowers and investments, taking into account seasonality of income and expenditures.

Term loans require monitoring and supervision. Frequent contact with borrowers enables lenders to anticipate possible default and to differentiate the underlying cause: moral hazard or external factors beyond the responsibility of the borrower. Though a strict policy is needed in the case of wilful default in order to maintain credit discipline, the high incidence of systemic risk in agriculture requires some flexibility towards default caused by temporary external events, at least in the case of repeat borrowers. To enable such flexibility, term finance providers need a strong equity base and access to refinancing facilities. Costs can be reduced by joint liability mechanisms or by partnerships with equipment suppliers, processors or NGOs, introducing an element of risk sharing.
10.1.4 Term finance as part of a long-term bank/client relationship

Term finance products can be offered at the lowest risk if RFIs adopt a relationship banking approach based on the desire of both client and RFI to maintain a long-term partnership. Investors can build a track record and RFIs can obtain first-hand information, permitting flexibility in collateral requirements and in dealing with default.

Offering various products strengthens the ties between investors and RFIs: the possibility of obtaining term finance can be an incentive to maintain a good track record with the lender. In turn, continuing access to short-term loans for working capital or consumer purchases can be linked to timely repayment of term loans. Moreover, as term investments tend to reduce risk and enhance the profitability of a client’s business, term finance may set the basis for future loan demand.

From a dynamic perspective, adding term finance to an existing range of products can benefit financial institutions. An RFI offering a ‘one-stop shop’ for the diverse financial requirements of business and household activities will attract new clients. However, selection criteria and collateral requirements need to be more stringent for first-time borrowers.

10.1.5 Strengths and weaknesses of different term finance products

- **Term loans** are the most widely used instrument because they can finance a wide range of investments and allow a considerable degree of flexibility in designing disbursement and repayment modalities. Moreover, the concept of lending is better known and more readily understood by financiers and farmers than leasing or equity finance. The main limitations are a repayment schedule based on assumptions formulated at the time of loan appraisal, the difficulty in adapting to changes, and the need for tangible collateral, especially in the case of longer terms and larger amounts.

- **Financial lease** offers the advantage of reducing or even eliminating the need for additional collateral and the problems related to the creation, perfection and enforcement of security interests – the financier is the owner of the assets financed. It may thus be particularly suitable in countries where weak legal and institutional frameworks create severe constraints on the use of rural assets for securing term loans.
loans. However, several issues have to be taken into account in designing leasing products for informal clients in rural areas. First, as just mentioned, the concept of financial leasing is often unfamiliar to farmers, RFIs and local institutions, and its introduction may therefore require higher set-up costs for capacity-building of local stakeholders. Second, as the financed asset is the main security and source of lease payments, leasing requires more supervision, resulting in high transaction costs. Finally, legal and regulatory provisions may restrict the use of leasing to certain FIs, or the tax treatment may discriminate against it.

- **Equity finance** by existing or new shareholders avoids fixed repayment schedules and costs. The participation of the financier as shareholder in the enterprise reduces moral hazard problems related to asymmetric information, while the enterprise benefits from management expertise. The main limitation is high transaction costs for appraisal and monitoring. This limits its use for smaller investments. It may, however, be suitable for financing larger-scale investments in processing and marketing that in turn enhance the profitability of farm-level investments. In this context, equity finance could be used to capitalize joint venture companies of farmers, financial institutions and agribusiness. However, it requires specific skills, which may restrict its use to specialized equity and venture capital funds and development finance institutions.

10.1.6 Impact of size on the ability to engage in term finance

Larger RFIs have comparative advantages in offering term finance products. They can manage systemic risks through portfolio diversification, and the number of term loans they can provide is enough to warrant developing a specific financing technology to manage idiosyncratic risks. Moreover, they have better access to a broader range of funding sources. For smaller RFIs, the establishment of networks, access to refinance facilities (or additional owner capital in case of a major external shock), and the availability of risk-management instruments are especially important. Their main advantages are their proximity to clients, good knowledge of local conditions and (in the case of non-regulated financial institutions) greater flexibility in introducing financial innovations.
10.1.7 Role of non-financial institutions

There is little documentation of equipment suppliers, agribusinesses and traders providing term finance to farmers, despite their importance as sources of seasonal finance. A possible exception may involve perishable, bulky products that require immediate post-harvest handling and processing. The limitations of suppliers and processors as providers of term finance include:

- limited skills in appraising the creditworthiness and repayment capacity of clients;
- the high cost of setting up and managing a loan administration and monitoring system;
- limited access to long-term funding sources; and
- lack of interest in providing term finance to farmers.

However, non-FIs can play an important role in tripartite arrangements with financial institutions and farmers, e.g. through sharing risk or providing complementary services. Interlinked transactions may be used to reduce transaction costs for loan collection and collateral requirements. They work best in environments with limited competition if deductions for loan repayment are calculated transparently. The example of RBP in the Philippines shows that equity participation by farmers in downstream enterprises can enhance trust and reduce the incentive for default caused by outside selling of produce.

10.1.8 Importance of donor support to FIs in the introduction of term finance

The reluctance of many RFIs to engage in term finance is partly attributable to the high set-up costs of developing new products and procedures, training and recruiting specialized staff and accessing long-term funding sources. Moreover, the likelihood of default is greater during the initial launching of new products, when many of the risks are still unknown and the RFI does not yet possess the skills to assess and manage them adequately. Many RFIs, especially smaller ones, are not willing or able to fully assume these risks and costs. Moreover, lack of access to suitable long-term funds may expose lenders to considerable asset/liability risk.
Well-designed, targeted donor support is especially important during the initial phase. Seed funding and technical assistance may encourage the development of term finance products by sharing the risk and costs. Most of the case-study institutions received such support. A case could be made for a public good element in introducing viable term finance instruments that enhance the financial infrastructure in rural areas. If the viability of term finance can be proven, other RFIs might replicate successful approaches. Moreover, many rural and agricultural term investments have important spillover effects in terms of poverty reduction and enhanced competitiveness. Government and donor support means that all institutional learning costs do not have to be shouldered by the RFI or transferred to clients through higher interest rates.

10.1.9 Complementary measures to support the scaling up of term finance

A good lending technology, careful product design and a relationship banking approach can overcome some but not all constraints on the provision of term finance. The case studies show that scaling up of term finance portfolios requires the tackling of structural constraints as well. The key issues are an enabling legal and institutional framework for secured lending and instruments to manage and reduce systemic risk:

- **Addressing collateral constraints.** Collateral substitutes such as joint liability mechanisms, co-guarantors, or the pledging of unregistered assets such as land, equipment or household goods can be used in securing smaller term loans. This is most effective if clients have a long-standing relationship with the lender and there are few other sources of finance on comparable terms. However, larger term loans with longer maturities require additional collateral. Moreover, if competition among lenders increases, the use of non-traditional collateral might become problematic in that clients might pledge the same asset to different lenders. The scaling up of small, local term loan portfolios requires an enabling environment for secured transactions. The terms and conditions of loans (amounts, maturities, grace periods and interest rates) depend on the availability and quality of collateral. Legal, regulatory and institutional constraints on the creation, perfection and enforcement of security interests restrict the
use of rural assets as collateral in many developing countries, and these constraints need to be addressed urgently.

- **Managing systemic risk.** Effective demand for term finance depends on the investor’s ability to manage and cope with systemic risk. Irrigation and storage infrastructure, and the accessibility and quality of agrochemicals, planting material or breeding stock enhance the resilience of farmers. Still, major external shocks such as drought or price drops are difficult for investors or financial institutions to manage at the local level and may require access to specific risk-management tools such as agricultural insurance. Innovative instruments such as area- and index-based crop insurance show some promise in managing the risks related to climatic events and they avoid the flaws of conventional crop-insurance programmes. However, practical experience in the use of these instruments in developing countries is still limited.

### 10.2 Recommendations for Financial Institutions

Based on the experiences of the case-study institutions, recommendations can be offered for building up a term finance portfolio at reasonable risk and cost.

#### 10.2.1 General Principles for Developing a Term Finance Portfolio

- **Adopt a long-term business development strategy:** introduce term finance as part of a long-term strategy in recognition of the potential longer-term benefits. Investments in market research, product design, financing technology, staff training, MIS adaptation, etc. are crucial, but only amortize over a longer time horizon.

- **Take a gradual approach** to introducing and expanding term finance in order to spread out set-up costs and minimize initial losses while skills and procedures are being developed. Start with short-term loans in order to become familiar with local production and marketing conditions and establish a viable client base. Grant term loans to existing borrowers first, and to new clients only when the financing technology has been proven. Offer multipurpose term loans, based on existing farm household cash flow, before introducing specific-
investment term loans to be repaid partly or mainly out of the incremental cash flow generated by the investment.

- **Offer a broad range of financial products**, including deposit facilities, short-term loans and savings-cum-loan products, as part of a long-term bank/client relationship. This allows clients to graduate into term loans, accumulating capital for financing start-up activities or making down payments. Ensure that clients have access to sufficient working capital for the proper operation and maintenance of the investment. Emergency loans can stabilize the farm household cash flow and help cope with adverse events.

### 10.2.2 Specific Recommendations for Designing Financial Products and Technologies

- **Focus on financing the expansion of existing activities** and the scaling up of proven technologies for which support services are available. Restrict financing of new activities to repeat borrowers or to those with stable, diversified cash flow and suitable collateral. Consider offering multipurpose term loans and/or term savings products for diversification investments.

- **Avoid standardized loan products** based on cash-flow models of specific term investments when providing term loans to small and informal borrowers. Appraise repayment capacity on the basis of a complete assessment of all sources of income and expenditure related to the business and household and of their stability over time. Base projections of farm household cash flow on conservative assumptions, especially in the case of first-time borrowers. These can be relaxed for repeat borrowers. Adjust repayment schedules as closely as possible to the projected income of the farm household and the cash flow generated by the investment. Avoid long grace periods and stipulate the payment of interest.

- **Price term loans according to client risk**: clients may be classified in different risk categories according to their experience, past repayment performance, down-payment capacity and availability of collateral. Repeat clients may be offered lower interest rates.

- **Take a flexible stance towards collateral**: maximize the use of collateral substitutes for smaller term loans and emerging commercial farmers through repayment incentives. These could include the possibility of access to future loans on improved terms and conditions,
peer pressure and pledging of assets with high personal or economic value for the borrower. Accept experience, skills, track record and sound cash flow as partial substitutes for collateral. In the case of larger loans with longer maturities, combine conventional loan collateral with collateral substitutes.

- **Consider financial leasing** for the medium-term financing of equipment if term loans are not feasible due to legal and regulatory constraints and if the regulatory and tax environment does not have a strong antileasing bias.

- **Seek partnerships with non-financial institutions**: establish partnerships with equipment suppliers to ensure client training, provision of after-sales services, client supervision and bulk purchases of equipment. Ensure that suppliers share part of the credit risk, e.g. through deferred payments, based on the repayment performance of clients. Build partnerships with farmer organizations, local authorities or NGOs for client screening and supervising, creation of peer pressure, extension services and business advice. Liaise with local governments to ensure the infrastructure complementary to investments, such as roads and irrigation or marketing facilities. Negotiate arrangements with processing companies to ensure stable marketing channels for outputs, availability of inputs and technical assistance. These types of arrangements could also include in-kind loan collection.

10.3 OPTIONS FOR GOVERNMENT AND DONOR SUPPORT

Governments and donors can foster the supply of term finance through two main avenues:

- supporting financial institutions through technical and financial assistance to the design and introduction of new finance products and technologies; and
- enacting coherent policies and complementary measures to create an enabling economic, institutional and policy environment and to strengthen effective demand.
10.3.1 Direct Support to Financial Institutions

Supporting product innovations

Financial institutions may be supported in the introduction of term finance products through technical assistance in the following areas:

- internationally disseminating best practices in the design of term finance products and financing technologies, e.g. through publication of case studies, training materials, international workshops and staff exchanges;
- developing and pilot testing prototypes of term loans or financial leases;
- training loan officers and staff of credit committees in the proper appraisal of loan or lease applications; and in accounting, financial management and internal control to ensure professional management and efficient operations of rural financial institutions during their start-up and consolidation phases;
- building capacity of staff regarding the legal, regulatory and tax issues in those RFIs interested in financial leasing;
- upgrading MIS in order to improve individual loan/lease tracking and overall loan portfolio management; and
- establishing partnerships with non-financial institutions such as equipment suppliers, agribusiness, NGOs and local governments.

Mobilizing long-term funding sources

Financial assistance in the form of long-term subordinate loans or equity allows FIs introducing term finance products to concentrate on managing the asset side of the business. A concessionary element in the cost of funds may be justified in order to compensate the RFI for the high initial risks and transaction costs. Such support has to be gradual, performance-based and of limited duration. It may be most effective if complemented by technical assistance along the lines outlined above.

Once a term finance technology has been developed successfully, RFIs can be helped to diversify their liability structure by accessing commercial funding sources. Possible areas for support include:
• strengthening the asset/liability management skills of RRFIs;
• establishing common liquidity pools, for instance by constituting associations or federations of similar institutions;
• assisting in the design of term savings and savings-cum-loan products;
• providing guarantee mechanisms for accessing credit lines from commercial banks or accessing capital markets through the issue of debentures and bonds; and
• investing equity so as to strengthen the capital base of RRFIs, facilitating access to commercial borrowing and other debt instruments.

The provision of long-term refinance facilities to established financial institutions may still be important in the following situations:

• capital markets do not generate appropriate long-term funding sources for refinancing the long-term loans required for term investments;
• smaller financial institutions with a viable term finance technology cannot access suitable funding sources in the market to expand their term finance operations, e.g. due to regulatory constraints.

In these cases, funds should be priced at market rates so as not to discourage development of commercial funding sources. Moreover, financial institutions should carry the full credit risk. Such support should be closely monitored and available only to well-managed financial institutions with a strong equity base and sound portfolio quality.

10.3.2 Measures for Creating an Enabling Environment and Enhancing Effective Demand

Support to financial institutions to develop term finance products is most effective as part of a broader rural development strategy. Areas of particular importance for government action and donor support are the following:

Ensuring sound, coherent macroeconomic and sectoral policies

Low, stable interest and inflation rates and realistic foreign exchange rates are preconditions for providing term finance and for a profitable
agricultural sector. Measures aimed at enhancing the supply of rural finance through financial institution-building will be ineffective if urban bias or high inflation rates limit effective demand. Donors can support policy formulation and reform through policy dialogue and through technical assistance efforts such as stakeholder workshops or sectoral studies.

**Improving the legal and institutional framework for secured lending**

Legal and institutional reforms that improve the creation, perfection and enforcement of security interests are likely to have important long-term benefits for the expansion of term finance, despite the time horizon for implementation. Key measures would include legal and institutional reforms to broaden the range of assets that can be used as collateral, including movable assets such as equipment, livestock, crops, inventory and receivables. Registration systems for filing security interests for real estate and movable assets should be reformed to enhance speed and convenience and to reduce the cost of accessing information. This may involve computerization of registries and the introduction of notice filing systems. Finally, legal provisions and administrative procedures should be reformed to ease contract enforcement and foreclosure on collateral.

Where the basic institutional and cultural preconditions exist for rural land markets, a mortgage law could stimulate the development of capital-market instruments, such as the securitization of mortgages on land and other types of asset-backed securities. This would open up additional sources of long-term funding for refinancing loans for land development or for the establishment of perennial crops.

**Promoting financial leasing**

The promotion of financial leasing as an alternative term finance instrument may require legal reforms to ensure fast and non-bureaucratic repossession of leased assets and to modify legal and tax provisions that discriminate against leasing. Restrictions preventing certain financial intermediaries or equipment suppliers from leasing should be avoided, as should requirements that commercial banks engaging in leasing must open leasing subsidiaries. Legal reforms should be complemented by capacity-building of local institutions (e.g. courts, police).
Improving rural infrastructure

Investments in rural infrastructure for transport, marketing and communications enhance the profitability of agriculture, reduce transaction costs and stimulate effective demand for term finance. Irrigation and drainage systems reduce exposure of farmers to climatic risk and enhance the scope for diversification and intensification.

These measures also trigger private investment and enhance the viability of term finance. They might be particularly important as kick-starters in marginal rural areas, setting the scene for expansion of the finance frontier. Financial institutions alone will seldom be willing or able to finance these investments. Innovative approaches to combining different funding sources need to be explored, including farmers and local communities, commercial investors and public funds.

Supporting farm diversification and innovation

The introduction of new technologies may require initial support in terms of training and seed funding, since these activities may be too risky for RFI.s. The same might apply to new enterprises requiring capital investment. Suitable technology for small commercial farmers is often not available and may need to be tested on a pilot scale. Once the technical and economic feasibility has been proven, RFI.s can take over and finance the scaling up of new activities or technologies. Governments and donors may then support the establishment of private-sector supply chains for inputs and investment goods in order to ensure the availability of reliable, low-cost technology and related support services.

Strengthening downstream activities

Development finance institutions could provide equity finance, long-term loans and subordinate loans to capitalize small- and medium-sized processing companies, with important spillover effects on farm-level investment. Equity finance, in combination with long-term debt instruments, can also be used to capitalize joint venture companies of agribusiness, farmers or farm workers and financial institutions.
Improving access to information

Market-information systems, market research on diversification options and information on new technologies or farm data systems help farmers and RFIs identify profitable investment opportunities and assess risks and market trends. RFIs would also benefit from improved borrower information systems such as credit bureaus. Donors could strengthen the capacity of the private sector, government departments and civil-society organizations to conduct market research and price analysis of agricultural commodities. This would lead to more informed decision-making by investors and RFIs. Extension services and farm business advice enhance the capacity of farmers to adopt good agricultural practices and improve their business and financial management skills.

Making risk-management tools available

Governments and donors might provide seed funding and technical assistance for pilot testing the introduction of area- and index-based crop and livestock insurance (contract design, selection of appropriate indicators, data management, etc.).

Cyclical price fluctuations are a major constraint on term finance and cannot be managed through short-term, price-risk management instruments such as put options, forward contracts or hedging. Research into novel ways of designing approaches and instruments to manage cyclical price fluctuations would be crucial to expanding term finance for many agricultural commodities.
<table>
<thead>
<tr>
<th><strong>Additionality</strong></th>
<th>Additional loans provided by financial institutions because credit risks are partly covered by guarantee arrangements.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adverse selection</strong></td>
<td>Related to loans: Due to imperfect information, lender cannot differentiate the real risks of different borrowers and investment projects. In order to protect against potential losses, the lender might increase the interest rate above the rate of return of less profitable but less risky applicants. This would leave the lender with a portfolio of high-risk clients willing and able to pay the risk prime. Related to insurance: Tendency of poorer-than-average-risk clients to apply for or continue insurance when they expect losses for an amount greater than the premiums, while low-risk individuals may not seek insurance. Adverse selection occurs when the insured has information about a risk that the insurer does not have.</td>
</tr>
<tr>
<td><strong>Asset/liability risk</strong></td>
<td>A mismatch between the terms (amounts, maturities and costs) of assets (loans) and liabilities (sources of funds).</td>
</tr>
<tr>
<td><strong>Asymmetric information</strong></td>
<td>Where one party in an economic relationship (e.g. an agent) has more information than another (e.g. the principal). The borrower has better information on the risks of a proposed investment than the lender. Asymmetric information regarding the intention of the borrower to use or repay the loan as agreed may increase adverse selection and also moral hazard if contracts cannot be enforced at a reasonable cost.</td>
</tr>
<tr>
<td><strong>Capital-recovery factor</strong></td>
<td>This factor converts the present value of a loan into a series of equal payments needed to regain the loan principal plus compounded interest over a given maturity. Also called annuity factor.</td>
</tr>
<tr>
<td><strong>Collateral</strong></td>
<td>An asset, real or personal, owned by the borrower that guarantees the repayment of a loan. The borrower risks losing the asset if the loan is not repaid according to the terms of the loan contract. Also called security.</td>
</tr>
<tr>
<td><strong>Equity/residual claim</strong></td>
<td>A claim to a share of earnings after debt obligations have been satisfied.</td>
</tr>
<tr>
<td><strong>First and second tier</strong></td>
<td>First tier refers to retail lending, i.e. direct provision of financial services to clients. Second tier is wholesale, i.e.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
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<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Gearing ratio</td>
<td>The ratio of debt finance to the total capital of an enterprise.</td>
</tr>
<tr>
<td>Hedging</td>
<td>Taking a position in the futures market opposite to a position held in the cash market in order to minimize the risk of financial loss from an adverse price change.</td>
</tr>
<tr>
<td>Loan-loss provision</td>
<td>Allocation of resources in the current period to the loan-loss reserve in order to protect against default in future periods.</td>
</tr>
<tr>
<td>Lumpy investments</td>
<td>Investments that are indivisible and cannot be gradually expanded, i.e. that require a large lump-sum of capital.</td>
</tr>
<tr>
<td>Moral hazard</td>
<td>Risk of change in the behaviour of the borrower after a loan contract has been signed, for example an increased chance of default through carelessness, incompetence, recklessness, diversion of funds or unwillingness to repay.</td>
</tr>
<tr>
<td>Mortgage</td>
<td>A conditional conveyance of property as security for repayment of a loan, backed by a legal document deposited at a registry.</td>
</tr>
<tr>
<td>Pledge</td>
<td>A conditional conveyance of property as security for repayment of a loan, backed by a legal document deposited at a registry. As opposed to a mortgage, in some jurisdictions a pledge is confined to personal property, in some to transfer of possession of a property.</td>
</tr>
<tr>
<td>Put option</td>
<td>An option that gives the buyer the right, but not the obligation, to sell a specified amount of a commodity at an agreed price at any time until the expiration of the option. A put option is purchased to protect against a fall in price. The buyer pays a premium to the seller of the option.</td>
</tr>
<tr>
<td>Risk</td>
<td>The quantifiable likelihood of changes in parameters leading to lower than expected returns or losses.</td>
</tr>
<tr>
<td>Risk prime</td>
<td>Additional interest required by a lender as compensation for the risk that the borrower may default.</td>
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<tr>
<td>Glossary</td>
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<td>-----------------------</td>
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<tr>
<td><strong>Systemic risks</strong></td>
<td>Risks that affect a larger group of actors, such as inhabitants of a region, producers of a crop, or financial institutions. Systemic risks involve the probability that cumulative losses will occur from an event that ignites a series of successive losses along a chain of institutions or the markets comprising a system.</td>
</tr>
<tr>
<td><strong>Uncertainty</strong></td>
<td>Risk that cannot be measured.</td>
</tr>
<tr>
<td><strong>Vertical integration</strong></td>
<td>Integration of the successive stages of the production, processing and marketing functions of a commodity chain. It may occur through buyer/supplier contracts or through ownership and control under common management.</td>
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References


References


References


