

# **The use of Structured Finance instruments in agriculture in Eastern Europe and Central Asia**



# The use of Structured Finance instruments in agriculture in Eastern Europe and Central Asia

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## **Preface**

Financing of agriculture and agribusiness has always been difficult as a result of the risks and nature of the business. Traditional forms of collateral are often not available, thus limiting access to needed funding for the sector. In Eastern Europe and Central Asia (ECA), this was particularly true when the regions were making the transition from the former Soviet Union system. New forms of financing were required that took into account the collateral of products and processes and the strength of the agricultural value chains and those involved in them. Structured Finance (SF), as defined later in the document, was developed precisely for using such non-conventional types of collateral.

Different forms of SF have been used in the Eastern European and Central Asian region with varied results and new products are being introduced in many of the countries. The document's aim is to appraise and understand the current and potential for greater use of these forms of SF in the region. Those that are most relevant are reviewed in terms of their current and potential application in order to understand what lessons can be learned, what should be promoted in the future and what conditions are required for applying the various SF products. It should be noted that the use of warehouse receipts is not treated in detail because of the availability of complementary studies on its use in agriculture.

The document introduces and illustrates the leading products and innovations in SF in the region. It also strives to analyze the results and make recommendations from the lessons learned in the region and elsewhere. Structured Finance for agriculture has shown promise for wider replication in the Eastern European and Central Asian region, but a lot more research, innovation and improvements in the enabling environment are needed before it can be universally implemented across the region or elsewhere. The global financial crisis in 2008 brought to light many problems when the use of SF products was not managed properly and not supervised adequately, resulting in caution for their use in the future. The problems that arose stem largely from the poor quality of assets that were bundled together, rather than the structured instruments themselves. The economic crisis that followed and accentuated the financial crisis has been especially difficult for the Eastern European and Central Asian region. Consequently there is an increased shortage of available financing and coupled with an increase in security requirements make the need for SF far more important as an option to increase agricultural financing within and to the Eastern European and Central Asian region.

The document is intended for people and organizations working in or with finance who are interested in expanding their offer of financial services to agriculture and agribusiness through use of additional tools and approaches. It is also for agribusiness leaders who are looking for opportunities to increase their access to finance through the use of SF approaches. Finally, the document contains lessons, examples and policy recommendations for policy-makers and public investors who want (and require) an orientation to the use and practicality of SF in the region and/or the conditions required for use of such products.

Some of the terms and concepts used in this document are relatively complicated. A glossary is provided to define the terms and other references are given to provide readers with additional information sources for a more in-depth understanding.

The authors of the present study each bring complementary experience in the field of SF for agriculture: Michael Winn, is a private consultant and banker in the region with ample experience in commercial SF; Calvin Miller is the Senior Officer for rural finance in FAO with extensive agricultural finance and value chain finance experience as well as expertise in agribusiness, and Ivana Gegenbauer is an agricultural finance research consultant in FAO with past commercial finance experience in the Eastern European and Central Asian region.

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Structured financing in agriculture is not an easy topic to explain, describe and understand. It has taken considerable consultation and research to write this Working Document. The authors wish to express gratitude to Frank Hollinger, Economist and Michael Marx, Senior Credit and Rural Finance Officer, Technical Cooperation Department (TCI), Food and Agriculture Organization of the United Nations (FAO), and Åke Olofsson, Rural Finance Officer, Maria Pagura, Rural Finance Officer, and Andrew Shepherd, Marketing Economist, Rural Infrastructure and Agro-Industries Division (AGS), FAO, for their valuable input in reviewing this document. Special thanks are also given to Ashok Khosla, Structured Finance Specialist, and Dan Lambright, Agribusiness Managing Director of ING Capital, LLC, for their professional insights and review.



## **Acronyms and Abbreviations**

AIB	Agro-Industry Bank, Moldova
BNA	National Agriculture and Livestock Exchange, Colombia
BPS	Basis Point
CIS	Common Wealth of Independent States
CPR	Cedula Produto Rural (Rural Product Notes), Brazil
DCA	Development Credit Authority, USAID
EBRD	European Bank for Reconstruction and Development
ECA	Eastern Europe and Central Asia
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
GA	Guarantee Agency
GDP	Gross Domestic Product
IFC	International Finance Corporation, World Bank
LIBOR	London Interbank Offered Rate
NAFIN	Nacional Financiera (State Development Bank), Mexico
OECD	Organisation for Economic Co-operation and Development
PO	Producer Organization
PWC	Price Waterhouse Coopers
SF	Structured Finance
SME	Small and Medium Enterprise
SPV	Special Purpose Vehicle
TFP	Trade Facilitation Programme, EBRD
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development



## **Executive summary**

Structured Finance (SF) for agriculture and agribusiness is defined by the authors as “the advance of funds to enterprises to finance inputs, production and the accompanying support operations, using certain types of security that are not normally accepted by banks or investors and which are more dependent on the structure and performance of the transaction, rather than the characteristics (e.g. creditworthiness) of the borrower.”<sup>1</sup> Its use is especially relevant when conventional sources of loan security are not available or are insufficient.

The financial crisis in 2008 brought increased attention and scrutiny to some types of SF techniques, and together with the economic crisis that followed made financing more difficult and with increased requirements for security. In such situations SF is useful to consider for increasing financing to agriculture and agribusiness by reducing its risks and costs.

The country reviews of SF usage and literature research for this paper indicate that the use of SF techniques in agriculture in Eastern European and Central Asian countries is not widespread, but is present in various ways and in many of the countries within the Eastern European and Central Asian region<sup>2</sup>. As shown in the country case study on Serbia, much of that use is non-agricultural. A lack of wider scale usage can be attributed on the financial side to a deficiency in understanding SF within institutions, weaknesses in the financial markets in Eastern European and Central Asian countries, and impediments within the legal environment. Within the agricultural sector, the perceived risks in agriculture, the fragmented nature of many of its value chains and deficiencies in infrastructure hinder its wider use.

The move from socialist structures to a market economy caused significant disruption in the transition countries – which constitute the majority of Eastern European and Central Asian countries – and this legacy has had a profound effect on the business and institutional development. In particular, the old value chains in agriculture, which in socialist countries were set up by administrative decree, have broken down since the 1990s, and have been and continue to be replaced by new private business structures and chains, governed by market relationships. The pace of refocusing and building new chains differs from country to country, but almost all of them need capacity development in order for producer organizations (POs) and agribusinesses to be able to make use of SF opportunities.

The Eastern European and Central Asian countries with stronger economic, social and legal frameworks show the highest usage of SF, most of which is applied to non-agricultural activities. Even though some uses of SF are taking hold in the agricultural value chain, it is apparent that many banks are still nervous about deploying SF in the agricultural sector in those countries.

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1 See Glossary in Annex 1 for additional definitions of SF and other definitions of terms used in the document.

2 See, for example, Rural Finance Innovation Case Studies by Douglas Pearce, CGAP 2002. Out of the 25 case studies of innovative financing, taken from 15 different countries, not a single case study is located in the Eastern European and Central Asian region.

This occurs even though Western experience shows that bank risk is actually reduced by the use of structured instruments and that some SF instruments serve to offset the lack of a strong legal and country enabling environment. For example, while techniques such as securitization and future contracting tend to be found in the more highly developed Eastern European and Central Asian countries, there is considerable opportunity for some types of receivable-backed finance, warehouse receipts and leasing in all countries.

Case examples and studies from the region illustrate that much progress in productivity, in part stimulated by the use of SF, can be achieved if value chain development is pursued more vigorously in the region. This reflects the experience of regions in the world where many efficient chains have been developed, often in response to the rise in influence of supermarket chains. Agricultural chains in Eastern Europe and Central Asia (ECA) are also being influenced by the rise of supermarket shopping and this increasing dominance of consumer-driven chains is having a huge effect on the whole structure of the agribusiness industry. As elsewhere, contract farming provides the context for the most widespread examples of SF in the Eastern European and Central Asian region. There is also a correlation between the use of contract farming and the incidence of foreign direct investment (FDI) in agriculture in Eastern European and Central Asian countries, indicating that the same set of 'framework' factors which increase the incidence of contract farming are also supportive of FDI.

From the point of view of the borrower, case studies indicate that the use of SF instruments can provide funding to otherwise non-creditworthy entities (in the conventional sense), and/or that such SF can be obtained more cheaply than would be the case from traditional banking sources. With increased understanding and experience in the use of these techniques by commodity bankers, it should be easier in the future for agribusinesses in the Eastern European and Central Asian countries to attract financing, based on transactional elements of their production, rather than on stand-alone credit assessments.

The study reviews the most important preconditions for the successful use of SF in agriculture in the Eastern European and Central Asian region. These preconditions include:

- A stable macroeconomic framework.
- A strong institutional and legal framework.
- A developed financial system.
- Supportive cultural and social values, including the willingness of business partners to trust and be accountable to each other.
- A profitable agricultural sector.
- Adequate infrastructure for the storage and transportation of produce.
- Efficiency throughout the food production chain.

To support SF, international agencies should work with governments to improve the legal and operational environment for SF and should interact with and support private sector financiers, who, clearly still need such support and encouragement, before truly widespread and effective agricultural finance can become a reality in the Eastern European and Central Asian region.

The concept of SF focuses on the transaction rather than traditional collateral, but the various instruments are distinctive. Hence the response must be to look at each individually and evaluate its applicability to agriculture in the region. For example, factoring shows promise for wider

use, and more factoring agencies and capacity are needed, but for warehouse receipts a lack of bonded warehouses, commodity management agencies and legal issues are the important matters to address.

The study's recommended measures include:

- Varying future policy response to concentrate on supporting the development of the preconditions listed above in weaker countries, while supporting the use of more sophisticated instruments, such as securitization, in the countries with higher market integration and more developed financial markets.
- Strengthening agricultural value chains and farm-to-market linkages to support more competitive agribusinesses which are able to effectively make use of SF instruments.
- Establishing a working group of experienced commodity bankers to investigate further the whole area of SF in agriculture and to recommend detailed policy responses.
- Developing training support programmes for farmers and agribusinesses to illustrate the importance of working in value chains.
- Developing training programmes for bank officers, concentrating on value chain analysis, risk analysis and SF techniques.<sup>3</sup>
- Offering partial or temporary guarantee systems from multilateral agencies to give banks greater confidence in SF lending.
- Facilitating the development of pilots with banks and agribusinesses in the region to test and adapt SF instruments and approaches into their operations.

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<sup>3</sup> Capacity building with technical and financial support from the United States Agency for International Development (USAID) and the Indian Government, through the Agriculture Commercialization Enterprise (ACE) programme in 1994, was an important foundation for the ICICI Bank to become the most proficient leader in innovation and provision of agribusiness finance and use of SF to agribusiness and smallholder agriculture. (Source: Ashok Khosla, agribusiness and venture capital expert, formerly involved with the project, personal communication, 2006).



# 1. Introduction

## 1.1 THE CONCEPT

Financing devoted to agriculture in the Eastern European and Central Asian region is very low, due in large measure to the lack of conventional loan security to meet lender requirements. Collateral from use of land titles and mortgages on fixed assets is simply lacking or insufficient. Weak governance in many of the countries for ensuring that borrowers follow through on their commitments makes for an even higher reluctance to lend to the sector, which has been made even worse by the financial and economic crisis that began in 2008.

Structured Finance (SF) is able to provide avenues for use of alternative collateral by placing emphasis on the security of transaction commodities and documents rather than relying on fixed assets. In this way it offers an approach for increasing financing to agriculture and agribusiness. The Working Document sets out to review the experience of its use in the region to understand its strengths and address its weaknesses in order to facilitate wider use of SF in agriculture.

It is important to note that the term SF is not a concise term. Rather, it is a term that is defined and applied differently according to the industry and sector. A common denominator of all definitions is the concept of using existing assets and commodities and/or future cash flows as security for financing.

In mortgage and financial markets where it is best known, the definition is often associated with securitization which involves pooling and repacking of financial assets and the conversion of future cash flows into marketable securities. Even within financial markets its concepts are often not well understood and the danger of which has become evident recently when SF instruments, such as collateralized debt obligations, which had become widely used in the housing finance industry, were proven to be insecure. This was caused by a lack of appropriate regard to their adequate composition, oversight and governance and, consequently, many of them required massive write-downs of debt value by the investment companies that held them.

In business and rural development SF has been used mainly in trade, commodity and project finance and, less commonly, in agricultural production finance. Structured Finance includes a range of financing instruments that can be arranged and structured in various ways depending on the nature of the underlying physical transactions. As well, there are different names and variations applied to some of the instruments according to the author and country.

The descriptive definition of the authors used in the present study document is: *“Structured Finance for agriculture and agribusiness is the advance of funds to enterprises to finance inputs, production and the accompanying support operations, using certain types of security that are not normally accepted by banks or investors and which are more dependent on the structure and performance of the transaction, rather than the characteristics (e.g. creditworthiness) of the borrower.”*<sup>4</sup>

Structured Finance instruments can be clustered into major categories such as:

- Lending secured by financial assets such as the assignation of future payment streams with more or less predictable cash flows (e.g., receivable-backed financing, factoring, forfaiting, etc.).
- Lending secured by physical assets forming in part the underlying commodity transactions (e.g., warehouse receipts financing, repurchase agreements, etc.).
- Securitization techniques based on selling claims on physical or financial assets on secondary markets (asset-backed securities, loan portfolios, accounts receivables, etc.).

In traditional finance, the collateral used to secure financing is based largely upon the strength of the balance sheet assets and one’s credit risk. In SF, the emphasis is on the performance of the value chain and those involved in it. An understanding of the performance and market risks is essential.

Basic principles and approaches of SF are being applied to agricultural value chains, but are usually described under different terminologies, often in the context of discussions on vertical integration, value chain financing and contract farming.

### 1.2 Focus

This document describes a range of relevant SF instruments, illustrates their potential use through examples from different countries within and outside Eastern Europe and Central Asia (ECA), and highlights essential preconditions for their use in agricultural value chains. It forms part of a wider investigation into financing and risk management in agriculture in the Eastern European and Central Asian countries. The objective is to describe and assess the use of SF techniques in agriculture in the Eastern European and Central Asian region and to offer some insights into the current use of SF as a means of improving productivity in agriculture in the Eastern European and Central Asian countries and the potential which exists for the greater use of these financing techniques.

A distinction is made between the use of SF and traditional credit, the use of which has had mixed results in the region. The document also identifies countries in the Eastern European and Central Asian region with similar characteristics of agricultural finance development where different structured instruments are used and/or could be introduced, improved or deployed on a wider scale.

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<sup>4</sup> See Glossary in Annex 1 for definitions of terms used in the document, including additional definitions of SF.

This document originated in the Food and Agriculture Organization of the United Nations (FAO) using information available from a literature review, documentation from private and public sources and interviews.

### **1.3 ORGANIZATION OF THE DOCUMENT**

The Working Document is presented according to the type of SF transaction, beginning with: a) those involving collateralization of commodities and physical assets; b) those involving cash flow streams and c) those involving securitization and secondary markets. Not all SF instruments are presented in the document, but the focus is toward those instruments with higher potential for agriculture and agribusiness. Warehouse receipt finance, which is relatively important for agriculture within the Eastern European and Central Asian region, has been described in other recent studies and therefore is not covered fully in the present document. The same is true for insurance instruments and the use of futures and commodity markets, all of which can enhance or increase the use of SF. A description of and reference to value chains and contract farming are presented at the beginning of the study because of their support to the application of many of the SF instruments.



## 2. Understanding Structured Finance and its operating environment

### 2.1 STRUCTURED FINANCE

Structured Finance, as defined in this document, excludes straightforward bank finance, based on balance sheet analysis or the use of conventional collateral, such as land or buildings. Instead, it relies on collateral that is inherent in the transaction itself, such as future receivables. Structured Finance is a broad term encompassing many possible financial instruments, any of which may be used individually or combined with conventional finance and/or other SF instruments. It moves the opportunities for financing beyond companies with acceptable credit risks and offers lower costs for financing. Structured Finance relies on the strength of the value chain rather than the typical focus on the security of the borrower.

The present document aims at reviewing SF use in agriculture and agribusiness. It analyzes its potential for increased usage in countries where it is not commonly found. Structured Finance is prompted further by the difficulties farmers have in obtaining credit or investment within such countries. Most of the Eastern European and Central Asian countries fall into this category.<sup>5</sup> With global interest in food production increase, new ways to augment financing are needed since there are shortages of finance from the traditional banking sectors.

The value of SF techniques in agriculture lies in the fact that many farmers, traders or agribusinesses in developing countries and Eastern European and Central Asian countries find themselves without the necessary physical collateral or credit rating to attract conventional bank finance or to be attractive to investors. Therefore, by introducing security elements that de-emphasize the individual credit standing of the farm or agribusiness, the banks and investors may be prepared to advance funds which they otherwise would not. Some of the risks in a loan transaction, which would normally rest solely with the borrower, are transferred to other parties in the transaction, so that an assessment of the likely performance of the whole transaction becomes more important than a standard credit assessment of the borrower. Also, in using SF as a credit enhancement tool, two or more elements of SF and/or traditional collateral may be combined to increase security. For example, a lender may take the assignment of export receivables together with the pledge of farming equipment as a security, with the

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<sup>5</sup> For a general discussion of the difficulties faced by farms in raising finance see Barry, J.P. & Robison, L.J. 2001. Agricultural Finance: Credit constraints and consequences, In B.L. Gardner & G.C. Rauser (eds) *Handbook for agricultural economics: Agricultural production*. Elsevier Science B.V., Amsterdam. Part of the conclusion runs: "Farms typically are capital-intensive, geographically dispersed, limited in scale and scope, and characterized by lengthy production periods. They are subject to significant business risks and to cyclical swings in economic conditions. Some are very large in size with complex organizations and financing arrangements. Many others are extremely small and barely subsist."

receivables providing a bridge between the value of the equipment and the value of the loan. Thus, SF can be very effective in ‘stretching’ traditional physical collateral.

The broad array of SF instruments encompasses some general key features:

- Structured Finance mainly focuses on the transaction to be financed and thus on performance risk, not on the credit standing of the borrower (credit risk) as in conventional banking. Instead of the traditional credit appraisal (such as the five “Cs” of character, capacity, capital, collateral and conditions). It assesses the performance (i.e., risks, profitability and cash flow) of the underlying transactions to be financed.
- Structured Finance does not rely primarily on conventional loan collateral such as real estate and other fixed assets owned by the borrower. This may be applicable in cases where (a) the entrepreneur doesn’t want to put at risk her/his private assets, or (b) where such is insufficient to cover the proposed loan value. Only balance sheet items which are inherent in the transaction, such as flows or stocks of agricultural commodities, are used to secure lending.
- Whereas traditional bank lending is based on a direct relationship between the bank and the borrower, several parties are normally involved in SF. Depending on the type of transactions, these may be different actors in agricultural value chains (input suppliers, traders, processors, exporters, warehouses, transporters) or specialized financial services providers (factoring, guarantee or leasing companies). A key strength is the familiarity of the players in a specific chain with each other and this factor supports the promotion and development of effective arrangements to facilitate financing. The main purpose is sharing risks among various actors and transferring defined risks to those parties that are best equipped to manage them.
- Structured Finance is closely embedded in the underlying commodity transactions. It can be applied at specific stages of the value chain (production, storage, marketing, processing, export, distribution, or the production/import of inputs), but also be extended over various stages (from production to export). Entry and exit points for finance are identified based on the underlying commodity transactions. Disbursement and repayments can be made by any actor in the value chain (not only by banks).
- Many SF arrangements have built-in mechanisms for self-liquidation (automatic repayment through deductions at source) at some stage of the value chain. This applies particularly to SF arrangements based on commodity flows and assignment of receivables.
- A well-functioning, efficient value chain is a precondition for use of many SF instruments. On the other hand, asset-backed SF instruments such as warehouse receipts financing and repurchase agreements (repos), which are lent against stocks of storable commodities, do not require vertical coordination but well-functioning daily ‘spot’ markets.

As shown in the following table (Table 1), the key SF instruments can generally be grouped by type of structure and used in various ways according to the parties involved and the type of application. Included in the table are three items which are often closely associated with or used together with SF to enhance or facilitate its use. A second table (Table 6) portraying the application of the SF instruments within ECA is presented in Chapter 6.

**Table 1: Description of Structured Finance and related enhancements by category**

<b>Instrument<sup>a</sup></b>	<b>Description</b>	<b>General Use</b>
<b>A. Receivables financing</b>		
1. Supplier finance	Funds advanced to supply wholesalers or retailers such as input suppliers or manufacturers against accounts receivable or confirmed sales orders to producers or others.	Financing suppliers to be able to offer credit sales to producers taking into account the purchase and repayment history of the accounts and/or the strength of the buyer's credit history.
2. Trade finance	Funds advanced to sellers of goods or commodities, especially exporters, against confirmed orders from qualified foreign buyers or off-take contracts of commodities.	Financing of production, processing and/or exporting costs for agribusinesses taking into account the strength of the buyers and sales flow history.
3. Factoring	Supplier sells or assigns receivables from contracts of sales of goods made between the supplier and a buyer to a specialized agency called a factor who assumes the responsibility for the buyer's ability to repay. (Factoring combines working capital, credit risk protection, accounts receivable bookkeeping and collection services.)	Used for obtaining financing and outsourcing of collections from sales made to reliable buyers. It reduces collection risks, such as for input supply sales and/or sales from agribusiness producer or marketing companies.
4. Forfaiting	A specialized forfaitor agency purchases an exporter's receivables of freely-negotiable instruments (such as unconditionally-guaranteed letters of credit and 'to order' bills of exchange) at a discount.	Improvement of an exporter's cash flow needs by receiving cash for its receivables, and can be applied to ease buyer-seller flow. It is best for exports of capital goods, commodities, and large projects on medium-term credit.
<b>B. Securitization</b>		
5. Securitization	Cash flow producing financial assets are pooled and repacked into securities that are sold to investors.	Used to reduce financial costs for financing medium-longer term assets and commodities of similar characteristics and cash flows.
6. Repurchase agreements (Repos)	The buyer receives securities as collateral and agrees to repurchase those at a later date. Commodities are typically stored with accredited collateral managers responsible for quality, grading and issuing receipts, which are transferred to an exchange broker.	Sales with a buy-back obligation used to secure the 'loan' by owning the asset, employed by trading firms to obtain access to cheaper funding.

a The SF instruments may be worded or classified differently depending on the setting and author.

cont. next page

Instrument <sup>a</sup>	Description	General Use
<b>C. Models and tools which support Structured Finance use</b>		
7. Contract farming <sup>b</sup>	An outsourced production contract, normally to a pool of producers, involving advancing inputs, funds, and/ or technical support with a product buy-back clause. Funding is provided directly by the agribusiness firm or by a third party such as a bank.	Used both to secure procurement for the buyer and market access and inputs for the producer, and often involves forward contracting.
8. Warehouse receipts <sup>c</sup>	Financier provides a credit to a seller against the security of goods in an independently controlled warehouse.	Collateralization of inventory of durable goods and commodities such as grains or cotton which can be stored.
9. Forward contracting	An agreement between two parties to buy or sell an asset at a specified price and point in time in the future.	Hedging and improving access to credit for commodities and traded goods.
10. Futures	A standardized contract, traded on a futures exchange, to buy or sell a certain underlying instrument at a certain date in the future, at a specified price.	Hedging and improving access to credit for commodities and traded goods.
11. Loan guarantees <sup>d</sup>	A third party guarantee, to enhance the attractiveness of finance, used in conjunction with other financial instruments.	Can be offered by private or public sources to be used to support increased lending to sector.

a The SF instruments may be worded or classified differently depending on the setting and author.

b Contract farming is in itself not a SF instrument *per se* but most often does have specifically tailored finance embedded into the contract arrangement. In addition, contract farming is also noted as one of the most widely used approaches for incorporating other SF instruments.

c The use of warehouse receipts as a SF instrument for agriculture is covered by a concurrent study. (See FAO. 2008b. *The Application Of Warehouse Receipts In Europe And Central Asia*, by K. Kiryakov, Rome. (draft document). Warehouse receipts represent a strong form of security, which can enhance value chain financing and can be combined with other SF instruments which are discussed in the present study.

d Loan guarantees can form an important support role with SF. However, many are highly subsidized and the broad topic is not included in the present study, but note should be given to the specialized guarantee programme of the USAID Development Credit Authority (DCA).

## 2.2 AN ENABLING ENVIRONMENT FOR STRUCTURED FINANCE

The foundation for applying SF to agriculture depends a lot upon the health of the agriculture and agribusiness sector, the overall operating environment and legal framework and the capacity of the people, companies and institutions involved, as illustrated in the example below. Moreover, the use of SF instruments depends upon the characteristics and strength of each value chain. Agricultural value chains vary in their levels of sophistication and intensity, depending on the nature of the product. In traditional grain farming, inputs and quality are more readily controllable and often within the capabilities of the farm itself, whereas fresh fruit and vegetables, for example, require much higher investment per hectare, greater care in transportation and storage and a more closely integrated chain. Also, economies of scale may demand that storage facilities be centralized and the cost of large, climate-controlled storage facilities is usually beyond the reach of individual farmers themselves (Key & Runsten, 1999).

### Box 1: Building a foundation for Structured Finance

In the Kyrgyz Republic, key constraints to a lack of agricultural lending include securing inputs for both farmers and to factories, a lack of management skills, market security and mutual trust and confidence between processor and producer. There is also a lack of confidence in banks, insufficient lending experience (risk analysis, term loans and enterprise lending) and inadequate legislation on collateral and collateral substitutes such as warehouse receipts, pledging of future harvest and secured sales. The commodity chains that existed during the centrally planned economy functioned very well in the sense that all pieces operated and contributed to the outputs. Some elements that disappeared with the introduction of the market system have not yet been replaced in all commodities (input supply, market arrangements, finance and transport). Without this foundation of a solid chain, agricultural lending will remain difficult.

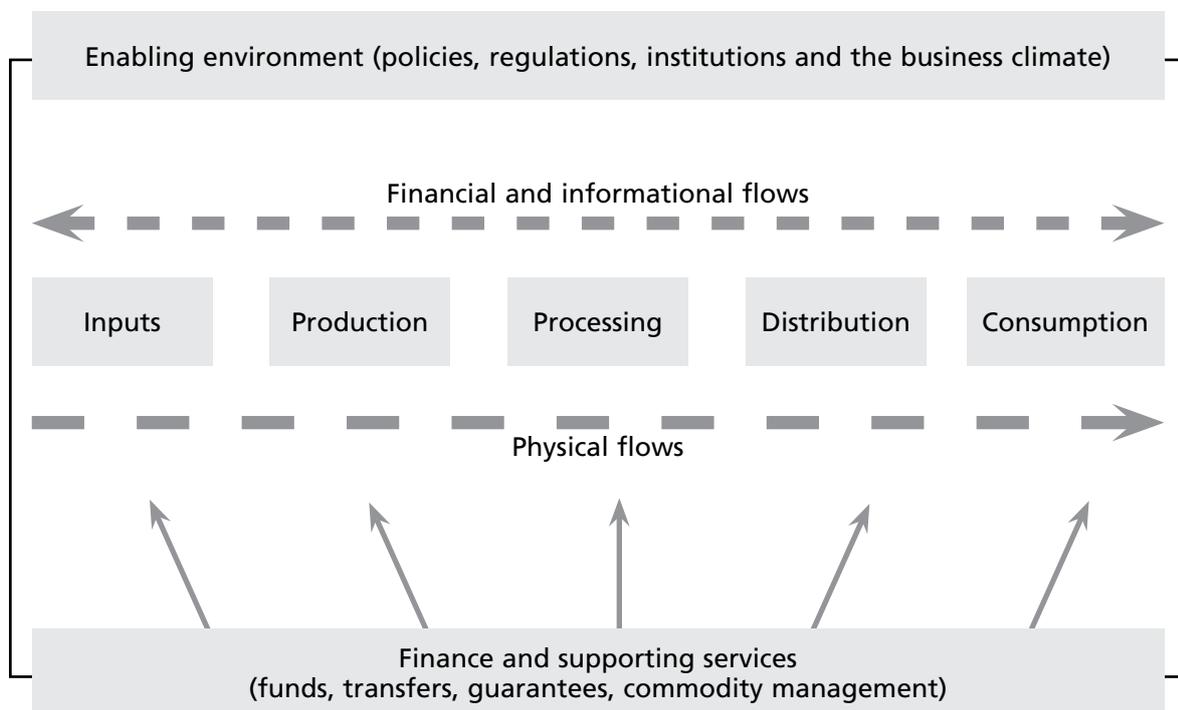
Source: FAO & EBRD. 2006. Kyrgyzstan and Tajikistan: Expanding finance in rural areas, by M. Marx and F. Hollinger, Rome

Prior to discussion of SF instruments in Chapter 3 of this document, three aspects of value chain finance that are very important for the application of SF are noted below. Without value chain linkages integration, often through contract farming arrangements and/or through the use of warehouse receipts, the environment for SF would not be viable.

#### 2.2.1 Structured Finance and the agricultural value chain

Agricultural value chains may be highly integrated or fragmented depending on the sector and country. Vertical coordination of the farmers, processors, marketing companies and others is important to the viability of using many of the SF instruments. Such coordination, and often mutual dependence, reduces risks and transaction costs of individual actors within agricultural value chains. A marketing or food processing company has better knowledge of the industry, of its products and its constraints and risks than would a bank itself, even a specialized agricultural bank. Lack of familiarity with a sector almost automatically means that a bank will not offer finance. On the other hand, a comprehensive value chain linking the farm, the bank and the offtaker (purchaser or recipient of good or commodity), helps to identify the point or points at which finance might be applied, while minimizing the risk to the bank or investor. In other words, it then becomes feasible to *structure finance* according to the value chain, often building the finance around the strength of the stronger and more bankable participants in the chain, who tend to be the export or marketing companies that have a much stronger financial history and position than, for example, farmers.

Value chain linkages often involve contractual commitments to ensure compliance. The combination of knowledge and compliance are important for financiers since SF does not have the reliance of traditional collateral to cover for risk, but rather relies upon collateral substitutes and future income flows. A simple figure illustrates the main components of the value chain and how finance flows both through the chain and can come in to it at many levels (Miller & da Silva, 2007).

**Figure 1: A value chain at work**

Source: Miller, C. & da Silva, C. 2007

Successful value chains, whether or not integrated, are rooted in a long-term, shared vision for the success of the chain. Integrating the chain and optimizing links between the components often falls on the actors in the later stages, the exporters, or the food processing and retail groups such as supermarkets, which are most directly driven by consumer demand. However, the finance provider must understand and assess the strength of the relationships since the health of the chain is only as strong as its weakest link. Rabobank, for example, employs many sector specialists to analyze value chains to support its lending operations. They provide an understanding of the trends, the potential and risks and the relationships, and strength of the partners. This information is important for knowing where and how to structure its lending and investments.

The characteristics of the various chains can have a profound effect on the availability of finance. Some chains, such as those of perishable products which cannot be stored, are not suitable as collateral. Therefore, most banks simply find it easier to focus on the more commoditized products, such as grain, which are easier to use as collateral and have fewer quality issues.

As an example of the benefits for finance that participation in a value chain can bring to agriculture, a survey by FAO (2007) in Latin America demonstrated that half of the regulated financial institutions sampled required their agricultural clients to have formal sales contracts and 39 percent requested clients to be part of a value chain. Strong chains, with clearly defined linkages between the parties represent a powerful framework for structuring finance. Moreover, as agricultural chain relationships strengthen and trust between those involved increases, more sophisticated financial products and measures can be introduced.

**Box 2: Value chain risks and advantages: Serbia and Russia**

A trader in Serbia observed, "Contract farming [in Serbia] is very underdeveloped... If prices are higher than expected, then farmers tend to default by selling to third parties and offering compensation to food companies. The bottom line is that there is a lack of trust between the various parties, which leads to a lack of both bank and SF in Serbia".

However, in a recent experience in Russia a farmer had a contractual commitment to deliver a quantity of wheat to a major international company, at a fixed price under contract farming agreements. By the time of harvest, the price of wheat had doubled in the market place – the farmer was faced with reneging on the contract or accepting prices lower than the market. He was prepared to honour the contract; however, the company, on its own initiative, offered the farmer spot prices for the wheat. The representative explained that the company was interested in a long-term relationship, not short-term profits on any particular contract.

Source: Interview by authors with farmers wishing to remain anonymous.

The rise of supermarket shopping in developing countries, including the ECA, has created large players at the processing, marketing and retail end of the food chain, which exert a dominant influence all the way up the chain. Moreover, supermarkets have become adept at monitoring the buying patterns of their customers and using the information in dealing with and offering advice to their suppliers.<sup>6</sup> This information is also important to banks and other financiers. Sometimes the interaction includes financial support, in the form of prepayment for future deliveries, although it must be emphasised that most supermarket chains, in view of their enormous buying power, seek delayed payment terms from their suppliers, which causes difficulties, particularly for small-scale farmers, who must seek funding elsewhere but who can use their market linkages and sales contracts as support to attract funding.

The effect of market competitiveness and market risk on the value chain has been noted in a 2007 study (Miller & da Silva) and the conclusion has been drawn that the discipline exerted by market forces, acting from the consumer end of the chain, contributes to a tightening of the linkages. Put simply, the quality and price driven demands of the market are forcing improvements in the agricultural value chain and these improvements are crucial in promoting access to finance.

**2.2.2 Contract farming**

Contract farming (FAO, 2001) is essentially, a form of tolling arrangement, in which buyers of agricultural products, usually large food processing companies or traders, provide inputs to

<sup>6</sup> For an extensive discussion of the sudden dominance of supermarkets in Croatia see: Reardon, T., Vrabec, G., Karakas, D. & Fritsch, C. 2003. *The rapid rise of supermarkets in Croatia: Implications for farm sector development and agribusiness competitiveness programs*. USAID.

farmers and agree under contract to take a specific quantity of product at harvest time, at a specified price. Thus, *contract farming in itself is not a SF instrument but does provide a useful framework upon which to tailor design, i.e. structure finance.* Moreover, the contractual arrangements it includes between suppliers, farmers, collectors, offtakers, distributors and retailers provide evidence of relationships in the value chain and thus provide a valuable framework within which financiers can work. Financing arrangements within contract farming can take a variety of forms, embracing offtaker and supplier credit provided by companies in the chain or by a third party, such as a bank.

Contractual commitments to ensure compliance can reduce risk for all the parties involved. The farmer can be certain of a price and a market for output and the offtaker, similarly, can plan on the basis of receiving a known quantity at a specified price. Input suppliers and buyers alike are far more likely to attract and to offer finance if they are supplying a tight chain with firm offtaker commitments. *It is the in-depth knowledge and the relative security of products, prices and commitments that makes contract farming so important to the use of many of the SF products. The combination of both knowledge and commitment are important since SF does not have the reliance of traditional collateral to cover for risk, but rather relies upon collateral substitutes and future income flows.*

Banks are much more concerned with risk issues than with profit, since a bank's upside is limited to interest margin and fees and is usually a very small proportion of the overall amount at risk. Therefore, in looking at SF in agriculture, there is a natural tendency on the part of the banks to support contract farming arrangements, which offer the most risk mitigation. This implies, in turn, that it is the more intensive versions of the contract farming model which are likely to be those which stand the best chance of attracting SF.

Key and Runsten (1999) argue that the development of contract farming arises from the perception that market imperfections in the agricultural sector hinder efficiency, not just in production but also in transactions. Market imperfections are identified as occurring in several areas, namely:

- lack of access to credit;
- lack of insurance;
- information deficits between companies operating in agriculture;
- factors of production and input delivery;
- high transaction costs.

It is noted that in contract farming the actual contracts may be formal and legally binding or not. However, for use with SF instruments, they almost always are formal. The same holds true for the following value chain tool which facilitates SF.

### **2.2.3 Warehouse receipts**

The use of inventory as collateral is common in agricultural value chain financing and is often important to the success of SF mechanisms. In order to be used securely in SF applications, the inventory is commonly secured through the use of warehouse receipts. The financier provides financing to a seller against the security of goods in an independently controlled warehouse.

This inventory, used as guarantee for obtaining finance, is backed by a receipt, hence leading to the term ‘warehouse receipts.’

Warehouse receipts are negotiable and can be redeemed for inventory of the same grade and value as that for which a receipt was originally written. As such, warehouse receipts facilitate the conversion of illiquid farm product inventories into cash, and improve the tradability and liquidity of underlying commodity markets. Warehouse receipt systems allow farmers to create bankable collateral through the deposit of non-perishable commodities in warehouses while third-party asset (warehouse) managers control and safeguard the quantity and quality of the product in the interest of holders of the negotiable warehouse receipts. While simple in concept, a well-functioning warehouse receipt system requires that commodity grades and standards be generally accepted within the trading community and often require regulatory policies which are not present in many developing countries.

Warehouse receipt systems need to be understood within the larger context as they are often combined with other finance instruments that enable comprehensive value chain financing and functioning.

#### **2.2.4 Forward contracts and futures**

It is also important to note the role that forward contracts and futures often play in supporting the use of SF. These can be used as the receivables and in the case of futures, can be readily traded. The contracts can also be combined and securitized.

Barry and Robison (2001) researched the relationship between credit availability and forward contracting of commodity sales by farmers as a risk management tool, with such contractual arrangements forming key links in the value chain. Using a simulated borrowing approach to evaluate the responses of a sample of lenders to alternative methods of forward contracting by crop farmers, they found that the most preferred methods of contracting generated about 17 percent more total credit and about 53 percent more operating credit than the least preferred methods. This indicated that the banks assessed and differentiated the various types of forward selling arrangements and assessed security implications accordingly.



## 3. Structured Finance products for agriculture

As noted earlier in Table 1, SF instruments can be grouped into two categories – receivables financing and Securitization. These are often accompanied by other instruments as described earlier.

Structured Finance instruments can be applied within the value chain at various points. While most often used in trade and export, they can also be used to pay for inputs, provide working capital for the cultivation process, and cover the cost of crop harvesting and the transportation of farm products for sale or further processing. Six of the most prominent forms of SF, as suggested by research, are described and illustrated below.

### 3.1 SUPPLIER FINANCE

Supplier finance and pre-finance are designed to enable buyers to benefit from extended supplier credit terms or early settlement discounts, while offering their suppliers options for financing based upon approved invoices or confirmed future payments from their commodity sales contracts. By ‘collateralizing’ these sales invoices or contracts, the supplier is able to access financing to enable him or her to facilitate lending to the producer. In doing so, the bank or financier acquires rights to the receivables or to receive payment under the contract between the buyer and farmer through an assignment of sale proceeds or a contract farming arrangement. The farmer or producer receives inputs or other equipment or goods without having to negotiate a loan through a traditional lender.

Buyers, such as farmers, can realise a cash flow benefit and / or supplier early settlement discount from supplier finance. For the supplier selling the inputs and goods, the financing makes their products more attractive. Structured supplier finance can also deliver key benefits to them from their wholesale suppliers and from accessing bank financing since it can provide access to cash payment for their invoices, as soon as the buyer, such as a marketing company, has approved them for payment.

Traditionally, the financing of inputs is probably the most straightforward form of SF in agriculture. The key agricultural supplier inputs – fertilizer, pesticide, equipment, and fuel – are commonly financed by the suppliers with financing often supported by discounting of their invoices or borrowing based upon the strength of his or her sales and repayment records. An advantage of the supplier financing the farmer is that it can reduce the farmer’s transaction costs, since interest is embedded and paperwork is minimized, and it secures sales. However, this route ties the farmer to one particular supplier and the farmer is unable to take advantage of what might be cheaper offers in the market. For sellers, it facilitates sales. They also know the farmers and can choose who to offer credit and they have a vested interest to provide technical advice since they are dependent on the success and trustworthiness of the farmer.

Table 2 below gives some idea of suppliers' terms and conditions in the United States of America's farming market.

**Table 2: Suppliers' terms and conditions**

Supplier	Early Pay Discount	Interest Rate	Minimum Purchase	Conditions of quality
Cargil	Yes	Competitive	No	FasTrak financing available for loans US\$10 000-US\$150 000 Expanded financing available for loans over US\$150 000
Garst	No	0%	Yes	First-year customers pay 10% down US\$4 000 purchase or 100% Garst customer 12% APR if not paid in full by Nov. 15 of same year
Mycogen	up to 6%	0%	Yes	US\$5 000 purchase required to obtain 0% interest rate US\$2 500 for no payments or interest for 120 days Must pay before 1/18 to receive cash discount
Monsanto	Up to 8%	0-2.9% APR	Yes	Must sign up by 1/10 to gain 0% interest rate Cash discount determined by pay date US\$7 500 minimum seed purchase
Pioneer	Yes	Prime -2.5% to Prime +1%	No	A) Use Pioneer for 90% of corn acres and 50% of soybean acres (or 10% increase in value from previous year's purchase) B) Qualified crop protection product on 75% of acreage A and B to qualify for Prime -2.5% interest rate A or B to qualify for Prime -1% interest rate

Source: Michael Winn, 2008

Pre-finance can be led by the supplier selling inputs as described above. It can also be initiated elsewhere in the chain, such as by the buyer who originates the financing by structuring a deal with banks to get access to funding to lend to the producers against future product sales contracts. An input supplier can also use sales contracts it has for future delivery of inputs as a guarantee for obtaining finance. The payment of inputs is often discounted directly from the producer's sales made at harvest. Once again, the notion of trust is paramount. There are examples in Russia of farmers spending their money on capital equipment, such as a tractor or even, in some cases, consumer goods and then not honouring their contracts.

In Eastern European and Central Asian countries, supplier credit is very important, but in certain countries it is less available or insufficient and the lack of inputs acts as a real constraint on agricultural development. The case of fertilizer was particularly acute in 2008 and although recent studies, such as FAO's fertilizer trend report (2008), have concluded that while world production of fertilizer should be able to cope with the rise in demand in the medium term, regional problems persist and fertilizer consumption is likely to be constrained by structural problems in the Eastern European and Central Asian region.<sup>7</sup> Ukraine has high agricultural potential but the poor macroeconomic context, incomplete land reform plus already indebted farmers and outdated machinery are some of the reasons for lack of access to credit for higher use of inputs.<sup>8</sup>

<sup>7</sup> See for example the FAO & EBRD (2006) report on Kyrgyzstan, page 42: "According to official assessments, the total 'demand' for fertilizer amounts to 320 000 tonnes, against a consumption of 95 000 tonnes". FAO & EBRD. 2006. *Kyrgyzstan and Tajikistan: Expanding finance in rural areas*, by M. Marx and F. Hollinger, Rome.

<sup>8</sup> FAO. 2008. *Current world fertilizer trends and outlook to 2011/12*, Rome, pp 24-25.

### **Box 3: Lack of supplier credit in Russia**

The reluctance of suppliers to directly provide credit in less-developed Eastern European and Central Asian countries is explained, in part, by the weakness of their market economy in general and the lack of redress in cases of default. In addition, another force is at work in Russia. World demand and prices for fertilizer have risen to such high levels that major fertilizer manufacturers and exporters are exporting their best quality product, while for domestic sales they can demand advance payments even for second grade fertilizers, and do not have to worry about selling on credit. As fertilizer is a key input for improved productivity, the resultant financing gap is affecting farmers' yields. This gap is a huge deficiency in the value chain, which local Russian banks have yet to fill in any meaningful way.

This problem could be addressed if Russian banks developed the capability to understand the use of the agriculture value chain and the viability of cash flow/receivable-backed lending. As the farmers, almost invariably, cannot offer sufficient collateral to satisfy the banks, there is clear scope for the assignment of receivables to plug the collateral gap, since the productivity increases achievable, through the effective use of fertilizers, are huge and hence return on investment is high.

A financing model could be devised to address the needs of farmers faced with the prospects of substantial extra farm income from quality inputs who are supported by a strong offtake contract with cash flows passing through accounts held in the lending bank. This contract sales model and the inclusion of whatever collateral is available from the farmer could persuade suitably trained lending and credit officers in local banks to provide credit for the purchase of fertilizer and other key inputs. In some more difficult settings, support from the local Ministry of Agriculture office and/or a partial guarantee from a development agency could enhance their interest. By surrounding the farmer with several support mechanisms of various types and sources the providers of such support are recreating the type of environment to increase financial access and farmer productivity.

Source: Michael Winn, personal communication, 2008.

## **3.2 RECEIVABLES-BACKED FINANCE**

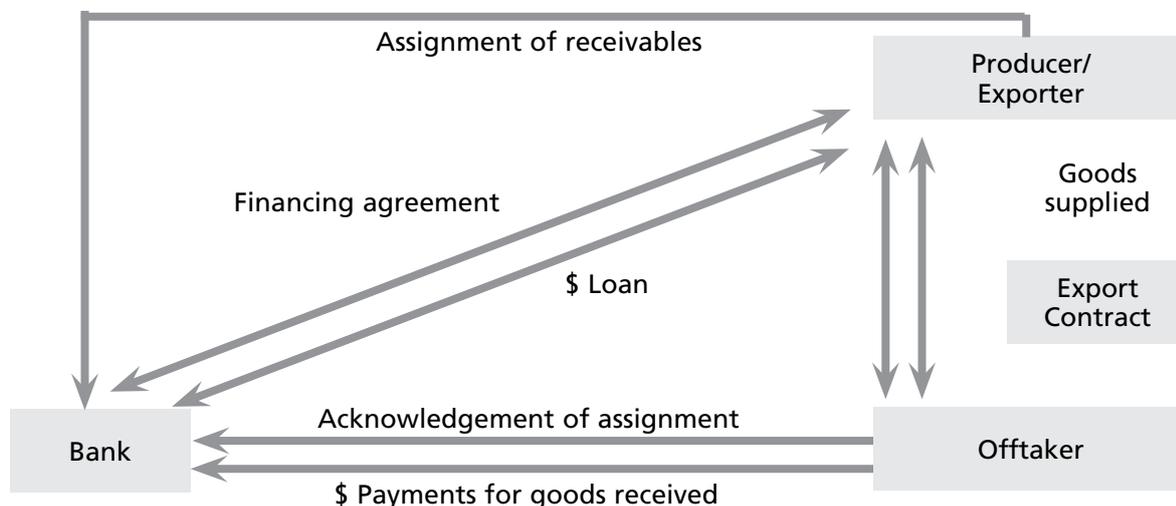
Receivables-backed finance is one of the most common forms of SF and is found in a variety of industrial and commercial sectors. Essentially, the instrument relies upon contractual obligations in the value chain, using a purchaser's legal commitments to pay for goods or services to be received under contract as a substitute for a credit assessment of the borrower. This technique is very valuable in situations where banks cannot determine the underlying creditworthiness of a potential borrower. The most prominent recent large-scale example of such a situation was the opening of the Commonwealth of Independent States (CIS) countries to international bank credit in the 1990s and receivables-backed finance was the preferred

instrument, since the enterprises emerging in the post-Soviet bloc had no credit history – or at least none which was meaningful to a Western bank – and no acceptable collateral.

Receivable financing is a method used by businesses to convert sales on credit terms for immediate cash flow. Financing accounts receivable is a financial tool for obtaining flexible working capital in which the receivable credit line is determined by the financial strength of the customer (buyer), not the client (seller of the receivables). In SF, receivables may be of cross-border or domestic origin but in light of the weak credit history and environment in ECA it is easy to see why receivables financing has been primarily for export receivables because of the stronger financial strength of the Western country buyer. Also, in opening up the CIS countries to credit, another reason the international banks concentrated overwhelmingly on cross border receivables was that in the event of default arbitration, it would be in a Western court. This points to the fact that the legal environment in transitional countries was – and in lesser developed Eastern European and Central Asian countries remains – not strong enough to give lenders the confidence to deploy SF using domestic receivables.

In receivable-backed structures legal expression is usually given to the main element of security in the structure by the assignment of contractual receivables to the financing party. This almost invariably requires the use of escrow accounts, collection accounts and debt reserve accounts, all held by the financing bank, so that resulting structures can become quite complicated. In essence, however, the principles are straightforward, as can be seen in the following figure.

**Figure 2: Pre-export receivables-backed finance basic scheme**



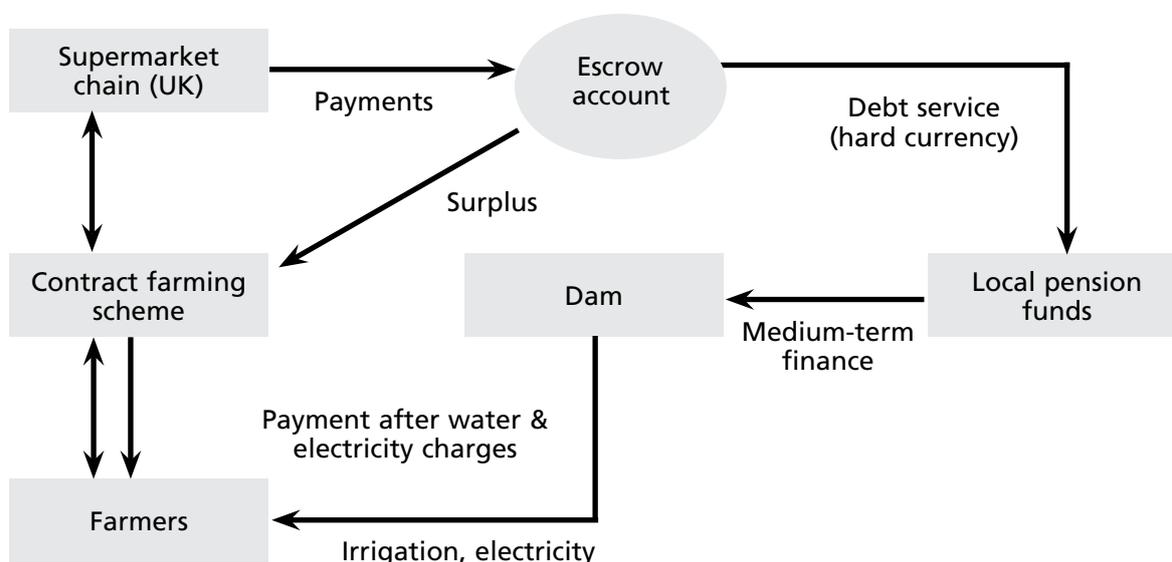
Source: Michael Winn, 2007

In the figure above, the lending bank advances funds to a producer for working capital and sometimes investment finance. In return, the bank is given an assignment of future receivables from the offtaker (the purchaser of the goods). Importantly, this assignment is acknowledged by the offtaker, who will make payments in line with the schedule in the commercial contact with the producer - such payments will go to a collection account in the bank, from which they are transferred to a debt reserve account. At the loan repayment dates, money is taken from the debt service account, in line with the repayment obligations of the borrower. While an agreed

level of reserve must be maintained in the debt service account, any other money accruing from offtaker payments is remitted back to the producer.

This simple model is capable of being adapted and refined in many different directions. An excellent example of the potential for using receivables-backed finance in a more complicated scheme for agriculture is provided in Figure 3, which describes financing with many attractive features. Notably, the funds provider is not bank but rather pension funds. In the following example, a financing scheme is depicted which was set up to finance the provision of small dams to generate hydroelectric power for farmers in Zimbabwe and Zambia. Finance was provided by local pension funds. The production of the dam's customers (the farmers) was assigned to the dam's financiers (the pension funds). The farmers produced horticultural crops thanks to the dam, and these crops were sold under a long-term contract with overseas customers (supermarket stores in the United Kingdom).

**Figure 3: Receivables-backed financing: An African example**



Adapted from UNCTAD. 2005. *Potential Uses of Structured Finance Techniques for Renewable Energy Projects in Developing Countries*, prepared by the UNCTAD Secretariat.

The supermarkets were informed of the assignment, and asked to pay into an escrow account controlled by the financiers. Thus, the sales proceeds of the farmers' exports were directly used for securing the financial obligations of the lender; the proceeds after payment of debt obligations went to the farmers. This structure made it possible for the farmers to benefit from new rural infrastructure for irrigation and energy generation, and for financiers to fund a project that otherwise would have been impossible to finance.

The Zambia/Zimbabwe example provides a useful indicator of how these techniques can be used in Eastern European and Central Asian countries. Of particular note is the medium term timeframe of this financing since research and interviews have identified the lack of medium and long term finance as one of the biggest problems facing agricultural development in the Eastern European and Central Asian region. Here again, the situation is varied, with some countries having virtually no long-term finance available.

By use of these SF structures, risk is spread amongst the various parties, so that the creditworthiness of the borrower is not the most important factor. There are several key considerations in considering how this is done:

- First, the financing bank will not take project completion risk - only existing commodity flows will be financed, not projected future increases, based on the cultivation of new fields or crops. In the case of agricultural products this means that the bank is likely to finance only highly probable commodity flows. This requires the farmer to have a strong track record of meeting or exceeding harvest estimates with actual production (thus credit history is replaced by performance history). Even then, the bank will advance only a portion of the amount of the future estimated cash flow, to give itself a comfortable margin of safety.
- Second, the role of the offtaker, his or her credit rating and the strength of the contracts are paramount, since the bank is taking an element of payment risk and wants to work with first class payment risk.
- Third, particularly for new borrowers, banks may require the offtaker to cover part of the repayment risk, either directly or through an acceptable third party, such as another bank. This again confirms that the banks prefer to work with large, solid offtakers.
- Fourth, the banks insist that all payments flow through accounts held with them and will usually devise a system of collection accounts and debt service accounts.

Several large international banks have deep experience of working with this technique worldwide.<sup>9</sup> However, its use in the agricultural sector has been limited to date. This is partly caused by the nature of the commodity – e.g. most agricultural commodities are perishable, with consequent storage difficulties – and factors such as bad weather can reduce or even destroy production<sup>10</sup>.

The relative lack of experience in financing food exports is also because of the organization of the industry. Banks prefer to work with large exporters, since SF loans are more expensive to set up – they require far more due diligence and more specific legal arrangements than simple balance sheet or collateralized lending – and large deals are required, in order to produce the profit to justify the deal. This means that small-scale producers have very little chance of attracting this form of finance, unless they form part of the value chain of a larger agribusiness or unless some other form of collective arrangements are in place, such as working through a producer organization (PO).

Banks are currently most comfortable with cross-border flows, especially in structures where there is a strong incentive for exports to be maintained and the incidence of financing against domestic receivables has been limited both worldwide and, especially, in the Eastern

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<sup>9</sup> See the discussion in Section 4.3.

<sup>10</sup> The threat of bad weather is a constant worry to the farming community. Modern insurance products can be used in combination with SF to provide a very effective financing mechanism for reducing production and/or procurement risks to all those in the value chain.

European and Central Asian region, given the relative weakness of the legal systems to enforce contracts.

There are a few case studies of this type of financing in Eastern European and Central Asian countries. One example is given by Gow and Swinnen (1999) when they describe the situation in Bulgaria in 1992. The authors note that Bulgaria's 1992 subsidy programme for agriculture had little effect on credit flow to farmers, since banks continued to demand more collateral than farmers could provide. The government then obliged banks to accept future crop output, backed by insurance, as collateral. In the case of default, the law specified the sharing of collateral between the banks and the government. When the banks still refused to comply, the government introduced a regulation to penalise bank managers for obstructing loans for agriculture (This seems to be a case of an instrument being introduced before the necessary preconditions were in place to support its use. It is clear that the banks themselves had no confidence in the system they were supposed to be financing).

One way in which progress could be made in Eastern European and Central Asian countries would be by combining different types of security, both innovative and traditional, so that a producer may pledge his or her equipment and buildings, product in storage and the assignment of domestic receivables to a bank.

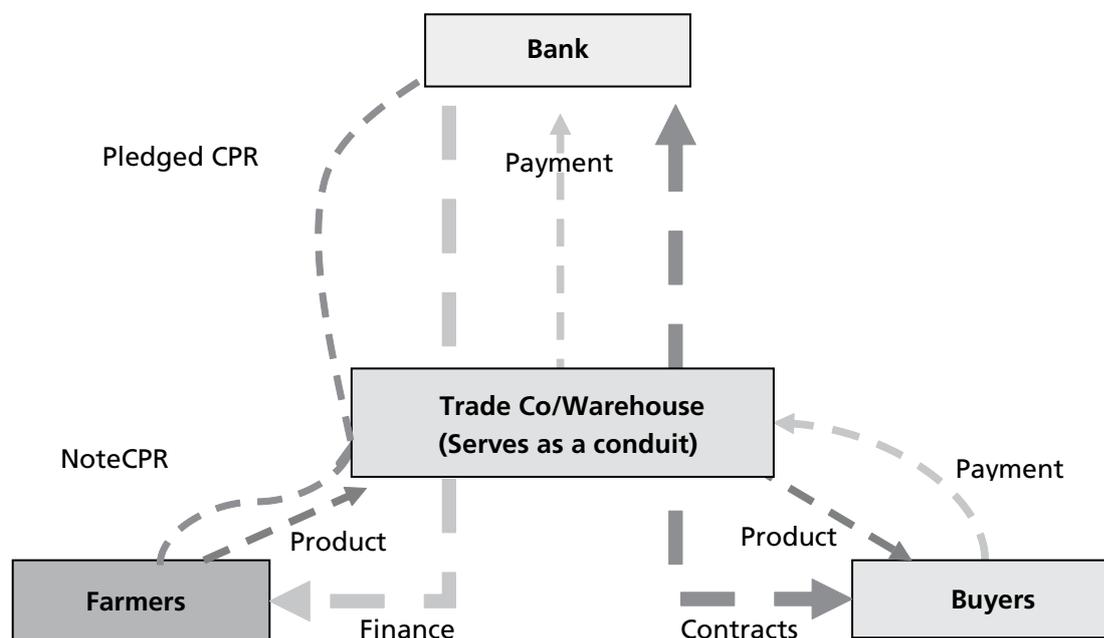
The incidence of FDI can play an important role in receivables finance. International banks, when operating in countries where the financial infrastructure is poorly developed, prefer working with international companies. Therefore, if the product buyer would be a reputable international restaurant chain, the product supplier has a much better chance of attracting finance, based on the strength of his or her relationship with that company.

There are several ways in which greater use could be made of domestic receivables. One is to have a stream of domestic receivables as the primary security with the back-up of export receivables from the borrower or a related company. Also, multilateral agencies could step in with a partial or temporary guarantee, perhaps under the USAID Development Credit Authority (DCA) programme or that of the International Finance Corporation (IFC). Companies considering investing in an Eastern European and Central Asian economy could be encouraged to go down the joint venture route, with one of the considerations being that the local partner could be put forward as the primary borrower in a SF structure, with the bank taking comfort from the presence of an experienced Western company – indeed, a partial guarantee from the Western partner represents another way of triggering SF support from a bank.

A successful programme, using domestic agricultural receivables, has been developed in Brazil. The Cedula Produto Rural (CPR), (Rural Product Notes), programme offers a good illustration of how collateral can be transformed as the value chain progresses, since the security begins with the assignment of future receivables, which is then replaced by goods in storage, as product is moved to warehouses. A programme of this nature could be adapted to fit in more developed Eastern European and Central Asian countries.<sup>11</sup>

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<sup>11</sup> Dan Lambright, personal communication, 2008

**Figure 4: Cedula Produto Rural (Rural Product Notes), Brazil**

- Farmer signs a CPR note pledging the future crop, personal guarantees and/or land in order to finance the crop production.
- Trade Company (Co) takes the CPR and lends to the farmer against it at a discounted rate.
- If the Trade Co is borrowing funds from banks, it will pledge the CPR to those banks.
- Trade Co replaces the CPR with warehouse receipts in order to keep loans with banks.
- When the crop is harvested, the farmer delivers it to the Trade Co which in turn returns the CPR to the farmer.
- Banks perform collateral audits as needed.
- Trade Co sells product to the market and pays the banks.

Source: Adapted by authors from Dan Lambright correspondence, 2008

### 3.3 FACTORING AND FORFAITING

Factoring is a financial transaction, in which a business sells its accounts receivable (i.e. invoices) at a discount. Factoring differs from bank loans in three main ways. First, the emphasis is on the value of the receivables, not the firm's creditworthiness (this is a common feature of a SF instrument). Secondly, factoring is not a loan – it is the purchase of an asset (the receivable), whereas SF is partly based on the cession (or assignment) of payment rights by the cessor (assigner) to the cessee (receiver). Finally, a traditional bank loan involves two parties, whereas factoring involves three. The three parties directly involved in a factoring transaction are: the *seller*, the *debtor*, and the *factor*. The seller is owed money (usually for work performed or goods sold) by the second party, the debtor. The seller then sells one or more of its invoices at a discount to the third party, a specialized financial organization (the factor), to obtain payment. Upon notification, the debtor can only legally liquidate the debt by paying the factor. The debtor then directly pays the factor the full value of the invoice.

Factors can make funds available even when banks would not do so using traditional lending methods. However, factoring companies are most often part of banks with 91 percent of the top three factoring companies per country in Europe being either subsidiaries or divisions of

banks. This is because factors focus first on the creditworthiness of the debtor, the party who is obligated to pay the invoices for goods or services delivered by the seller. The discount factor varies with the creditworthiness of the debtor, not the seller. In contrast, the fundamental emphasis in a bank lending relationship is on the creditworthiness of the small-scale firm, not that of its customers. Although banks can often offer funds at cheaper rates than factors, such loans come with conditions, which are often burdensome. Moreover, it is often the case that factoring may be an available form of financing, when bank loans are not granted.

Factoring is a relatively recent financing tool, with the first transactions originating in Germany in the 1950s. Growth since then has been steady and, in some cases in recent years, spectacular, pointing to the fact that factoring is addressing a need in the market. Some estimates indicate that the factoring turnover in 2005 in Europe was over €850 billion, with countries such as the United Kingdom and Ireland combined reporting transactions worth US\$226 billion. Eastern European and Central Asian countries are moving forward but have a long way to catch up. As an example, International Factors Group research indicates volumes of factoring transactions of US\$20 million for Bulgaria and US\$223 million for Slovenia in 2005. The same research did show, however, strong growth in the use of factoring in several Eastern European and Central Asian countries, notably in Russia and in the Baltic States.<sup>12</sup>

The use of factoring for small and medium enterprise (SME) financing has grown strongly in Western countries in recent years, as bank finance has become more difficult to obtain or more cumbersome to process for many companies, especially SMEs. A factor recognizes an invoice as an immediate asset for purchasing once the customer has acknowledged receipt of the products or services delivered in accordance with the contract. The invoice is verified and then the advance is funded, typically 75 to 95 percent of the invoice value. This is usually completed the same day that the invoices are received. The balance of the advance is called the 'Reserve', which is held back until the customer pays the invoice in full and the invoice transaction settled. The fee is deducted from the reserve and the balance is available for withdrawal. Thus factoring can be a very fast and efficient process.

Factoring can be done with or without recourse. Without recourse means that the receivables are considered sold. In recourse factoring the factor does not assume bad debts and if the client does not pay the factor it will reclaim the money from the seller. In Europe, it was found that 40 percent of the factors offered invoice discounting with or without recourse, 47 percent offered only recourse factoring, 22 percent offered without recourse factoring and 2 percent offered reverse factoring described below. As noted, factors often are owned by or work in conjunction with banks. Occasionally a bank customer may have a sudden need for working capital that exceeds the bank line of credit. The factor, in such an instance may negotiate an agreement with the banker that will allow the factor to finance a specific invoice account while the bank holds the rest of its borrower's accounts receivables as collateral.

One important aspect of factoring which is often overlooked is that the factoring company can have a better understanding of the condition of a client's customer than the client does himself. What this means is that the factor, who has to make a thorough investigation of

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12 See [www.ifgroup.com/data/CR/CR-general\\_report.pdf](http://www.ifgroup.com/data/CR/CR-general_report.pdf)

**Box 4: How factoring works in Serbia**

Farmer payment for the sale of their produce is often delayed. Therefore, factoring works well for a farmer needing fast payment. The process is straightforward. The farmer bills its buyers in the usual way except that the farmer will be asked to stamp each invoice with a 'Notice of Assignment' indicating that the invoice has been assigned to a factoring company. This means that the farmer's produce buyer now owes to the factoring company the face value of the assigned invoice. The factoring company then advances the farmer's business approximately 75 percent to 85 percent of the face value of the invoices. The reserve held back of 15 to 25 percent is based on the quality of the accounts rather than on the strength of the farm business, i.e. the fee fluctuates according to the creditworthiness and performance of the farmer's receivables. The farmer's final payment of the reserve minus the factor fee is received after the buyer pays the factor. The factor fee can be as low as 2 percent of the invoice amount depending on the level of risk involved. In summary, the benefits of factoring for the farmer are to: 1) improve the cash flow, 2) allow for better financial planning and 3) allow the farmer to focus on the business and sales rather than collections.

**Factoring Example**

Day 1	Face amount of farmer's invoice due in 30 days sold to Factoring Company	€	1 000
	Factoring company holds a reserve	€	- 200
Day 2	Factoring company pays farmer a cash advance (upon verification of invoice)	€	800
Day 30	Customer's payment received by factoring company	€	1 000
	Original reserve amount	€	200
	Factoring company's discount fee (3 percent)	€	- 30
Day 37	Rebate to farmer	€	170

**Factoring Success Story in Serbia**

In 2002, a factoring company met with a small local distribution company. The company had a paid-in capital of less than €500 and its annual sales were approximately €1 million. There was a very large demand for the product, but the company was unable to meet it. The reasons were typical of most small-scale businesses: 1) insufficient capital in the company, and 2) a timing mismatch (the number of days between when it must pay for its inputs and when it gets paid for its sales) was over 45 days.

The client's bank was unable to help because the company's collateral and repayment ability was not deemed sufficient. However, the factoring company looked to the company's excellent customer base as its repayment source, and was able to step in and provide the company with an initial funding of €101 000. Over the next couple of years it purchased nearly €1.7 million worth of invoices. The faster payment allowed for a faster turnover of the company's cash flow, which allowed the company to meet the high demand for its product and its 2004 sales topped €3 million. The net worth is now over €100 000 and the company has now transitioned back to the bank for a sizeable line of credit to meet short-term needs.

Source: Authors' interviews.

**Box 5: Factoring: Agro-Industry Bank, Moldova**

The Agro-Industry Bank of Moldova's (AIB) pilot factoring products will allow a seller (borrower) to receive from AIB 80 percent of the value of an account receivable, and the remaining 20 percent (less interest and service fees) upon receiving payment from the customer. Agro-Industry Bank is offering its factoring product on a recourse basis, in order to address the common problem of factoring: it is often difficult to assess the default risk of underlying accounts. Under recourse factoring, the factor has a claim against its borrower for any account payment deficiency. Essentially, SMEs that use factors are outsourcing their credit and collection functions – another important distinction between factoring and traditional commercial lending. While exact figures concerning number of clients and volume of business were unavailable, early indications from the pilot programme suggest that the factoring product is being well received and having benefits beyond what was originally expected. For example, AIB reports that their factoring work with Metro Cash & Carry – a large German supermarket retail chain – bodes well for future factoring services with other bulk suppliers and retailers.

Sources: Interviews, quoted in Charitonenko, S. & Bantug-Herrera, A. 2004. *Innovations in Rural and Agricultural Finance in Moldova*. USAID.

the creditworthiness of the paying party, can sometimes warn its clients that the customer's financial situation is deteriorating, which can lead to advising the client to reduce business with that particular customer<sup>13</sup> or ask for payment upon/before delivery.

Within the Eastern European and Central Asian region, by far the most rapid growth in the use of factoring has been seen in Russia where the Price Waterhouse Coopers (PWC) company estimates that the market has grown dramatically over the period 2002-2006. The volume of the market has increased by 55 times with an average annual growth rate of 172 percent. The PWC also estimate that the market will grow at an average rate of 32 percent over the next five years, with the main constraints being (i) an underdeveloped legal framework, (ii) the lack of sophisticated risk-management systems in most of the factoring companies and (iii) the lack of opportunities for them to hedge their risks<sup>14</sup>.

The factoring product is making inroads into the commercial loans market. Research by the PWC in Russia indicates that factoring accounts for a volume of 10 percent of the commercial loans market but that this volume is set to grow to a proportion of 20 percent by the year 2010. Multilaterals, such as the European Bank for Reconstruction and Development (EBRD), have identified this trend and are actively supporting the use of the factoring instrument, as shown below.

<sup>13</sup> See [www.1stcommercialcredit.com](http://www.1stcommercialcredit.com) for a discussion of this point and several case studies related to factoring.

<sup>14</sup> [www.pwc.com](http://www.pwc.com)

**Box 6: Factoring, the European Bank for Reconstruction and Development Trade Facilitation Programme, Georgia**

The Bank of Georgia has become the first bank to conclude a factoring transaction in Georgia. Under the EBRD Trade Facilitation Programme (TFP), the bank signed a factoring agreement with Magoili Ltd. worth US\$200 000, covering the supply of raw materials for road construction. This will allow Magoili to immediately get funds for its deliveries instead of waiting for payments from its clients.

Through factoring, Bank of Georgia provides its corporate clients an additional way to obtain funding without having to mortgage property. Factoring, which is the activity of purchase, administration and collection of short-term accounts receivable by a finance organization is a fast and flexible method of improving a company's cash flow and providing working capital for the company. These companies can get immediate access to cash that would normally be tied up for 30, 60 or 90 days in accounts receivable invoices. With the use of factoring services, a business can take advantage of growth opportunities, reduce debt and solve problems associated with the collection of the accounts receivable.

The EBRD has included factoring as a new product into TFP in order to further transfer knowhow and innovative trade finance solutions to its countries of operations. To support this new activity, Bank of Georgia benefited from consultancy services financed by the European Union (EU) and provided by a partner of Triangle Trade Finance with long-standing experience in the trade finance industry. In five missions to Georgia over the past year it helped to establish factoring services at three local banks.

Source: EBRD Press Release, 3 August 2007.

The PWC research into the factoring industry in Russia and Eastern Europe shows that, although developing rapidly, the industry is still beset with problems of immaturity in this type of finance. For example, factor companies in the region have to rely upon their own risk assessment techniques, given the relatively low usage of external rating agencies in the region. Moreover, the issue of insurance is patchy, whereas the practice in Western countries is for the whole portfolio of risk to be insured. Factor companies in the region rely heavily on their own internal security for investigations of fraud, since the use of external investigation agencies is much less developed than in the West. This highlights that the use of SF does not exist in a vacuum and that its successful use – as exemplified by factoring – relies on a host of supporting conditions.

**Reverse factoring** may be one solution to barriers to factoring. In the case of reverse factoring, the lender purchases accounts receivables only from specific informationally transparent, high-quality buyers. The factor only needs to collect credit information and calculate the credit risk for selected buyers, such as large, internationally accredited firms. Like traditional factoring, which allows a supplier to transfer the credit risk default from itself to its customers, the main advantage of reverse factoring is that the credit risk is equal to the default risk of the high-quality customer, and not the risky SME. This arrangement

allows creditors in developing countries to factor 'without recourse' and provides low-risk financing to high-risk suppliers.

In Mexico, the Nacional Financiera (Nafin) (State development bank) does factoring on a non-recourse basis using an internet-based platform. This enables any commercial bank to participate and compete to factor suppliers' receivables. The success of the Nafin programme depends in part on the legal and regulatory support offered in Electronic Signature and Security laws. However, these are currently absent in Eastern European and Central Asian countries.

**Forfaiting** has many similarities to factoring without recourse. It is different from the factoring operation in the sense that forfaiting is based on one or more transactions while factoring is based upon selling all of its receivables. In forfaiting, the company purchases an exporter's receivables (the amount the importers owe the exporter) at a discount by paying cash. The forfaitor, who is the purchaser of the receivables, becomes the entity to whom the importer is obliged to pay its debt. By purchasing these receivables, which are usually guaranteed by the importer's bank, the forfaitor frees the exporter from the risk of not receiving payment from the importer's purchases on credit, while giving the exporter a cash payment. It therefore allows the importer to essentially buy on credit. When well established, the receivables can be traded as bills of exchange or promissory notes which are debt instruments. Within the Eastern European and Central Asian countries, evidence of forfaiting is found but appears much less common than factoring.

### **Box 7: African Export-Import Bank**

The African Export-Import Bank facilitates SF instruments to widen the investor base for business transactions to include not only banks, but special funds, private investors and others.

The bank provides a:

- Note Purchase Programme
  - structured notes
- Receivable Purchase/ Discounting Programme
  - forfaiting facility
  - receivable discounting facility
  - factoring and receivable management facility
  - joint bill discounting and refinancing facility
  - pre and post-export financing facility

For example, with structured notes a commodity-based company can leverage a proportion of its future export earnings to support improved funding terms of issuance, especially with regard to pricing and loan covenants.

Source: Afreximbank. 2008. *Annual report and financial statements for the year December 2007*. African Export Import Bank, Cairo.

The African Export-Import Bank offers an example for the Eastern European and Central Asian region. As noted below, this bank foments the increased use of SF in Africa by offering the full range of export and SF instruments discussed above.

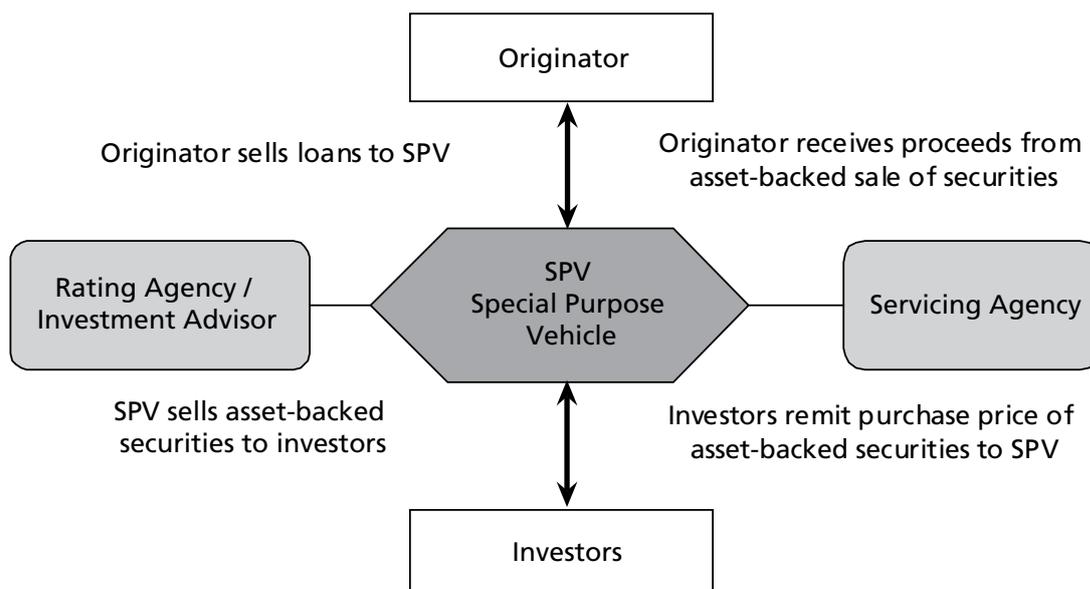
### 3.4 SECURITIZATION

Securitization is a financing technique where individual streams of cash flow are bundled and sold on capital markets to investors – chiefly pension funds and managed funds, financial intermediaries and the public. Securitization has become widespread in the financing of residential housing, automobiles, accounts receivable, commercial properties, and other types of assets. It can provide a lower cost of financing compared to other unstructured sources because of the potential of the pool of assets to have a higher rating than the originator. Rosenthal and Ocampo (1989) support this idea confirming that the costs are lowered by separating the credit risk of the pool from the credit rating of the originating firm.

The essence of the securitization process is that bilateral financial relationships – such as a bank lending money to its clients – are converted into capital market transactions by means of selling future receivables from these loan assets to a Special Purpose Vehicle (SPV), which is set up to administer the transaction. By placing the assets in a separate SPV, they are protected from any wider difficulties that may be experienced by the original lender (i.e. they become ‘bankruptcy remote’).

The SPV takes ownership of specified streams of receivables and issues securities into the market, usually in the form of fixed coupon bonds as illustrated in the figure below.

**Figure 5: Special Purpose Vehicle Use in Securitization**



Traditional bank lending comprises four basic activities: originating, funding, servicing, and monitoring. Originating means making the loan, funding implies that the loan is held on the balance sheet, servicing means collecting the payments of interest and principal, and monitoring refers to conducting regular or periodic surveillance to ensure that the borrower has maintained the financial ability to service the loan. Securitized lending introduces the possibility of selling assets on a bigger scale and eliminating the need for funding and monitoring.

The securitized lending function has only three steps: originate, sell, and service. This change from a four-step process to a three-step one has been described as the fragmentation or separation of traditional lending and should lead to reduced costs, as the monitoring function is removed from the transaction.

Securities in the SPV, backed by a credit rating to give investors information on the quality of the loan portfolio, are sold into the market to finance the purchase of the loan portfolio, or other cash flow generating asset portfolio.

The SPV may separate its income stream into different sets of assets, which may be assigned different credit ratings, allowing investors to choose their own risk/reward profile. Securitization techniques can thus be seen to be another form of SF, as risks are spread from the original lender-borrower relationship, by means of assets being bundled into a vehicle with a clear profile of risk and return.

Securitization has, so far, not been widely used in agricultural finance as a result of the perceived higher risk of agricultural loans and the expense of setting up a securitization vehicle, which usually makes the technique suitable only for large transactions. Another important constraint for its use in agricultural finance is the difficulty of obtaining a solid credit rating for the underlying activities. This has become even more difficult because of the failure of many securities since the 2008 financial crisis.

One difficulty lies in the actual structuring of such a transaction: by definition, the transaction has not been done yet – each deal is unique, so lawyers will need to do a good deal of original work. Then securities issues need to be rated and rating firms – for example, Moody's, Standard & Poors - rely to a large extent on hard information to arrive at one rating level or another. In particular, the rating firms will try to identify the risks of the future payment flows from the assets which underlie the securities issue and whether they will be sufficient to serve the financial obligations under the securities issue.

Such ratings are essential, as they replace the credit procedures that a bank would undertake in a bilateral loan and they represent the only information available on the quality of the asset to the typical investor. However, it can be difficult to determine the expected cash flow from certain transactions e.g. a series of warehouse receipt-based loans. The rating firm will need exact information on the quality of the controls over the warehouse receipts in the different locations involved. It will need to obtain some long-term information on the experience with such loans.

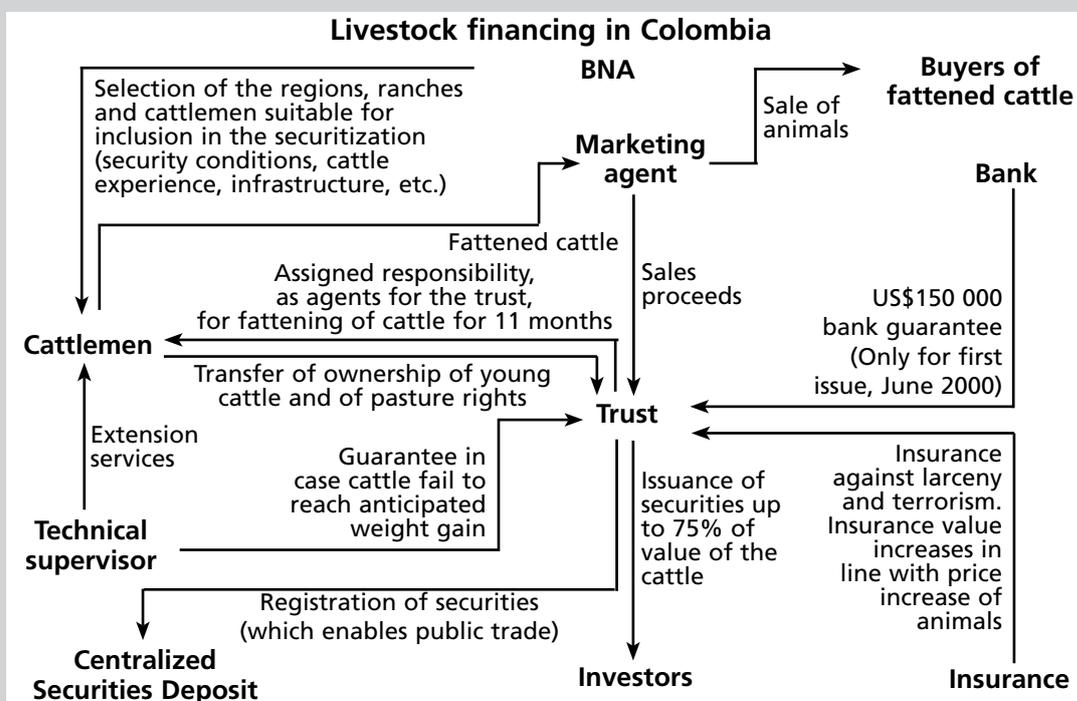
### Box 8: Livestock Securitization, National Agriculture and Livestock Exchange, Colombia

There is a tradition in the use of Securitization structures in the livestock production sector in Colombia, with the National Agriculture and Livestock Exchange (BNA) playing a leading role. To increase financing flows to the livestock sector, the BNA developed a scheme under which a Trust (essentially a SPV) was set up to take ownership of unfattened calves and the pasturelands where the livestock is fattened. The BNA was responsible for selecting farmers to participate in the scheme against a strict set of criteria and the selected farmers received finance from the Trust to purchase animal feed.

The Trust issued securities on Colombia's stock and security exchanges, at rates which were determined by competition among the country's institutional investors and this competition ensured that the farmers in the scheme were faced with reasonable interest charges. The ranchers fatten the animals for 11 months and at the end of the period the calves are sold by the firm operating the process to pay the liabilities acquired with the investors, with the remaining earnings payable to the ranchers. As can be seen from the figure below, the scheme is based essentially on repo arrangements, with ownership being transferred back to the ranchers at the end of the fattening period and the marketing agent selling the cattle into the market on behalf of the ranchers.

Key elements in the scheme's success were the availability of a developed stock and security market, sophisticated investors, the incorporation of technical support and regular inspection by an independent agency to ensure standards were maintained and the use of insurance to mitigate risk for investors. Several iterations of the scheme were carried out by the BNA in the early 2000s, resulting in tens of millions of dollars being raised for livestock farmers.

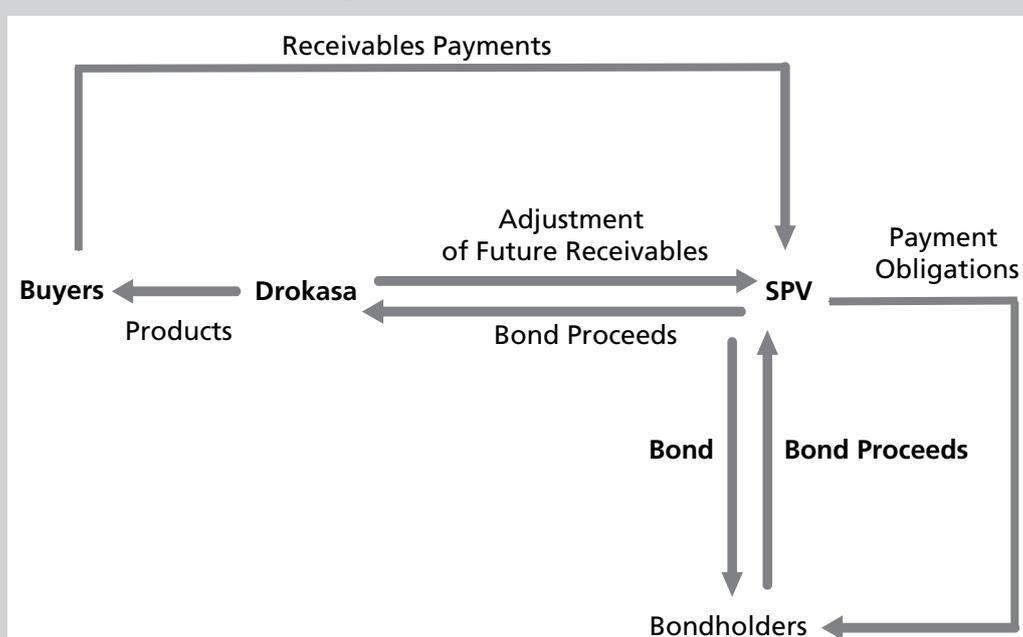
Adapted from: Rojas, E. A., Livestock Securitization in Colombia



Source: UNCTAD. 2002. *Farmers and farmers associations in developing countries and their use of modern financial instruments*. Study prepared by the UNCTAD Secretariat.

### Box 9: Securitization and the International Finance Corporation

In 2005, the IFC participated in a US\$25 million securitization of current and future receivables for the Drokasa Corporation of Peru. The IFC participated by offering a 30 percent guarantee for the issue of bonds by an SPV based in Peru. The SPV receives daily proceeds from Drokasa's Group's sales to non-related parties and use this income to make daily payments into a bondholder payment account, so that on any payment date the account will be six times over-collateralized. The IFC involvement enabled the issue to achieve AAA national scale rating, a substantial increase than the SPV's stand-alone AA rating. This resulted in considerable saving in interest charges for Drokasa, even after paying IFC's fees for the guarantee. The issuance was four times oversubscribed – the main investors being pension funds – and the coupon rate on the bonds was 5.42 percent, established by using a 'Dutch auction' technique with investors.



Source: IFC, 2005

However, one commentator notes: “There is no apparent ‘in principle’ difficulty to securitizing rural output as a means of obtaining finance”<sup>15</sup>. Of course, this was written prior to the events of 2007-2008 in the capital markets<sup>16</sup>. It is still not clear what the long-term effects of the credit crisis will be but it is clear that banks have already examined their portfolios very carefully and it is unlikely that elaborate and innovative schemes using securitization will be pursued in the near future. In addition, public confidence in rating agencies has drastically declined, and there

15 Dwyer, T. M., Lim, R.K.H. & Murphy, T. 2004. *Advancing the Securitization of Australian Agriculture: Hybrid Equity*. Rural Industries Research and Development Corporation, Kingston, Australia, p. 9. The report offers a clear overview of the development of Securitization techniques.

16 We can only assume that the 2008 turmoil in the Securitization markets and the criticisms being levelled at the rating agencies for poor judgment in assessing risk will delay even further the development of the Securitization instrument in agriculture finance.

is a widespread view that these need to be placed under more thorough operational checks and supervision than before. Finally, it should be acknowledged that the rating business is quite complex, not least in the agricultural and agribusiness sectors.

Nevertheless, these structures are available in the market and will continue to be used selectively. It is considered that the sub-prime crisis related more to a specific class of securities – mainly those backed by residential mortgages – rather than any generic flaws in the securitization process itself. The types of securitization structures which defaulted in the market usually comprised the bundling of several payments streams, from borrowers with different risk profiles. However, the defaults are spreading to structures which were previously thought to be very safe since they had high ratings. With greater attention paid to the quality of the underlying assets, there seems to be room in the market for the application of securitization type structures to specific circumstances, two of which are given as examples in the boxes below.

Some indication of the potential for the use of Securitization in agriculture is provided by the case of fattening cattle in Colombia. The livestock sector in Colombia performs below its potential considering the productive capacity of its land for cattle fattening, as a result of the high cost and processes behind commercial credit.

Securitization is one of the most sophisticated SF instruments and, as such, is hardly found in lesser-developed Eastern European and Central Asian countries. The presence of a sophisticated financial market, with experienced investors is a prerequisite. Also, as mentioned, a rating is essential and enterprises and many of these countries lack the quality information which credit agencies require to do their job properly.

To address the deficiencies in less developed countries, the IFC has developed a support programme as shown in the following example from Latin America.

The example in Box 9 relating to IFC's involvement in the agribusiness industry in Peru was a groundbreaking deal and points the way towards the greater use of partial or temporary guarantees from multilateral agencies to act as a catalyst to enhance structures, which offer greater security for the lenders and reduced costs to the borrowers.

### **3.5 STRUCTURED FINANCE ENHANCEMENTS**

Many countries run export finance programmes, under which state agency guarantees are available to support the export of capital goods and products to eligible recipient countries. Commercial banks can offer long-term finance to borrowers, since such finance is backed by a first class guarantee. The purpose of such programmes is to support exports of equipment – most of the export flow is from the Organisation of Economic Co-operation and Development (OECD) countries to developing countries.

Many countries in the developing world and in Eastern European and Central Asian countries suffer from the need to use outdated and inefficient equipment. It is commonly reported in Russian agricultural circles that one quarter to one third of the grain harvest is lost as a result of inadequate harvesting techniques and a lack of grain storage facilities. More aggressive use

of export finance schemes from agricultural equipment manufacturing countries could help in addressing the problem of long-term financing for investment in agriculture in countries eligible to benefit from such programmes. Delivered usually through an intermediary bank in the recipient country, the provision of long-term finance at attractive rates can enable investment, which would otherwise be blocked by lack of funding, to go ahead. Export credit negotiation and documentation is lengthy and complex, so that it is usually unsuitable for small and medium scale farmers, although there are many examples of larger agribusiness companies taking advantage of export finance schemes.

The other main problem of export financing is the fact that export credit agencies usually require an acceptable bank guarantee from the country of import, covering the repayment obligations of the borrower. As discussed previously, many local banks in Eastern European and Central Asian countries are reluctant to issue such guarantees, since such guarantees are tantamount to taking a credit risk and, almost inevitably, the undertaking of such an obligation requires traditional collateral from the borrower, which often is not available or is insufficient.

#### **Box 10: Export Finance, Turan Alem Bank of Kazakhstan**

Turan Alem Bank has been particularly active in structuring deals with foreign export credit agencies. Examples include:

- A 9 million Canadian Dollar, seven-year buyer credit from Export Development Canada, at six-month Libor + 65 bps (basis points, equal to 0.65 percent), signed in February 2005, for the purchase of agricultural equipment by Astana Finance from Agri-Tec International of Canada.
- A US\$14 million, five-year buyer credit from Deere Credit, backed by US Eximbank, at Libor + 33 bps, signed in March 2005, for the purchase of agricultural equipment by Basco of Kazakhstan from Deere and Co. of the United States of America.

Source: Michael Winn, personal communication, 2008

One way forward, worthy of further research, is the development of a scheme under which local banks in equipment importing countries use SF techniques to obtain enough security for the issuance of guarantees. For example, if a farm is prepared to commit forward its grain receivables for several years to a strong offtaker and further prepared to route all payment flows through the local bank, this, combined with whatever traditional security the farmer has, plus export input from the offtaker, guiding the growing techniques, might provide enough security for a local bank to issue a guarantee, which could be accepted by the exporters credit agency, thus paving the way for the provision of long-term loans.

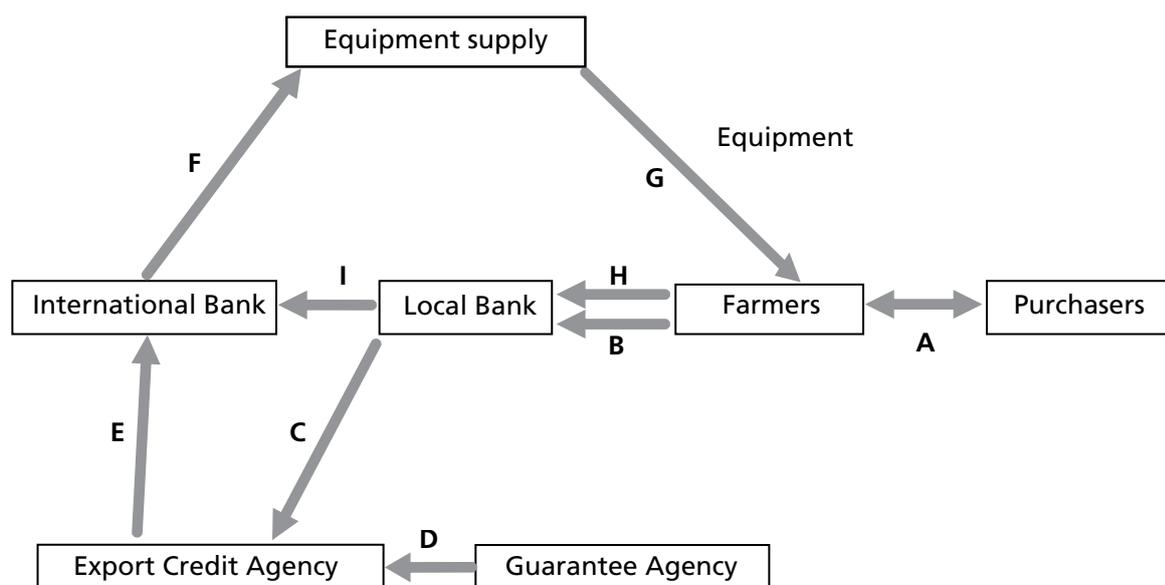
The assignment of receivables in itself is often not enough for the local banks, but a combination of local collateral, the pledge of the imported machinery itself and the use of a 'top up' or temporary partial guarantee, can tip the balance and provide the funds for the

equipment purchase. If the purchaser of the farmers' products can be persuaded to enter into a more intensive form of cooperation, i.e. provide inputs and help the farmer in the growing period and then make sure that all contractual obligations are honoured on both sides, and then a workable scheme could be developed.

Under such a scheme, a Guarantee Agency (GA) could review the SF techniques being used by the local bank and, as sign of confidence in these techniques and an indication that the security being offered in the form of sales contracts was adequate, the agency could issue a partial guarantee.

In the scheme outlined above, the farmer enters into a series of forward contracts with a purchaser (line A) spread over several harvests. These forward contracts are then assigned to the local bank (B), together with pledges over the new equipment to be delivered under the scheme plus other collateral, such as pledges over existing equipment. The local bank then issues its guarantee to the export credit agency (transaction line C).

**Figure 6: Guarantee enhancements to Structured Finance**



Source: Michael Winn, 2007

The GA then reviews the contractual and assignment arrangements and, if satisfied, issues a partial guarantee to the Export Credit Agency, in support of the local bank guarantee (line D). Thus secured, the Export Credit Agency issues a guarantee to an international bank (line E), which then advances funds to the equipment supplier (line F), who ships the appropriate equipment to the farmer (Line G) who repays over time to the local bank (B) and in turn goes to the International Bank (I).

## 4. Use of Structured Finance in Eastern European and Central Asian countries

### 4.1 STRUCTURED FINANCE USE BY LEVEL OF DEVELOPMENT

The use of SF in the varied contexts of the Eastern European and Central Asian countries is correlated to the economic development of a country and especially the banking and business environment. In order to better understand this relationship, the use of SF was analyzed based upon a number of factors, namely their level of Gross Domestic Product (GDP), level of FDI in a particular country and an assessment of the level of agriculture and agribusiness development. In addition SF use was analyzed in relation to the particular type of commodity and the incidence of contract farming and its relationship to SF in the region.<sup>17</sup> Since most cases of value chain integration in ECA were in the more highly developed countries and also because the SF techniques discussed in this document were developed in Western countries, it was expected that SF use in Eastern European and Central Asian countries is also correlated to the degree of involvement of Western companies and agencies.

With few exceptions, the Eastern European and Central Asian countries share a common heritage, i.e. the rise and fall of the communist system<sup>18</sup>. The main feature influencing the introduction of structured techniques such as contract farming in most of the Eastern European and Central Asian countries is the collapse of the supply chain systems that had been built up in the socialist era, and the disruption of the economic collapse of the 1990s. However, by the middle of the 1990s, chains were beginning to be reformed, as food processors developed initiatives with farmers to improve the quality and quantity of food output. Often these initiatives were associated with FDI, a link which is noted in much of the literature on these topics.

Interviews by the authors with commodity bankers reveal that banks have a tendency to favour large-scale applications of SF, because of the higher costs of arranging SF deals. This means that SF is more prevalent in larger contract farming arrangements and that small-scale suppliers find it difficult to access this type of finance, unless they can work through marketing organizations or other intermediaries. If the advantages of SF, as outlined in this study, become better known to the agricultural community, then farmers will tend to organize themselves to take advantage of this financing tool.

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<sup>17</sup> In the EBRD 2007 transition report, FDI levels for Eastern European and Central Asian countries in broad terms rise from around 2-3 percent of FDI as a percent of GDP in the countries with more developed agribusiness and financial sectors to over 6 percent for the least developed ones. An exception is Russia where the level of FDI is very low (1.1 percent in 2006).

<sup>18</sup> For a clear discussion of the problems caused by the socialization of agriculture and its subsequent dislocation in the collapse of economic structures in CIS and Eastern Europe see FAO. 2006. *Development in the European Agrifood Markets: Impact on Producers and Consumers and Perspectives*. Rome.

In a 2007 OECD paper<sup>19</sup>, attention was drawn to the type of environment and measures which are supportive to the provision of credit support in agriculture and the deficiencies of Eastern European and Central Asian countries in this context were highlighted. It demonstrated that stable macroeconomic conditions and a strong institutional and legal framework – particularly with regard to the enforcement of contracts – were necessary prerequisites for a stable flow of funds to be made available from banks to the farming sector. The paper also emphasised the importance of societal and cultural values in shaping the environment or financing agricultural activities, arguing “attitudes to debt and savings as well as willingness to take risk or offer land as collateral are strongly linked to cultural values and core beliefs. They affect the speed and efficiency with which the institutions and processes needed to underpin financial markets development.”

### **Box 11: Legal deficiencies to govern receivables in Russia**

An example of governance deficiency toward the use of structured instruments is the legal standing regarding the assignment of future receivables from existing structures. Banks will not take completion risk (performance risk of generating cash flows as planned) in lesser developed Eastern European and Central Asian countries. Under Russian law, for example, the status of completion agreements is doubtful and it is not clear that the law supports the assignment of such future flows to a third party. The interesting argument is that something in the future by definition does not exist now; so how can ownership rights be transferred to another party?

Lawyers have tried to handle this in a variety of ways and banks have worked successfully with an instrument known as the ‘conditional assignment of receivables’ which argues that in a case of default, assignments do indeed become legal and the bank can have access to future flows. In another subtlety, it is argued that once receivables hit a bank account, they are no longer receivables but ‘cash on account’, which is assignable, since it is covered by the law of pledge. Other lawyers have been very uncomfortable with this device and prefer to use English law concepts governing access to security.

Whatever the intricacies of this particular point, it is clear that there is still a lot of ambiguity in the Russian legal treatment of receivables. Whereas an export deal can be debated in the English courts, in the case of dispute, it is hardly conceivable that a Russian bank would take the same action against a Russian borrower in a deal involving domestic receivables as security. But if the local bank sector is to be mobilized to offer medium term receivable-backed finance – which would be of enormous help to the agricultural sector – then work needs to be continued to bring clarity to the legal framework.

Source: Michael Winn, personal communication, 2008

<sup>19</sup> Trzeciak-Duval, A. 2007. *Agriculture Finance and Credit Infrastructure – Conditions, Policies and Channels*. OECD, Paris.

These findings were foreseen by Gow and Swinnen in 1999, when they reported that the credit situation in agriculture in certain transition countries was improving, because of a general recovery in agriculture and to the introduction of certain new arrangements in the value chain, such as leasing and contracting. It was further noted that these techniques were most advanced in those transition countries that had reformed most quickly.

To a greater or lesser extent, the transition countries – which form the bulk of the Eastern European and Central Asian region, are deficient in macroeconomic, legal, institutional and socio-cultural preconditions for an effectively functioning financial system, as understood by the OECD and other international agencies.

One key element, which has emerged from the research and case studies, is the inadequate provision of storage for agricultural produce in Eastern European and Central Asian countries, especially the lesser developed ones.<sup>20</sup> This lack of storage means that crops must be sold as they are produced, either on the spot market or under contract. If storage were available, the farmer could take advantage of seasonal fluctuations and could have a stronger position when negotiating contract terms with offtakers. By having greater control over his or her product and by having the opportunity to offer product in inventory as collateral, the farmer is in a better position to obtain finance.

Despite these difficulties, elements of SF in agriculture and agribusiness are present in Eastern European and Central Asian countries but simpler SF techniques are found in lesser developed ones. Therefore contract farming, using receivables as security, is found in countries such as Turkmenistan and Tajikistan, whereas securitization and factoring are found only in more developed countries.

The most widely used arrangements under which SF is used in the region appear to be linked with the use of contract farming and contracting support measures.<sup>21</sup> In fact, these techniques were often developed in Central and Eastern Europe to overcome some transition-specific problems in agricultural development. Research has shown that the countries in which labour productivity in agriculture has improved the most are those in which most advances have been made in institutional reform and in the use of innovation, such as leasing and forward contracting. The same countries were also the largest recipients of FDI.<sup>22</sup>

Since there seems to be a link between the level of FDI and the use of SF arrangements, such as securitization and forward contracts, policy-makers could find it useful to discuss the use of SF with multinational food companies, who have invested in Eastern European and Central Asian countries. These companies have front-line experience of the issues discussed in this paper.

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20 Lack of storage facilities is probably the single biggest factor preventing the further development of contract farming in provincial Russia (see the case in Annex 2).

21 The Cargill Company in Romania reports that allowing growers to see the world price and understand how local prices are computed builds trust – and can boost their returns. “This simply wasn’t available to them in the past.” In the Voronezh region of central Russia, Cargill increased market access and rural incomes for 12 000 people by helping them to improve the quality of their malting barley and reduce their crop waste. (Source: Cargill website, 2008).

22 Trzeciak-Duval (OECD) referring to work by Mathijs and Swinnen (1999).

#### **4.1.1 Structured Finance use in more advanced Eastern European and Central Asian countries**

The Czech Republic, Hungary, Slovenia, Estonia and Latvia are among the most advanced countries within the region and have had greater use of SF instruments, namely related to supplier and trade receivables and the use of warehouse receipts. In these countries land reform during the transition period differed markedly from the policies pursued in many of the others. Since these countries were already characterized by capital intensive agricultural production techniques, the land reform led to a consolidation of large-scale farm structures and a massive flow of labour out of the agricultural sectors (Macours & Swinnen, 2007). With the arrival of EU accession, these countries are rapidly reforming their markets and financial systems.

Basing their findings on case study evidence drawn from across the Eastern European and Central Asian region, Gow and Swinnen (2001) noted that during the transition from a command to a market economy, agro-industrial relationships were being quickly reformed in these countries, with processors incorporating contract support measures, typically the provision of physical inputs and prompt payments, into contracts with farmers. A key feature and finding is the rising influence of supermarkets in reforming the supply chain. The rise of supermarkets as a channel for food distribution can have a galvanising effect on the whole agribusiness industry and it seems hardly accidental that supermarkets flourish in those Eastern European and Central Asian countries that have introduced the most far reaching programmes of market, legal and institutional reform. This experience mirrors trends which were already observed long ago in Western countries and which have recently featured prominently in Latin America.

Other countries, such as the Slovak Republic, Bulgaria, Poland, and Lithuania have also been advancing rapidly. Contract farming has spread, although the impact of these innovations was highly variable. In some cases, such as Juhocukor in Slovakia (Gow, Streeter and Swinnen, 2000), the impact was spectacular: contracting and support programmes led to a doubling of contracted hectares for sugar beet and a sharp rise in farm yields. In other cases reforms failed as credit or inputs were diverted to alternative uses or farmers reneged on contractual obligations. Such instances point again to the relative absence of the preconditions of macroeconomic, legal, institutional, cultural and social support.

In general, however, even these more advanced Eastern European and Central Asian countries have been slow to use factoring and forfaiting in agriculture. The use of asset-backed SF instruments has been more widespread. Leasing, for example, is used throughout the region and in some countries, such as Bulgaria, there has been significant development in the use of warehouse receipts.

#### **4.1.2 Structured Finance in emerging Eastern European and Central Asian countries**

Agriculture and chain integration in emerging Eastern European and Central Asian countries is moving forward rapidly but requires much improvement. Some countries, such as Albania and Macedonia, have predominately small-scale farm units. Russia has both large and small-scale producers. The impact of the supermarket is becoming more prevalent but has not been as strong as in those more integrated into the European Union. However, the rise of supermarket power in Romania is influencing quality issues in the meat production chain, by requiring

producers to meet higher standards. Also, the spectacular growth in supermarket shopping in Croatia has dramatically changed the agricultural landscape (Reardon, Vrabec, Karakas, and Fritsch, 2003), with profound effects throughout the chain, notably in the rise of new wholesale groups to address the demands of supermarkets.

In the larger of the Eastern European and Central Asian emerging economies there is some evidence of a move towards SF techniques. The growth in contracting in five CIS countries (Armenia, Georgia, Moldova, Russia and Ukraine), which found that in 1997 around 40 percent of firms contracted with at least some of the farms that supplied them but by 2003 the respective figure was 77.4 percent. The data collected for the present document via face-to-face interviews with senior managers of leading food processors also found the use of contract support measures grew over the same time period and by 2003 over 43 percent of processors in the sample offered credit to at least some of the farmers that supplied them. Significant numbers also offered input supplies and provided prompt payments. This growth of contracting has been biased to industries with higher levels of FDI and value-added processing.

The combined forces of ‘globalization’ and ‘transition’ have, in all these countries, caused dramatic changes in the agri-food supply chains in the past 15 years. After vertically integrated supply chains collapsed in the early transition, vertical coordination has increased again, because of a combination of factors, such as rising requirements for standards and the market imperfections (Gow and Swinnen, 1998 and 2001). Important issues are whether this process is excluding small-scale farms or whether contracting with downstream companies leads to rent extraction of farmers by creating dependency.

Finally, as noted earlier, the use of SF often requires enhancement in order to be established. Examples of public and institutional support for the development of SF techniques include the EBRD in its support for factoring in Georgia under the TFP and the USAID support shown below.

#### **Box 12: Development Credit Authority – Public Sector Financing, Ukraine**

Nadra Bank is the first Ukrainian commercial bank to work with USAID through the DCA. The DCA provides a United States of America government guarantee to cover 50 percent of the value of loans that Nadra Bank disburses to farmers and input suppliers. In order to establish an agricultural lending department within the bank and make full use of this guarantee, the Bank asked AID/CNFA to train loan officers and rural branch managers in evaluating the risks associated with agricultural lending and to help the bank better reach this underserved sector.

Source: USAID, 2002

#### **4.1.3 Structured Finance in less developed Eastern European and Central Asian countries**

In Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan and Belarus, agriculture plays a major role in the economy – in each case contributing over 20 percent to GDP, but the

**Box 13: When Structured Finance fails: Cotton, Tajikistan**

The case of the Tajik cotton debt, highlighted by Hollinger (2006), is a cautionary example of the use of SF in an environment which could not support the instrument on the scale on which it was deployed. In the mid-nineties, the cotton trader Paul Reinhart advanced funding for the production of Tajik cotton. Initially, repayments were guaranteed by the National Bank but, as privatization of farms increased, this guarantee ended, leaving the offtaker with only future receivables as security. When a series of bad harvests occurred, the use of marginal land and bad management, debt accumulated, which by the mid-2000s had reached an estimated US\$240 million, US\$60 million of which was considered irretrievable.

The main issues here have been the de facto monopoly of a selected number of regional traders on import and delivery of inputs to farmers and marketing / processing of the cotton leading to inefficiencies and mutual allegations of cheating. In addition, farmers are forced to grow cotton on at least 70 percent of their land, irrespective of the profitability of cotton production. This system has been perpetuated over more than a decade now and is difficult to be reformed given that (apart from rent-seeking behavior) future cotton delivery is the only source of repayment guarantee for outstanding debt.

Source: FAO & EBRD. 2006. *Kyrgyzstan and Tajikistan: Expanding finance in rural areas*, by M. Marx and F. Hollinger, Rome.

agricultural value chains are poorly developed. Studies have found little evidence of successful, integrated farming techniques, although there are some notorious examples of the failure of SF programmes.

Macours and Swinnen (2008) point out that in these lowest income countries of ECA, land reform was affected by the distribution of governmental land to rural households in physical plots, which enabled the transition shock, from the command economy to a market economy, to be mitigated somewhat by the possibility of introducing self-managed intensive agriculture.

Although strong economic growth rates are being shown in these countries, agricultural systems are still poorly developed and value chains are weak. As a result, there is little evidence of SF techniques being employed on a wide scale.

**4.2 ANALYSIS OF STRUCTURED FINANCE IN EASTERN EUROPE AND CENTRAL ASIA BY SECTOR**

Structured Finance is a targeted, transaction-based approach in finance which isolates specific cash flows and the security for lending. This results in the application of specific SF instruments being linked closely with specific commodities or products. This is due not only to the characteristics of the product or commodity, but also to the perceived risk within the product's market and value chain. For this reason, some SF instruments are used in certain value chains and not in others.

A progression may be observed from the relatively straightforward chains of basic crop production to the more elaborate arrangements for cash crops. Some examples are given below:

**Malt barley:** The industry in the region is dominated by a small number of offtaker buyers, many of whom supply the beer brewing industry or are involved in brewing themselves. Hence the use of contract farming is highly developed in the production of malt barley which facilitates SF use in the sector. The categories of contract farming most often found in the production of this crop are market specification and resource provision, as the offtaker sets stringent quality standards and often provides the appropriate seeds but does not usually participate in the management of the cultivation of the crop. Financed inputs from the offtaker are, therefore, usually limited to seed provision, although farms benefit from SF if they successfully obtain fertilizers and pesticides on credit from suppliers or if they can obtain bank finance, based on the assurance of payments from the offtaker.

The rise of the brewing industry in certain Eastern European and Central Asian countries – such as Russia, where beer consumption is enjoying remarkable growth – is a prime example of how market forces can drive the food chain and the use of SF. The brewing groups have identified deficiencies in the way farmers organize production in Eastern European and Central Asian countries but, driven by the demand of the market, they have sought to address these deficiencies themselves, rather than rely on government agencies or wait for the banking sector to catch up. Significantly, the companies that have revolutionized the malt barley chain in Russia are overwhelmingly foreign multinationals, who are used to working on a world scale and who are very experienced in various aspects of SF, such as pre-financing and the use of warehouse receipts.

**Wheat:** The wheat market is much more fragmented than the market for malt barley with many more buyers. Traditionally farmers supplied wheat to local mills which were not linked into integrated chains. When contract farming is found in the wheat industry it is similar to that in malt barley, including specification of market requirements and provision of resources. This is often linked to a rise in the production of specialized types of wheat, such as for certain kinds of health foods, which leads to more intensive forms of contract farming. This intensification tends to increase the use of finance from the offtaker and the supporting banks as, quite often, technological processes beyond the means of the average wheat farmer, are involved in production. Here, again, market forces are shaping chains in the industry. The profits to be made can stimulate greater involvement by the offtaker/purchaser in the production chain, which, in turn, should stimulate the greater use of SF.

**Rape seed:** In this market, the increasing use of contract farming can be observed, as an industrial structure closer to that of malt barley that begins to develop. A key driver in this market is the emergence of bio-fuels. Therefore, a move can be seen along the intensification chain, as the offtakers of rape seed play a greater role in specifying the type of product needed for special uses such as bio-fuel and new companies are seen to enter the industry as non-food use of the product grows.

The fuel companies now playing greater roles in rape seed production are culturally accustomed to investing in riskier structures than is the case with other industries as they are used to prospecting for oil. This cultural inclination leads to an approach in which the farm is regarded

as a key resource, to be exploited by the company. This inevitably leads to an intensification of the value chain relationships.

**Maize:** Demand for maize is increasing rapidly, as a result of a number of factors, including the increasing use of bio-fuels and for animal feed. The value chain for the product is rapidly developing towards the model of malt barley and rape seed, as larger players enter the game. Here, again, a move can be seen from one of setting the market requirements and advancing funding towards integrated production management and contracting.

It is useful to point out that even in a less integrated market such as maize, the suppliers could begin to increase their access to funding through several instruments – using their stock and their accounts receivables from credit sales as security and from securing the purchase price of major inputs by hedging to reduce their risks.

**Sugar beets:** Sugar beets are bulky and cannot be shipped very far from the processing plant. Consequently, spatial proximity is important for both the sugar beet and sugar cane industry and plants are built relatively close to production areas, leading to an intensive form of contract farming. Hence, production management structures are commonly found in this industry. The need for specialized storage and refining equipment means that offtakers are often required to provide the financing of inputs for production and the result is an intensive value chain, in which sugar production takes on more and more of the characteristics of industrial production. The tightness of value chain implicit in this indicates a high chance of using SF techniques<sup>23</sup>.

**Fruit and vegetables:** The main issue with fruit and vegetables is their perishability, a factor which influences the whole value chain. Whereas grain may be stored for a year or more before delivery<sup>24</sup>, fruit products frequently require immediate processing. As most fruit farms are small-scale, the immediacy of the processing requirements is of paramount importance. This argues for the provision of centralized collecting units, often organized by the fruit buyer or by POs. For the producers, the reduction of risk from market insecurity and wide price swings makes this attractive while providing access to finance.

An example from Croatia indicates the power and influence which supermarket groups are beginning to wield in Eastern European and Central Asian countries. At the moment, the growing role of supermarkets in food distribution seems to be the most powerful locomotive which can pull an Eastern European and Central Asian country from its current state to a higher level, particularly as the dominance of supermarkets in an economy is associated with increased FDI and the greater use of SF.

The management of a large number of small-scale farmers is very difficult for offtakers. While there are examples of offtaker finance reaching the growers, the model for fruit and vegetables

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<sup>23</sup> International banks have been involved in financing cross border sugar flows with mixed results. Research suggests that this is one of the sectors in which deceit and lack of trust between parties has become a problem.

<sup>24</sup> However, grain harvesting must be accomplished within a very tight time frame of 2-3 weeks which creates a bottleneck in the production cycle. Grain farmers can either contract in harvesters to cut their grain – which can be very dangerous if the harvesters are held up for any reason on a previous project – or can invest in harvesting equipment themselves, which requires significant capital expenditure for equipment which will stand idle for 11 months of the year.

**Box 14: Contract farming- Konzum, Croatia**

In Croatia, the supermarket chain Konzum established preferred-supplier programmes to procure strawberries. It encourages suppliers to use irrigation and greenhouses to reduce the seasonality of strawberry production and improve the quality of produce. Such investments require significant capital, which many farmers did not have, nor did they possess enough collateral to secure bank loans. So Konzum negotiated with the local banks to use the farmers' contracts with the supermarket as a "collateral substitute." Also, from the financing arrangement information available, it seems that Konzum is prepared to offer to the banks a partial guarantee to help reduce the risk the bank is taking with certain suppliers.

Sources: Dries, L., Reardon, T. & Swinnen, J. 2004. The Rapid Rise of Supermarkets in Central and Eastern Europe, *Development Policy Review*, vol. 22, no. 5, pp.525-56.

seems to be more often one of market specification, under which the offtaker will accept produce which meets his or her quality standards and reject produce which does not.

Research undertaken in 2004 in the People's Republic of China showed that 65 percent of the sample group of farmers producing vegetables had marketing contracts with offtakers but not production contracts. The fruit growers in the sample had only marketing but not production agreements, while in comparison all the milk producers in the sample had production agreements.<sup>25</sup>

While contract farming can increase opportunities for SF, the reality is that the current outreach is very limited as many producers lack opportunities to work with major companies. For example the often disaggregated nature of small-scale fruit growers and the higher risks of loss, limit the use of SF.

**Livestock and Dairy:** The highest potential for SF is in the dairy industry which presents organized value chains with stable cash earnings. But because of this, the sector has less problems accessing financing from conventional sources. However, upgrading of equipment and breeds could readily be financed through securing the future sales, whether or not the overall legal environment is strong or weak. Livestock has higher price volatility and uneven cash flows. Vertical integration is growing in some sectors, such as pork, but with little evidence of SF usage.

**Agribusiness:** With the exceptions of inventory credit and use of forward contracts, SF is not for farmers and small-scale producers. The greatest potential lies in agribusiness – with the suppliers, major traders, processors and import and export companies. The costs of structuring the deals, or even understanding how to do them, is too great for direct use by smallholders but, even so, benefits from SF can be felt throughout the value chain by them accessing funds

<sup>25</sup> Guo, H., Hongdong, J.W.R. & Zhu, J. 2005. *Contract Farming in China: Supply Chain or Ball and Chain?* Zhejiang University, China.

using SF and having the capacity to advance supplies or pay for commodities purchased before realizing the income from them.

### **4.3 INTERNATIONAL BANKS' EXPERIENCE IN EASTERN EUROPEAN AND CENTRAL ASIAN COUNTRIES**

Structured Trade Finance played an important role in financing in Eastern European and Central Asian countries after the fall of communism. The use of these techniques has helped companies in these countries to access finance at a time when their own domestic markets were not capable of meeting their funding requirements.

Broadly speaking, in the former Soviet Union there was only one international borrower, the state. When it broke up in 1989-91, it was clear that, although the Soviet Union had traditionally enjoyed a very high credit rating, the state was, in fact, bankrupt. Many enterprises, which were just branches of various ministries before privatization, suffered and failed. The banking system was not in a position to provide meaningful access to funds for enterprise development. In short, the machine stopped.

International banks were keen to fill the vacuum by providing loans to companies in the CIS states. However, there was a complete absence of the normal criteria for corporate lending. Newly formed CIS companies had no balance sheets or Profit and Loss accounts which made sense to any Western banker; so the search began for alternative forms of security.

The CIS is a major commodity exporter and, until the price collapse of the late nineties, commodity prices worldwide were generally high. Within the CIS, given the distorted structure created by the transition from a command economy to a market economy, the price of commodities dropped on the domestic market and the resultant difference between internal and international prices created the first requisite for the international commodity banker, namely the 'push-out factor'.

Simply put, this means that commodity producers had a strong incentive to export their produce and international traders had a strong incentive to buy, as prices from the CIS were generally lower than commodity prices from other countries.

The banks' main form of security became the assignment of export proceeds. This SF approach meant that in the event of default, the bank would be able to press a claim through an international court and, in all probability, receive a judgment that it could receive any revenues attributable to the export contract that had been assigned. As a further security measure, the bank insisted that all payment flows would go through accounts opened at the bank and that the exporter would receive proceeds from the sale of his or her products only after loan instalments and interest had been paid.

The first loans in this structure were actually given to offtaker companies although they were priced at the risk level of the underlying deal. For example, the early oil deals carried margins of 6 percent over Libor, whereas the borrower, such as Glencore, could have borrowed in the market under its own name at about Libor +1 percent. The requirement for a much higher

margin for the lending banks reflected the fact that the risk was actually on the transaction itself and not on the 'borrower'. Initially, banks insisted on the offtaker-borrower, retaining a portion of the risk – approximately 15-20 percent - so that it had a vested interest in the success of the transaction.

The early loans, secured by export proceeds, were given for short periods. They were very successful and the SF techniques developed in a number of interesting ways:

- First, the lending periods became longer and longer until it was quite obvious that the repayment periods were more than enough to cover the production to shipment phases.
- Second, margins fell dramatically, as the technique was seen to be very successful in practice and more and more banks began to lend under these structures (the fact that leading banks were obliged by credit limit constraints to offer syndicated participations to other banks stimulated and accelerated this process).
- Third, the borrowing entity became more and more often the CIS exporter rather than the offtaker and in this way, exporting enterprises began to develop credit records.
- Fourth, the offtakers resisted more and more the requirement to take a risk share in the deal and eventually lending banks abandoned this demand.

This short history demonstrates how, in the early days, the offtakers were shouldering many of the risks in order to bring the banks into their offtake arrangements, so that, eventually, after they had gained experience and confidence, credit risk could be shifted to the banks. In fact this process happened remarkably quickly. This type of lending was phenomenally successful years after the Soviet Union collapsed.

A very striking aspect is the 'educational' value of successful structured commodity finance. When an international bank developed expertise in the CIS using these techniques – often by fine-tuning techniques which had been developed in other commodity markets – such banks were able to move to other corporations and other sectors within the CIS, explaining the techniques and influencing the whole of the transaction development and its subsequent processing. In this way, many CIS oil, metal and other natural resource companies were introduced to the international financial markets far more quickly than would have otherwise been the case.

While many international banks have considerable experience in SF in the Eastern European and Central Asian region relatively few deals have been concluded in the agricultural sector. The bank which is working most vigorously in agricultural financing, both in the countries and worldwide, is Rabobank of the Netherlands. It has considerable investment in agriculture finance in the ECA and has a worldwide portfolio of over US\$9 billion in this sector. Its success can be attributed to the detailed approach the bank maintains, by developing structures and by being involved along the whole of the value chain, not just merely providing finance. In this way, it has been able to introduce SF instruments in its agricultural and agribusiness portfolio in ECA.

Rabobank has an intimate knowledge of the sectors within which it works and people with whom it is dealing as well as those within the agricultural value chain. It finds that this is the best way to mitigate risk in the sector and the bank's worldwide field force is supported by

**Box 15: Structured Finance as a road to 'normal' bank financing, Yug Rusi, Russia**

Yug Rusi is a major farming and agricultural processing company, based in the Rostov region of Russia. International banks were important in its development and the company has become well-known in international commodity banking circles as being the most aggressive Russian agricultural user of SF techniques to raise funding from international banks. Yug Rusi began negotiations with commercial banks – Russian and international – some 6-7 years ago. At that time, they did not have the balance sheet strength to attract unsecured finance, nor did they have sufficient collateral to cover the amount of funding they needed for development. In the course of negotiations, the banks expressed the willingness to consider structuring the financing to give them sufficient security but, given the lack of experience in working with agricultural companies, the credit committees of the various banks demanded additional security, over and above the assignment of export receivables. This led to a structure in which Yug Rusi pledged inventory in warehouse, farming equipment and buildings. The company now has several years of successful experience working with Western banks and has recently obtained a major facility from the EBRD.

Source: Michael Winn, personal communication, 2008

an extensive research effort in the bank's headquarters, covering agriculture and other soft commodities. Knowledge is critical for structuring financing. Other international banks do not have such knowledge of the agricultural sector and are not so flexible and consequently, with some exceptions, will not commit resources to develop lending to the agricultural sector in Eastern European and Central Asian countries.

The recent financial crisis, which has had a significant effect on the financial sector in the Eastern European and Central Asian region, has caused a very cautious stance to finance with increased reluctance towards risk. This hinders the use of SF, while at the same time increasing the need for it as a result of its ability to offer non-traditional collateral to augment the security required for financing.

**4.4 CONDITIONS AND USE OF STRUCTURED FINANCE IN SERBIA**

The following country case study illustrates the relative use of the various SF instruments and how such use is affected by the conditions of the country and the presence of international banks.

**Background**

Serbia presents an opportunity to analyze the state of finance in agriculture and agribusiness as it is one of the largest agricultural-based countries in ECA. It has a sizeable arable land area of 4.5 million hectares in relation to its population of 7.7 million. Agriculture is 15 percent of Serbia's GDP but output has declined in recent years (Serbia Investment and Promotion Agency [Siepa], 2006).

The banking sector in Serbia has been transformed in recent years. This transformation reflects rapid and determined privatization, which has been a key ingredient for Serbia's economic growth. Most of the foreign banks entered the country after 2001 either through green-field investments or by acquisition of existing Serbian banks. This has raised the foreign share of total banking assets to over 70 percent. As a result, financing opportunities for investments have rapidly improved, payment services strengthened, and banks' clients are finding more and better instruments. However, the size of Serbia's banking sector remains less than a quarter of that of Croatia, which has half the population (World Bank, 2007). Because of a deadline for the privatization programme due at the end of 2008, banks would most probably have looked more and more for equity and debt transactions in non-banking financial institutions, primarily in the area of insurance and mutual investment funds.

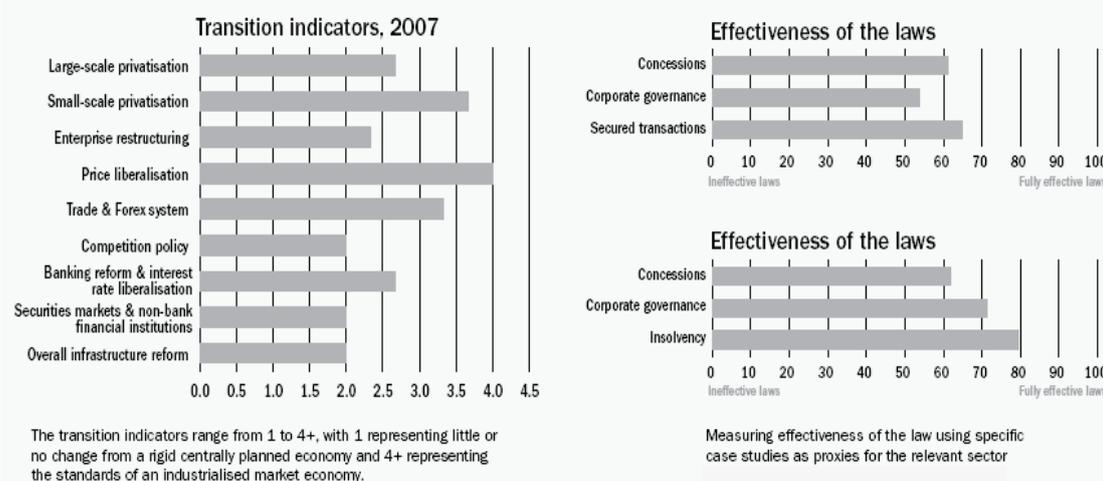
Indications of the progress made in the transformation process are shown below. It is useful to note that price liberalization and development of trade and foreign exchange open opportunities and need for higher use of financial instruments and risk hedging.

According to the Ministry of Agriculture, less than 5 percent of total bank lending in 2005 went to the agricultural sector and there was very little funding going directly to the farmers.

In Box 16 it is noted that agricultural output has also decreased. Consequently, for 2008 the Ministry of Agriculture proposed highly subsidized credit lines to farmers through the banking sector and a state-financed guarantee scheme, with an amount of about €24.3 million (long and short-term credits) and interest rates of 10 to 15 percent per year for the short-term loans and 12.5 percent for the long-term loans.

### Box 16: Transition progress in Serbia

#### Transition progress



Source: EBRD, 2007

Credit assessments are difficult when borrower credit histories are short, when considerable corporate restructuring lies ahead, and when accounting standards fall short of international norms. Often bankers simply refuse to lend, but others may be tempted to finance riskier projects and not fully price the real risks into the lending rates, and borrowers may overlook exchange risk in their liabilities. Both may initially improve banks' income statements since very rapid growth of credit portfolios can hide portfolio quality problems for some time but not indefinitely. Underlying risks will eventually resurface to haunt the banks and the borrowers, and could become a prudential concern. Financial regulators need to remain vigilant. They need to ensure that banks have all the proper internal risk-management procedures in place. Bank supervision needs to shift away from being compliance-based towards becoming risk-focused. Looking ahead, while ending the moratorium on new green field licenses would be welcome to allow new entrants to further enhance competition and set new standards for customer service, the qualification of new entrants would need to be rigorously assessed, as foreseen in the new banking law (IMF, 2006).

### Banking in Serbia

The cost of capital in Serbia remains relatively high as shown below. This offers opportunities for alternatives to traditional banking where the cost savings can be important.

**Table 3: Lending activities: Weighted average interest rates per annum on bank loans**

	2003	2004	2005	2006
Short Term credit	15.48%	15.53%	16.83%	16.56%
Long Term credit	10.87%	9.86%	8.43%	10.09%
Total Lending	14.81%	14.59%	14.41%	15.88%

Source: National Bank of Serbia, Statistical Bulletin, January-February 2007

**Table 4: Commercial Banks in Serbia**

	2007
Number of banks	36
Number of business units	86
Number of branches	452
Number of branch offices	1 437
Number of foreign banks	22
Domestic private	6
Domestic public	8
Number of small banks	0
Number of medium banks	4
Number of large banks	32

Sources: National Bank of Serbia and FAO Stat, 2007

The banking sector reaches out across the country, as indicated by the considerable number of branches and offices in this relatively small country. Despite the number of access points, there is a low use of agricultural lending, which reflects the lack of confidence of the banks in agriculture even though most do some lending to agriculture, as shown below. Most of the banks are large, which increases their potential to do factoring.

The Government has tried to address the lack of agricultural lending through highly subsidized credit lines to farmers through the banking sector and a very generous state-financed guarantee scheme, whereby banks take only 2 percent of the total loan risks. This is a disincentive for use of SF and other commercial finance products in agriculture.

### Structured Finance instruments used in Serbia

Having larger international banks in Serbia and being close to the EU market opens many possibilities for use of non-traditional lending instruments such as those used in SF. As seen in Table 5 below, there are many Serbian banks that use SF. Even though much of this use is not directed to agriculture, the technical expertise and operational structures needed for this are in place within the country.

**Table 5: Financial Instruments being used by commercial banks in Serbia**

	Number of banks using instruments*
Agricultural Loans	23
<b>Structured Finance</b>	
Pre-Finance	28
Export Financing	17
Forward Contracts	5
Factoring	7
Forfaiting	2
Leasing	10
Repos	1
Insurance	2
Purchase, storage and processing of agricultural products	1
Guarantees	22
Bills of Discounting	14

\*Source: 2008 data collected from authors' communication and supplemented with information from the web sites of 33 banks.

There are several banks that offer factoring, but according to one of the managers, "factoring is not yet perceived as a good business opportunity for medium-sized and small-scale companies in Serbia". He added that "there is much room for growth for factoring in, which will be exploited in the future".

The advantage of a factoring company compared to a bank lies in the fact that the former purchases receivables quickly, efficiently and with great flexibility so as to meet customers' requirements.

### Benefits for supporting Structured Financed products in the agricultural sector in Serbia

- Structured Finance products offer banks a good source of income.
- Structured Finance offers an opportunity of increasing a bank's market share by offering new products.

- The National Bank of Serbia requires a 45 percent reserve, (i.e. banks have to deposit 45 cents at the National Bank for every Euro they receive in savings). This high reserve makes the cost of conventional borrowing more expensive and SF relatively more attractive.
- For Serbia there is a zero percent tax applied to turnover of the following goods: trading with shares and other securities; insurance and reinsurance; the lease of business premises, etc. This zero percent tax rate, with the right of deduction of input VAT, applies to turnover of export goods, thus providing an attractive tax benefit (Tax Law 2005).
- Structured Finance helps the diversification of a bank's portfolio.

### **Problems with implementation**

- The absence of properly functioning bankruptcy legislation and the time taken by commercial courts to resolve disputes act as deterrents to lending and to optimal use of SF products. For example, *Doing Business* suggests that enforcing a contract in courts still takes 21 months, while bankruptcy cases take over 30 months, are very costly and generally result in a recovery rate of less than 25 percent. Therefore, strengthening the judicial system to address such business issues is important (Doing Business, 2007).
- Currently there is no securitization law, but it was approved by the end of 2008.
- Many contracts are not registered and payments are made in-kind rather than cash thus making use of some SF products more difficult (World Bank, 2006).
- Agriculture is highly vulnerable to climatic conditions. Also, infrastructure and productivity is low, thus raising risks for all finance. Hence, some SF instruments may need to be combined with insurance or other guarantees in order to be accepted.
- There is lack of communication and trust between bank and farmers - 85 percent of farmers have never been in a bank (Zivkov, 2005).
- There is a short credit history and there are relatively weak value chains in many sectors, making future flow projections difficult.

In summary, Serbia illustrates both the potential of using SF techniques such as factoring but the difficulty in expanding the general use of them in agriculture is a result of the problems indicated above.

## 5. Enhancing the use of Structured Finance in Eastern European and Central Asian countries

*“For innovative structured financing mechanisms to work, institutional inadequacies must be overcome. Experience has shown that institutional weaknesses in developing countries, coupled with a failure of governments to provide an appropriate legal environment, has led the banking sector to move out of agricultural finance. These shortcomings must be addressed.” UNCTAD*

As indicated in the previous chapter, institutional capacity is critical to the use of SF instruments. While some instruments, such as factoring, can be used to support financial transactions in the absence of a strong legal or judicial environment, a basic organizational capacity is needed at all levels. It is evident by observation and a review of the relevant literature that there is a progression in capacity development as GDP per capita increases, for example, or as market reform programmes advance. Following the logic of this analysis, it can be seen that less-developed Eastern European and Central Asian countries exhibit greater barriers to the use of SF in agriculture, whereas those who have become EU members or are on the brink of membership, are moving towards a different paradigm, one in which the use of SF, although valuable, is not nearly as ‘situation-transforming’ as would be the case in poorer countries.

It is evident that different countries in the Eastern European and Central Asian region have fared very differently in the road towards market reform. In a recent OECD paper (2007), Trzeciak-Duval highlights some of the barriers to reform in transitional countries and outlines the preconditions necessary for the effective development of finance in agriculture. Adapting the author’s approach to the present study, the following observations can be made on the necessary and desirable preconditions.

### 5.1 PRECONDITIONS FOR INCREASED USE OF STRUCTURED FINANCE

#### 5.1.1 A stable macroeconomic framework

Eastern European and Central Asian countries are generally becoming more stable which is opening opportunities for use of SF. The countries which have already achieved a degree of economic stability tend to have stronger value chains and higher use of both structured and traditional finance. Banks require long-term stability if they are to provide long-term loans for development and this applies to agriculture as much as other sectors. The statistics quoted earlier for the incidence of factoring in national economies bear this out and it is also the case that various Securitization techniques require the type of developed financial system that is typical of countries with macroeconomic stability.

Macroeconomic stability must be regarded as one of the key goals for less-developed countries and policy initiatives should concentrate on measures to assist the strengthening of financial markets. However, trust and commitment among value chain actors can substitute for some weaknesses in the overall legal and macro-environment. If a proven track record of compliance, peer solidarity and honesty can be demonstrated, there are opportunities for using both commodities and receivables as backing for securing finance.

### **5.1.2 A profitable agricultural sector**

Clearly, finance will be attracted to the agricultural sector only if lenders are assured that loans can be repaid. While this may be an obvious point, it is worth highlighting, as it underlines the importance of allowing markets to work freely in allocating resources, which, in turn, indicates a reduced role for state intervention and subsidy.

Many farms in the Eastern European and Central Asian region are unviable, for a variety of reasons. Lack of access to finance is one of those reasons and, generally speaking, the less-developed countries, with a higher proportion of GDP in agriculture show higher incidences of small-scale farming, with outdated techniques, poor equipment, inferior inputs and badly educated farmers. The policy response in these countries should be closely coordinated with other measures designed to relieve rural poverty, by stimulating work opportunities in other sectors outside agriculture.

### **5.1.3 Efficiency throughout the food production chain**

As stated elsewhere, a strong value chain can improve dramatically the potential for attracting finance into agriculture. Where chains are functioning well, examples of SF are more prevalent. This is the next step along the road – once macroeconomic stability is being developed and profitable areas of agriculture identified, work to strengthen value chain relationships stands a better chance of success. Targeted programmes for promoting value chain awareness and development have a real chance of success in ECA.

### **5.1.4 A strong institutional and legal framework**

Although the thrust of emerging policy in financing agriculture is to reduce the role of the state, it is clear that these governments have vital roles to play in helping to develop the environment in which SF can flourish. This may involve the general tightening of legal systems, so that contractual obligations are supported by the legal system. In this regard, the World Bank, FAO and other agencies can encourage governments to set up effective mechanisms for the development of warehouse receipts usage as meaningful and legally enforceable collateral.

Strong institutions and a strong legal system are essential if trust is to be developed between parties in the agricultural value chain. Incidents of contract violation are prevalent in countries where the offenders know that they will go unpunished and the damage done by such action ranges far beyond any losses to the other contracting party in any particular episode, since trust is destroyed, which will take a long time to repair. The innocent party will be very reluctant to engage in other transactions in that particular country, to the detriment of other, more trustworthy, potential partners.

**Box 17: Assistance to Structured Finance: Ministry of Agriculture, Russia**

An example of how the state can actively assist the use of SF comes from Russia, where regional offices of the Ministry of Agriculture check and register the amounts of seed sown by a farmer, so that an official certificate exists of the probable harvest for any particular farmer. Once the farmer has such an official certificate, the farmer is in a position to pledge his or her future harvest as security for a loan from a local bank. The bank, typically, will advance only a portion of the estimated value of the crop - say 30 percent - but this is often enough to finance the growing cycle, particularly if the farmer is also part of a value chain and is receiving some supplier finance or if the farmer can offer the pledge of equipment to 'stretch' the loan amount. The certificates also can strengthen the position of suppliers when using their accounts receivables to farmers as backing to obtain financing.

An international grain trader stated that "this system works very well and can enable farms to raise finance, when otherwise credit would not be available." The trader is also very familiar with the agricultural systems in Ukraine and Serbia, where the Ministries of Agriculture have no such role in certification and says that "the supply of finance to farmers in these countries would improve tremendously if such a state-led system of certification could be introduced and maintained". Clearly there are lessons to be learned from one Eastern European and Central Asian country that are applicable to the situation in other countries.

Source: Michael Winn, personal communication, 2008

**5.1.5 A market-based financial system**

A key feature of a successful financial system is the existence of competent, professional and knowledgeable local banks. This is one of the biggest deficiencies of Eastern European and Central Asian countries, since they have had only fifteen years or so in which to develop a market-based commercial banking system. Many countries in the developing world, even if they are much poorer than Eastern European and Central Asian countries, nevertheless still had a tradition of market-driven banking and did not have the same isolation from developments in financing, which most of the Eastern European and Central Asian countries endured. Hence, encouraging modernization in the banking sector where the deficiencies in mobilizing capital for the agricultural sector are most evident can make a real difference. Agricultural finance, including the SF models, can benefit from programmes introduced to improve the efficiency of the banking sector and policy-makers should ensure that training and support programmes for banks should have a full SF and agricultural finance component.

**5.1.6 Supportive cultural and social values, including the willingness of business partners to trust each other**

Trust is a very important precondition and more social and cultural systems and organizations that can strengthen trust appear to be required. The Eastern European and Central Asian

counties, or the vast majority of them, are unified by a common recent economic history, i.e. the rise and fall of the command economy system. However, many of them are also unified by pre-command economy characteristics, such as the influence of the group or collective in social and commercial situations and the reduced role, compared with Western cultures, of the individual.

One way to accelerate the development of the trust process can be that of fomenting group solidarity by demonstrating to farmers that they are part of a mutual process and that their behaviour must be seen in the context of a whole group of players, who will lose out if contractual adherence is not observed. In many cases of deception in agricultural value chains, it seems to be the case that farmers cheat 'because they can' and because they feel they are dealing with a single offtaker (albeit frequently a large one) who will take no action if the contract is broken. Often, they are right!

If, however, farmers feel they are dealing with input providers, banks, consultants, government bodies, multilaterals and offtakers who are all bound in a specific chain or who are working actively to support that chain, then the pressure of group psychology is, arguably, likely to ensure that the farmer sticks to commitments. While such a multi-player system can and does develop over time, one of the players, the multilateral agency, could take on a catalytic and facilitating role, by actively bringing together the various other bodies to improve the quality of the value chain.

#### **Box 18: Strategic partnerships: Use of 'Collective Psychology' in structuring finance, Russia**

An example of working with a group or collective mentality comes from a recent episode in the oil sector in Russia. A Western company wished to develop an oil field, the production of which would be transported through infrastructure owned by a major Russian oil group, with no affiliation to the Western company. The Western company signed a contract with the Russian company for the transportation of the oil and wanted to strengthen the chances that the Russian company would stick to its obligations and not, for example, raise the transportation tariffs once production was in full flow.

To this end, the Western company turned to international banks to finance the development of the field, even though such development finance could have been raised from the Western company's own resources. The reasoning was that, as the Russian company had long experience with Western banks and realizing that the banks would be repaid only if oil were to flow on terms profitable to the borrower, then the company would be far less likely to break contractual terms. If it did and the borrower was able to demonstrate that it was the fault of the Russian company that oil was not getting to market, then the company would have to deal with an angry international bank, capable of taking action in other markets to disrupt the activities of the major Russian oil company. Reputational risk plays an important role.

Source: Michael Winn, personal communication, 2008

### **5.1.7 Adequate infrastructure for the storage and transportation of produce; a long-term financing issue**

A perennial problem in the provision of finance to agriculture, whether traditional or structured, is the terms of loan. In many Eastern European and Central Asian countries, access to short-term finance, for the growing season, is relatively common. However, finding long-term finance for infrastructure or equipment purchase can be impossible for many firms throughout the Eastern European and Central Asian region.<sup>26</sup>

Provision of long-term finance can come from foreign banks. They can use export credit structures, as outlined above, or leasing structures, secured by export offtake. However, such banks are still not sufficiently comfortable with the environment to engage in large-scale lending programmes. This again underlines the importance of developing a strong macroeconomic, financial, legal and institutional base.

There is a possible role for donor organizations in addressing agricultural storage deficiencies as noted above. For example, an inventory could be taken of storage units which have fallen into disuse and expert valuations commissioned to estimate the likely cost of reactivating such storage.<sup>27</sup> Further research would be required to identify potential users of particular facilities but such users could be approached with proposals to enter into a financing scheme to redevelop warehouse space. Some of the measures outlined previously, such as the assignment of future receivables, could be used to secure financing for this refurbishment programme.

### **5.1.8 Scale is important in the use of Structured Finance**

Structured Finance is expensive to set up. Interviews with commodity bankers reveal that banks have a tendency to favour large-scale applications of SF, in view of the higher costs of arranging a SF deal. It involves such things as valuation, quality assurance, security assessment, legal analysis and paperwork. This means that SF is more prevalent in larger contract farming arrangements and that small-scale suppliers find it difficult to access this type of finance, unless they can work through marketing organizations or other intermediaries. If the advantages of SF, as outlined in this study, become better known to the agricultural community, then farmers will tend to organize themselves to take advantage of this financing tool.

Thus, SF itself can be one of the drivers reshaping the organization of agricultural production. For example, if it becomes clear that banks want to work only with large-scale producers and offtakers in legally defined contract farming arrangements, the industry will reshape itself to meet this precondition and intermediaries will appear to facilitate the necessary consolidation of production. This has important policy implications.

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<sup>26</sup> See Rheinland case study in Annex 2. Rheinland's directors believe that the absence of long-term finance is the biggest problem facing agriculture in Russia.

<sup>27</sup> Anecdotal evidence suggests that there are many un-used cold storage units in Georgia, which could be reactivated, to the benefit of local fruit and vegetable growers.

## **5.2 STRUCTURED FINANCE IN THE VALUE CHAIN: IMPLICATIONS FOR AGRO-ENTERPRISES AND AGRIBUSINESSES**

The development of large-scale agricultural techniques and the rise of international farming present a series of challenges and opportunities for small and medium agricultural enterprises and their suppliers, traders and exporters. Research suggests that it is not size in itself which is the most important issue but, rather, the SME's position or lack thereof in a network or value chain. The key problem for small-scale firms appears not to be that of being small, but of being isolated, an observation which once again points to the importance of value chains (Trzeciak-Duval, 2007).

Research in India indicates that the rise of agribusiness may actually exacerbate this isolation. Agribusiness companies have different contracts for different types of farmers for the same crop. The bigger farmers have contracts which provide for an advance assessment of produce, advance payment and fixing of price, compared to the small-scale and/or poor farmers from whom the firm picks up only the selected part of the produce which meets quality standards. Even the wage rates for the landless workers may decline over time because of contracting as workers from outside in-migrate while the out-migration stops from the given area. This can further accentuate the disparity between land owners and the landless.<sup>28</sup> This phenomenon is also occurring in ECA.

This theme is reflected in work done by Macours and Swinnen (2007), in which the authors point to the disruptive effect of the transition from socialist organization to a free market economy. As supplies decreased and prices rose, country villages and farms became more 'remote'. The resultant disruption to information and financial flows meant that negotiating positions of small-scale entrepreneurs, when dealing with traders and local authorities, were weakened.<sup>29</sup> The poor infrastructure in many Eastern European and Central Asian countries also contributed to this isolation.

In view of the increasing globalization of agricultural production, many value chains are international and tend to comprise large players. A failure to connect with such value chains can have serious adverse consequences for SMEs. Research on the Moldovan situation<sup>30</sup> illustrates this point; Moldova was strong in agrifood production during the Soviet era but has failed to capitalise on earlier advantages since the collapse of communism. The country's agricultural producers, which are largely SMEs, have, generally failed to make connection with the developing value chains in other CIS countries, especially Russia, where they could have a competitive advantage. As a result quality, sales and living standards in the country are suffering.

Here again it can be seen that the development of agriculture, in particular agricultural-based SMEs, in most Eastern European and Central Asian countries is hindered by the legacy of the command economy. With no tradition of market-based POs, individual farmers and small-scale

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<sup>28</sup> Singh, S. 2002. Contracting Out Solutions: Political Economy of Contract Farming in the Indian Punjab Institute of Rural Management. *World Development*, 30 (9): pp. 1621–1638.

<sup>29</sup> Macours, K. & Swinnen, J.F.M. 2008. Rural-Urban Poverty Differences in Transition Countries. *World Development* Vol. 36, No. 11, pp. 2170-2187

<sup>30</sup> See FAO. 2006. *Development in the European Agrifood Markets; Impact on Producers and Consumers and Perspectives*. Rome.

farms are often left to their own devices and, as a result, cannot obtain financing in the market and often fail. One way forward is for donor agencies to coordinate support measures for the development of POs, to enable small-scale producers and agribusinesses to be linked into wider associations, which are able to access finance.

In Europe, 73 percent of all turnover in food processing is generated by companies that have fewer than 250 employees (Trzeciak-Duval, 2007) and the importance of SMEs to the health and prosperity of rural areas has been demonstrated by many studies. The ability to become involved in a value chain is critical and this points to the need for further educational measures to highlight the benefits of value chains and the advantages of working together in various ways, such as in POs. Without such action, it is likely that SMEs will continue to find it extremely difficult to access any form of credit, including SF.

Some SF tools are small-scale companies as they become more familiar with the use of factoring. As noted in the Serbian example, SF such as factoring is well known and could be applied more widely to agribusinesses. Also, an extension of the EBRD programme under the TFP, shown as an example in this document, could be of real benefit in helping SMEs access finance in the region.

If governments and donor agencies are to have more supportive and less interventionist roles in agricultural financing, then efforts must be made to support private sector measures, such as the increased use of SF. This increased emphasis on contract enforcement. Courts must be required to pass judgments and impose penalties when contracts have been flagrantly flouted and that objectivity should be strictly maintained, even if the resultant public relations are damaging (e.g. ‘multinational wins a judgment over a poor farmer’). It also implies that public money should be diverted away from direct subsidies and into educational and training programmes which will help farmers, agribusinesses and bankers understand the importance of value chains and the necessity for a high level of trust and contract compliance to be developed between the parties in a chain.

### **5.3 KEY STEPS IN SETTING UP STRUCTURED FINANCE ARRANGEMENTS**

Structured Finance for agriculture depends upon productive, organized value chains. Consideration for such financing requires a careful assessment of the chain, those involved in it, the operating environment and the benefits and risks of SF applications. The following steps can be considered to guide this process.

- Assess the agricultural value chain, nature of the product and sector, the risks and the capacity and relationships of those involved in the transactions.
- Identify recurrent and reliable commodity flows and stocks and associated cash flows of significant size.
- Devise measures to reduce risks in the underlying commodity transactions (production, storage, transport, trade, export), such as through enhancing vertical integration, insurance or the use of collateral managers.
- Identify the key requirements for finance and structure the finance to best fit the provision of finance and reduction of risk.

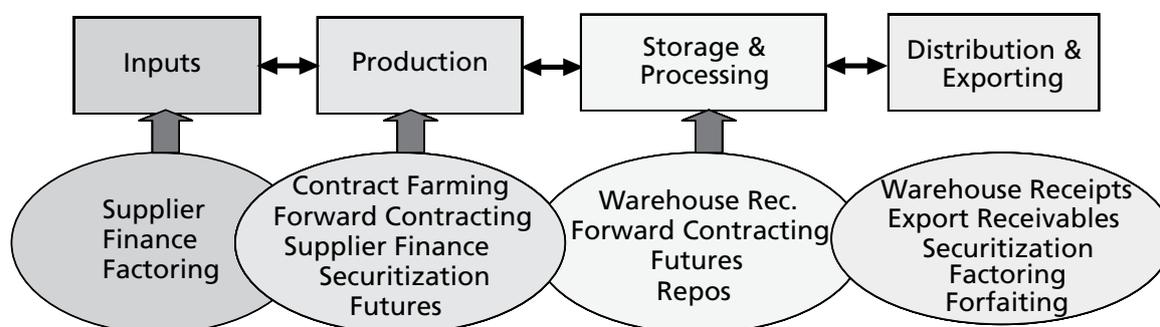
- Wherever possible, develop a mechanism for automatic reimbursement within the value chain, minimizing risks and transaction costs (e.g., finance might be provided to processing companies on the basis of sales contracts or inventory which can allow them to finance inputs to farmers with repayment deducted at source from processors or exporters).
- Devise additional financial risk management instruments, as appropriate, such as forward contracting, hedging, agriculture insurance and use of guarantees.

## 6. Conclusions and recommendations

### 6.1 SUMMARY: APPLICATION OF STRUCTURED FINANCE INSTRUMENTS IN EASTERN EUROPE AND CENTRAL ASIA

Structured Finance instruments are diverse but have in common the assignment of assets or future flows as security. They are many potential applications for agriculture and agribusiness within the Eastern European and Central Asian region, but SF use is not widespread. Specific SF instruments are for certain sectors and countries, but as is expected with SF, each instrument has been adapted to where, how and whether it fits for the particular sector and setting. This is important in understanding how and where SF can be best applied for the future. A summary of the most typical fits of SF instruments within the value chain is shown in Figure 7 below, noting that some instruments can be used in various parts of the chain or along it.

**Figure 7: Application of Structured Finance instruments and enhancements within the value chain**



At the beginning of the document, Table 1 described the principle SF instruments and their general use. Table 6 below now presents a summary of the types of applications, their benefits and constraints for Eastern European and Central Asian countries, taking into consideration the findings and learning from the study. More field research is needed to strengthen that learning and more fully assess the lessons in more sectors and Eastern European and Central Asian settings.

**Table 6: Uses and potential of Structured Finance instruments and related enhancements within the Eastern European and Central Asian region**

<b>Instrument</b>	<b>Use</b>	<b>Benefits</b>	<b>Limitations</b>	<b>Application &amp; Potential</b>
1. Supplier finance	<ul style="list-style-type: none"> <li>• Input suppliers</li> <li>• Equipment dealers</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces finance and transaction costs to both suppliers and buyers taking into account the strength of the buyer-seller accounts and history</li> <li>• Provides fast track financing</li> </ul>	<ul style="list-style-type: none"> <li>• Requires a proven track record</li> <li>• Not suitable for perishable products</li> </ul>	<ul style="list-style-type: none"> <li>• High potential where trust and established relationships are in place and can be expected to increase over time</li> </ul>
2. Trade finance	<ul style="list-style-type: none"> <li>• Exporters</li> <li>• Importers</li> </ul>	<ul style="list-style-type: none"> <li>• Can significantly ease finance for those exporting and ease repayment urgency from importers</li> </ul>	<ul style="list-style-type: none"> <li>• Is most suitable for large transactions</li> </ul>	<ul style="list-style-type: none"> <li>• Is infrequently used by exporting companies for major commodities</li> </ul>
3. Factoring	<ul style="list-style-type: none"> <li>• Manufacturers</li> <li>• Processors</li> <li>• Input suppliers</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitates international business and finance by passing collection risk to a third party (factor) as well as providing services within the foreign country</li> <li>• The factor can be a source of finance for the supplier through loans and advance payments and provide other services such as ease of collection and currency exchange</li> </ul>	<ul style="list-style-type: none"> <li>• Is complex and requires a factoring agency, which is only an option for some countries and commodities</li> </ul>	<ul style="list-style-type: none"> <li>• Is used in a limited way and can be expected to increase slowly in more developed Eastern European and Central Asian countries</li> </ul>
4. Forfaiting	<ul style="list-style-type: none"> <li>• Manufacturers</li> <li>• Processors</li> <li>• Input suppliers</li> </ul>	<ul style="list-style-type: none"> <li>• Forfaiting frees up capital to be used elsewhere in the business</li> <li>• Eliminates most collection risk and costs of collection</li> </ul>	<ul style="list-style-type: none"> <li>• Forfaiting requires to sell the accounts at a discount</li> <li>• Is complex and requires the presence of specialized agencies</li> </ul>	<ul style="list-style-type: none"> <li>• Has similarities to factoring but has negotiable invoice instruments</li> <li>• Is feasible only for larger transactions</li> <li>• Not found for agriculture in region</li> </ul>
5. Securitization	<ul style="list-style-type: none"> <li>• Production – cattle fattening, perennial crops, irrigation schemes to multiple farmers</li> </ul>	<ul style="list-style-type: none"> <li>• Is successfully used in microfinance in ECA</li> <li>• Has potential to reach lower-cost capital market funding where homogenous pooling is possible</li> </ul>	<ul style="list-style-type: none"> <li>• Is costly and complex to set up</li> </ul>	<ul style="list-style-type: none"> <li>• Is potentially suitable for longer-term investments of similar tenor and cash flows</li> </ul>

cont. next page

<b>Instrument</b>	<b>Use</b>	<b>Benefits</b>	<b>Limitations</b>	<b>Application &amp; Potential</b>
6. Repurchase Agreements (Repos)	Manufacturers Processors	<ul style="list-style-type: none"> <li>• Can reduce financing costs in selected commodities with well functioning commodity exchanges</li> </ul>	<ul style="list-style-type: none"> <li>• Is complex</li> <li>• Requires commodities to be stored with accredited collateral managers</li> <li>• Requires commodity exchanges</li> </ul>	<ul style="list-style-type: none"> <li>• Is only used in ECA by Rabobank for grain and sugar</li> <li>• Appears too complex for general application</li> </ul>
7. Contract farming finance	<ul style="list-style-type: none"> <li>• Producers</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces marketing risk to producers and procurement risk to buyers, and quality risk</li> <li>• Can reduce financial costs since the strongest balance sheet in value chain can be used to secure the financing</li> </ul>	<ul style="list-style-type: none"> <li>• Is not easily adaptable to all types of production</li> <li>• Often suffers from broken contracts and side-selling</li> </ul>	<ul style="list-style-type: none"> <li>• Is used and can be expected to increase significantly in all Eastern European and Central Asian countries</li> </ul>
8. Warehouse receipts	<ul style="list-style-type: none"> <li>• Producers</li> <li>• Traders</li> <li>• Millers</li> </ul>	<ul style="list-style-type: none"> <li>• The principle is easy to follow</li> <li>• Uses inventory of durable goods and commodities as loan collateral</li> <li>• Where organization and trust are built, can also work on a less formal basis without the official WR legislation in place</li> </ul>	<ul style="list-style-type: none"> <li>• Commodity traded must be well-standardized by type, grade and quality</li> <li>• Increases costs</li> <li>• Often requires special legislation</li> </ul>	<ul style="list-style-type: none"> <li>• Is commonly used for some commodities</li> <li>• Use within ECA is more dependent upon the type of commodity than on whether country is more or less developed</li> </ul>
9. Forward contracting	<ul style="list-style-type: none"> <li>• Producers</li> <li>• Traders</li> <li>• Millers</li> <li>• Marketing companies</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used at multiple levels – producers, processors and marketing companies in financial operations to hedge risk and to use contracts as collateral for borrowing</li> <li>• Can be made, if needed, to fit specific grades, times and locations delivery locations and certain grades and not dependent upon well-established commodity exchanges</li> </ul>	<ul style="list-style-type: none"> <li>• Requires reliable market information</li> <li>• Commodity traded must be well-standardized by type, grade and quality</li> </ul>	<ul style="list-style-type: none"> <li>• Is used by larger companies and for major commodities in all countries</li> <li>• Even small-scale producers can benefit when traders and millers do forward contracting and then offer forward prices to them</li> <li>• Is expected to increase significantly when market info is made available</li> </ul>

<b>Instrument</b>	<b>Use</b>	<b>Benefits</b>	<b>Limitations</b>	<b>Application &amp; Potential</b>
10. Securitization	<ul style="list-style-type: none"> <li>• Cattle fattening,</li> <li>• Perennial crops,</li> <li>• Irrigation schemes to multiple farmers</li> </ul>	<ul style="list-style-type: none"> <li>• Is successfully used in microfinance in ECA</li> <li>• Has potential to reach lower-cost capital market funding where homogenous pooling is possible</li> </ul>	<ul style="list-style-type: none"> <li>• Is costly and complex to set up</li> </ul>	<ul style="list-style-type: none"> <li>• Is potentially suitable for longer-term investments of similar tenor and cash flows</li> </ul>
11. Futures	<ul style="list-style-type: none"> <li>• Producers</li> <li>• Traders</li> <li>• Millers</li> <li>• Marketing companies</li> </ul>	<ul style="list-style-type: none"> <li>• Used in financial operations to hedge risk</li> </ul>	<ul style="list-style-type: none"> <li>• Commodity traded must be standardized by type, grade and quality</li> <li>• Requires a well-organized over-the-counter market</li> </ul>	<ul style="list-style-type: none"> <li>• Use is growing in countries with functioning commodity exchanges</li> </ul>
12. Loan guarantees	<ul style="list-style-type: none"> <li>• Production</li> <li>• Infrastructure</li> <li>• New market exports</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces risk of finance creating more access</li> <li>• Is costly and hence often heavily subsidized</li> </ul>	<ul style="list-style-type: none"> <li>• Often used as a subsidy to agriculture</li> <li>• Can reduce lender responsibility and accountability</li> </ul>	<ul style="list-style-type: none"> <li>• Used frequently in Eastern Europe</li> </ul>

## **6.2 CONCLUSIONS: ADDRESSING DEFICIENCIES AND BUILDING FRAMEWORKS**

### **6.2.1 Opportunity for Structured Finance growth in Eastern Europe and Central Asia**

More attention is now being paid to the scope for using SF to a much greater extent, both in Eastern European and Central Asian countries and elsewhere. Promoted by the current demand levels for food and the deficiencies in agricultural financing in these countries, there is an opportunity for banks and food processing companies to work together to develop the relationships, structures and capacity to use SF instruments.

In looking at the two very broad areas of agriculture and finance, the two key drivers for change in acceptance of SF use, appear to be the rise in input costs and food prices worldwide in 2007 and 2008 requiring additional investment into the sector and the credit crunch in 2008 and 2009 which is limiting the range of activities banks can undertake.

There is a strong link between SF and the industrialization of agricultural production, with the rise of contract farming, the increasing dominance of supermarket chains and the recognition that the creation of effective value chains could considerably enhance productivity in agriculture, as it has in other areas of human economic activity. The development of these tendencies is being accelerated by the rapidly rising demand for more and better quality food products, but requires new investment and hence a greater demand for finance. Since the results of conventional farm financing have been uneven at best, there is a clear need for new models to be developed, especially for specific sectors and parts of the value chain with higher potential.

In Western countries it has been demonstrated that integrated value chains can lead to significant gains in productivity in agriculture. Case studies show that an effectively functioning value chain can improve the access to finance of various players in the chain. However, there is still a lack of general awareness in Eastern European and Central Asian countries of the importance of strong value chains and the ability of those who are a part of a chain to use it to attract finance. On the whole, strong, well-linked value chains have not been established on a large-scale in the Eastern European and Central Asian countries.

### **6.2.2 Building capacity and trust**

It was noted that SF requires specific skills and knowledge before its use, which appear to be lacking among the commercial bankers and those in the Central Banks. Banker training is needed not only in the specific SF instruments but in value chain analysis and the critical elements and relationships of agricultural value chains in order for them to move beyond traditional security and transaction-based lending to include use of instruments which can collateralize commodities, receivables and other benefits of SF. Capacity building can however build off the experience of use of SF in non-agricultural contexts. As shown by the Serbian country case study, there are many banks offering various SF products and these have experience and capacity which could be developed toward use in agriculture and agribusiness.

Well-developed value chains provide the framework under which SF can be deployed successfully. When the benefits of working in such frameworks become apparent to the farming community the process of social and cultural change will take place.

Much evidence<sup>31</sup> supports a crucial point that lack of trust between parties and contract violation is one of the main stumbling blocks to the wider use of SF, especially in less-developed countries. However, when working in an integrated or structured chain, such as with contract farming, there is far less room to deviate from agreed terms and conditions. This is critical since the application of SF requires predictable and dependable cash or commodity flows.

International commodity bankers have been developing commodity finance structures as a means of opening up profitable new markets and have managed to persuade their colleagues in credit departments that the types of security which have evolved – assignment of export receivables, risk sharing with offtakers, substitution of payment risk for balance sheet risk, etc. – are adequate replacements for traditional collateral or balance sheet analysis. However, bankers in agri-finance departments have, not generally speaking, developed structured techniques for use in agriculture and the development of comparable skills in agricultural finance has been neglected.

In many Eastern European and Central Asian countries, the lack of finance is most noticeable and most critical at the input stage. This is particularly the case in poorer countries, where financial infrastructure and FDI are poorly developed and where supplier inputs are poorly financed. Without adequate financing at this stage, the value chain can never function

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<sup>31</sup> Trzeciak-Duval, A. 2001, plus interviews conducted for this document.

effectively. However, it is one of the less complicated financial instruments to structure, if trust and compliance can be developed. Small-scale producers in particular suffer from the lack of value chain development and mutual trust with suppliers and consequent difficulties in raising finance. If POs would be strengthened they could play a key role in helping to organize them to work with the suppliers and to oblige with payment or produce delivery commitments. This, in turn, would provide suppliers with the quality of accounts receivable needed to obtain pre-financing of their input purchases and imports.

### **6.2.3 Lessons for agriculture**

In SF, the lending bank moves away from balance sheet or collateral analysis and, instead, analyzes a chain on performance risks that are shared between the producer and the offtaker. Contractual relationships play a key part in this analysis and the interaction of the exporter and offtaker is a key requirement. Due diligence is very detailed and a credit proposal for a large deal, for internal approval in the bank, can run to twenty or thirty pages.

A correlation between SF and FDI is noted but, while it is true that higher levels of FDI co-exist in higher developed countries with a greater degree of SF, the question is whether one arises out of the other or whether the same set of preconditions gives rise to both. This is worthy of further research, but a tentative conclusion may be that the conditions created by the governments in the countries with macroeconomic reform, strengthening of legal institutions, restraint from intervening as economic agents in markets, liberalization of financial markets, fair and transparent tax policies, are supportive to both FDI and SF. Once suitable conditions are attained, a virtuous circle can be created, in which successful SF leads to a willingness on the part of investors to create more FDI, which in turn make the banks more willing to move beyond heavily collateralized traditional lending into using SF instruments as strong chains are formed based on FDI.

Structured Finance has been primarily applied to export and imports in agriculture. The key characteristics of international commodity finance, as set out above, could be adapted for use in the domestic financing of agricultural production. For example, the banks would begin by financing a large food processing company, which would assume a share of the risk, but would use the funds to make prepayments to a large producer, to be delivered at harvest time. The contracts between the producer and the offtaker would be assigned to the bank, which may require extra collateral, such as the pledge of land and buildings and the pledge of produce in warehouses. The interest rate on the loan would reflect the risk, as perceived by the bank. The borrower/offtaker would imbed his or her own interest rate into the advanced funds and would be responsible for ensuring that the right inputs were made available to the producer. The offtaker would also offer technical advice during the growing period. To further comfort the banks, partial guarantee schemes from multilaterals or other agencies could be envisaged that reduce a bank's exposure.

Although SF programmes might start with short-term financing, it could quickly grow, as the banks became familiar with the structures. If producers were prepared to assign harvest for several years in the future, a framework contract could also be drawn up, similar to the ones being used in international commodity finance that could provide access to longer term financing.

### 6.3 RECOMMENDATIONS FOR GOVERNMENTS AND DEVELOPMENT AGENCIES

This paper has highlighted some of the key aspects of the use and potential for SF in agriculture. The potential benefits of some instruments are clear and development work should concentrate on specific measures designed to adapt SF techniques to the agricultural contexts typical for Eastern European and Central Asian countries. More research is needed to document the use and the costs and limitations in detail.

Private sector expertise and finance should be the prime mover for pushing this work forward. The role of donor and other multilateral agencies should be supportive and catalytic. In this light, the following recommendations are offered:

**Recommendation 1:** Within overall work on legal and institutional reform, development agencies should target specific areas for attention, on which national governments should focus in order to support and help the agricultural financing effort. A useful model is the work already done on the legal status of warehouse receipts. Future activity might focus, for example, on the status of receivable assignments.

**Recommendation 2:** Development agencies should take due note of the case studies on the use of guarantee programmes by organizations such as USAID and the IFC and should consider developing the potential for using guarantees, in conjunction with other forms of SF provided by commercial banks.

**Recommendation 3:** In view of the vital importance of modern infrastructure and equipment in the Eastern European and Central Asian countries, policy formulators and development finance institutions should pay special attention to the potential for developing SF structures to support medium and long-term lending into agriculture. Although such structures may be exclusively SF based, more likely they will embrace aspects of traditional collateral and perhaps elements of multilateral guarantees and the involvement of export credit agencies and Export-Import Banks. The subject is worthy of a separate study. The example of the African Export-Import Bank, noted previously should be considered. Such facilities could also be built into existing banks.

**Recommendation 4:** Much of the supporting agricultural infrastructure in Eastern European and Central Asian countries has been destroyed or rendered obsolete during the transition period. The re-establishment and upgrading of such infrastructure can be very valuable for the enhancement of value chains and donor and development agencies could sponsor work designed to identify opportunities for re-establishing key elements of infrastructure, which would be of direct benefit to farmers. Notable examples include rehabilitation or improvement of warehouses, grain silos and refrigeration units, often lying derelict in Eastern European and Central Asian regions.

**Recommendation 5:** A key underpinning for the wider use of SF in Eastern European and Central Asian countries is the further dissemination of knowledge, experience and good practice. In parallel with work designed to improve the overall framework for the preconditions for SF, there is a need to target the training of all the players in the agriculture value chain in the specific uses of SF. Western bankers and commodity management specialists are a crucial source of experience and knowledge for this exercise.

**Recommendation 6:** The role of specialized companies must be given due attention and support. Just as commodity management companies are crucial for success with warehouse receipt finance, factor agencies and servicing agencies are needed for other forms of SF. It is recommended that these be supported, through exchange visits and training from SF experts in these fields.

**Recommendation 7:** Structured Finance instruments can best be employed when there are well-functioning markets, adequate information and opportunities for forward contracting, hedging and futures markets. There also must be transparency and accountability within the countries and markets. International donor and technical agencies should collaborate together with each other and with the Eastern European and Central Asian governments to develop these important conditions.

## Annex 1: Glossary

**Collateral** – assets pledged by a borrower to secure a loan or other credit, and subject to seizure in the event of default (Source: [www.investorwords.com](http://www.investorwords.com)). **Collateral** is also defined as a security given by a borrower to a lender as a pledge for the repayment of a loan. Securities comprise financial securities (funded securities), accounts receivable, material assets or mortgages on real estate. They are generally estimated at the moment of the loan at their market value or at a forced sale value (Source: [www.aecm.be](http://www.aecm.be)).

**Collateral Management** - involves managing the collateral on behalf of the collateral taker (Source: Miller).

**Collateralize** – is an act where a borrower pledges an asset (or flow of assets) as recourse to the lender in the event that the borrower defaults on the initial loan. Collateralization of assets gives lenders a sufficient level of reassurance against default risk, which allows loans to be issued to individuals/companies with less than optimal credit history/debt rating (Source: [www.investopedia.com](http://www.investopedia.com)).

**Contract Farming** or outgrower schemes, are relationships in which buyers of agricultural products lend funds (either in-kind or in cash) to producers. The loan is generally tied to a purchasing agreement. It is often direct financing, but may be complemented by the involvement of a financial institution that recognizes the value of the close-knit relationship between the buyer and producers (Source: USAID). **Contract Farming** is a form of tolling arrangement, in which buyers of agricultural products, usually large food processing companies or traders, provide inputs to farmers and agree under contract to take a specific quantity of product at harvest time, at a specified price (Source: Winn).

**Escrow** – a deed that has been signed and sealed but is delivered on the condition that it will not become operative until a stated event occurs and it cannot be revoked in the meantime. Banks often hold **Escrow Accounts** which is where funds are held in a trust account until the termination of a transaction or to accumulate to pay taxes, insurance on mortgaged property, etc., (Source: Oxford Dictionary of Finance and Banking).

**Export Finance** – funds are disbursed to an exporter against assigned offtake contracts of commodities, i.e., loans to facilitate sales to a foreign country such as a commercial letter of credit (Source: FAO, 1992).

**Export Receivables Financing** – funds are disbursed to an exporter against assigned offtake contracts of commodities (Source: World Bank, 2005).

**Factoring** – involves the buying of the trade debts of a manufacturer, assuming the task of debt collection and accepting the credit risk, thus providing the manufacturer with working capital. A firm that engages in factoring is called a factor (Source: Oxford Dictionary of Finance and Banking).

**Forfaiting** – type of export financing in which a forfaiter (usually a bank or a finance company) purchases freely-negotiable instruments (such as unconditionally-guaranteed letters of credit and ‘to order’ bills of exchange) at a discount from an exporter. (Source: Business Dictionary, <http://www.businessdictionary.com>).

**Forward Contracting** – is an agreement entered between two parties to buy or sell an asset at a future date for an agreed price. It is a cash market transaction in which a seller agrees to deliver a specific cash commodity to a buyer at some point in the future (Source: [www.investorwords.com](http://www.investorwords.com)).

**Futures** (or futures contract) – is an agreement between two parties to buy or sell a specified quantity and quality of asset at a certain time in the future at a certain price agreed at the time of entering into the contract on the futures exchange. Futures contracts are a form of readily tradeable forward contracts meaning they represent a pledge to make a certain transaction at a future date (Source: [www.investorwords.com](http://www.investorwords.com)).

**Leasing** – is a contract between two parties, where the party that owns an asset (the *lessor*) lets the other party (the *lessee*) use the asset for a predetermined time in exchange of periodic payments. In leasing, legal ownership and use of an asset are separated (Gallardo 1997 – World Bank Report). A **financial lease** with a lease-purchase contract effectively allows a lessee to finance the purchase of an asset and use (lease) it in the meantime even though the ownership of the asset is only transferred to the lessee at the end of the lease term when agreed payments have been made (Source: Miller).

**Libor** – London Interbank Offered Rate is the interest rate at which banks can borrow funds, in marketable size, from other banks in the London interbank market, used as a benchmark for short-term interest rates (Source: [www.investopedia.com](http://www.investopedia.com)).

**Loan Guarantee** – is a loan insured by the government or an insurance or guarantee fund but processed through a financial intermediary, usually at lower than market interest rates. Other guarantees may involve collateral or co-signers (Source: FAO, 1992).

**Offtaker** – is a purchaser or recipient of good or commodity, often linked with higher risk export trade (Source: M. Winn/SMBC Trade Finance).

**Pre-export Financing** – funds advanced by a lending institution (such as an export-import bank or trade development bank) against confirmed orders from qualified foreign buyers to enable the exporter to make and supply ordered goods. Usually, the exporter arranges a commitment from the buyer to make the payment directly to the lender. Upon receipt of payment the lender deducts the loan amount plus interest and other charges and forwards the balance to the exporter (Source: <http://www.businessdictionary.com>).

**Pre-finance or Supplier Finance** – a form of credit in which a manufacturer or supplier allows a dealer several weeks or months to pay for goods received. The dealers in turn may provide similar credit to sub-dealers who extend credit to retailers. The final consumers of the goods used for production or consumption may then be able to purchase them on credit to be paid later in single or multiple payments. Payments are often made at harvest or time of sale of produce through discounting done by the buyer on behalf of the creditor (Source: FAO, 1992).

**Receivables-backed Finance** – relies upon contractual obligations in the value chain, using a purchaser’s legal commitments to pay for goods or services to be received under contract as a substitute for a credit assessment of the borrower. This technique is very valuable in situations where banks cannot accept the underlying creditworthiness of a potential borrower (Source: Winn).

**Repurchase Agreements (Repos)** – is an agreement between two parties whereby one party sells the other a security at a specified price with a commitment to buy the security back at a later date for another specified price (Source: [www.riskglossary.com](http://www.riskglossary.com)).

**Reserve Accounts** – is a separate amount of cash or letter of credit to service a future payment requirement such as debt service or maintenance (Source: <http://financial-dictionary.thefreedictionary.com>).

**Securitization** – the process of creating a tradable financial instrument (a security) from a non-tradable financial asset, such as a bank loan (Source: Oxford Dictionary). **Securitization** can be classified as an alternative to traditional sources of funds such as debt and equity offerings (Source: Hull, 1989).

**Special Purpose Vehicle** – is a firm or legal entity, such as a trust, which may be established to perform some specific or temporary purpose such that the originating firm or group will not have to carry any of the associated assets or liabilities on its own balance sheet (Source: Miller).

**Structured Finance** – is the process of making a loan based on a strong performance in cash flow. Rather than other assets being used as collateral for a loan, funds are advanced based on history that indicates a consistent flow of cash into the borrower’s business that will allow for the timely and orderly repayment of the loan amount (Source: Oxford Dictionary). **Structured Finance** – refers to techniques employed whenever the requirements of the originator or owner of an asset, be they concerned with funding, liquidity, risk transfer, or other need, cannot be met by an existing, off-the-shelf product or instrument. Hence, to meet this requirement, existing products and techniques must be engineered into a tailor-made product or process. Thus, structured finance is a flexible financial engineering tool (Source: Fabozzi, Yale).

**Value Chain** – is often defined as the sequence of value-adding activities, from production to consumption, through processing and commercialization. Value chains, or supply chains, in agriculture can be thought of as a “farm to fork” set of processes and flows – from the inputs to production to processing, marketing and the consumer (Source: Miller and da Silva). An **Effective Value Chain** is one with well-functioning linkages and a strong market (Source: Miller).

**Warehouse Receipts** – also known as inventory credit and warrants, provide a secure system whereby stored agricultural commodities can serve as collateral, be sold, traded or used for delivery against financial instruments including futures contracts. These receipts are documents that state the ownership of a quantity of products with specific characteristics and stored in a specific warehouse (Source: World Bank).

## **Annex 2: Structured value chain finance in Russia**

### **RHEINLAND FARM OPERATIONS IN OREL, RUSSIA**

#### **Background**

Rheinland was founded in 2003 by Mr. Eckart Hohmann, a German national, with a background in agriculture and finance. It grew out of his vision of the potential for successful agricultural development in Russia. Mr. Hohmann realized that significant increase in grain yields per hectare could be obtained through the correct use of modern techniques and materials. The approach involves the use of Western standard fertilizers and pesticides, to eliminate the need for ploughing the land (i.e. ‘non-tillage’ techniques).

#### **Rheinland cost structure**

The costs incurred by Rheinland management in setting up and running their farm may be roughly divided into fixed costs and variable costs. For the purposes of this exercise, fixed costs are defined as: a) Land acquisition and preparation costs, b) Cost of the provision of infrastructure, and c) Cost of capital equipment. For the 2 000 hectare farm, these costs were roughly €800 000<sup>32</sup>. The approximate variable cost breakdown of these are: fertilizer 30 percent, pesticides 20 percent, seeds 10 percent, labour 10 percent, fuel 15 percent, spare parts 5 percent and 10 percent in other expenses. While this breakdown is typical for Eastern European and Central Asian countries such as Russia, it should be noted that the labour component of the input cost mix rises in more developed countries and falls in less developed ones. In the EU, the labour costs are typically 25-30 percent of farm variable costs.

#### **The Rheinland malt barley agricultural value chain**

The production of malt barley in Rheinland is presented below since the malt barley value chain provides the most vivid and comprehensive example for value chain analysis. Rheinland also produces wheat and rape seed.

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<sup>32</sup> It should be noted that this particular site was chosen for development as a result of the availability of on-farm grain storage facilities. The provision of such storage is probably the greatest single factor in Rheinland’s success; if the company had needed to build the storage itself, capital cost would have been much higher.

**Table 7 Malt barley agricultural value chain summary**

Inputs	Production	Cleaning, Drying, Storage	Distribution	Offtaker Processing
Infrastructure Tractors Cleaning and Drying Equipment Labour Fertilizer Pesticides Fuel	Malt barley has a growing season from April to August. Seeding is in April in a highly mechanized farming operation. Harvesting takes place in August.  The farm manager is responsible for supervising the growth of the crop, and for providing additional inputs, as required.	The malt barley is cleaned and dried, using on-farm facilities. Grain is trucked to on-farm elevators for storage.  Rheinland's on-farm warehouses are capable of storing 6 000 tonnes of grain, which can be stored for up to one year.	Distribution by truck to 6-7 offtakers. Timing of distribution is in the hands of farm management. For some 25 percent of production, timing of release is governed by contractual arrangements with offtakers. For 75 percent of production, the farm can decide the timing of sales, enabling higher prices to be realized in winter months.	Malt barley is usually used in the beer brewing industry.  The offtakers are responsible for the processing of the crop, once they have collected it from the on-farm storage.

## USE OF STRUCTURED FINANCE IN THE RHEINLAND VALUE CHAIN

The SF techniques discussed throughout this paper are found at various points in the Rheinland value chain and some examples are discussed below.

### Contract Farming

Rheinland commits about 25-30 percent of its malt barley harvest to specific offtakers<sup>33</sup> under futures contracts. Typically, contracts are signed in February for barley to be delivered the following winter. Payment is made after delivery, following quality checks.

Rheinland is unusual in the region in having such contractual relationships. Although Rheinland has mostly Russian shareholders, the farm is run by German standards and may be regarded as a form of FDI in the agricultural sector. The incidence of contract farming has already been correlated with the incidence of FDI in the sector in Russia<sup>34</sup> and this is borne out by Rheinland's experience.

<sup>33</sup> The biggest purchasers of barley in the Russian market are Cargill, Soufflet, Bank Avantgard, In-Bev (formerly Sun Interbrew), Ochovka, and Baltika). It is significant that some 90 percent of the malt barley harvest in Russia is sold to foreign companies (even though practically all of the malt barley is processed within Russia).

<sup>34</sup> See the FAO study (2006) *Development in the European Agrifood Markets: Impact on Producers and Consumers and Perspectives*, p.6, para 18 "The worst terms and conditions offered to farmers are where FDI and restructuring have been absent, for example in the provinces of the Russian Federation, where not a single processor reported that they offered prompt payments or guaranteed prices to any of the farms that supplied them."

## **Supplier Finance**

Fertilizer and pesticide suppliers are prepared to offer deferred payment terms to Rheinland. As the inputs of these materials represent 50 percent of the farm's variable costs, the availability of supplier finance is a useful contribution to the financing of the production process. For a typical barley harvest of 2 000 tonnes for Rheinland, variable input costs of about €160 000 must be covered.

In normal times, Rheinland buys its fertilizer from Bayer, who offer deferred payment terms of six months (enough to cover the growing period), which have the working capital resources to finance the supply of fertilizers and pesticides. Rheinland acknowledges that this option is not available to many farmers; usually, Bayer sell fertilizer through local agents and, although Bayer themselves will give deferred terms to the agents, these agents are normally reluctant to pass on a credit period to the farmer.

However, at the time of writing (May 2008) the price of fertilizer has been pushed up significantly, following rises in the oil price and a large upsurge in demand in the market. Rheinland states that the price of fertilizer has tripled in the past two years, which prompts Russian manufacturers to export fertilizer, rather than make it available on domestic markets.

## **Bank finance**

Short term: Rheinland has had few problems in attracting short-term bank finance, to cover the growing season. Typically, a bank will advance a loan for a six-month period, secured against Rheinland's assets or future crop deliveries. On average, 50-60 percent of asset value, as assessed by the bank's appraisal officer, is advanced in the form of a loan. The most active banks are Sberbank, VTB, Bank Moskvii, Roselkhozbank and Moscow Industrial Bank.

The credit assessment process is very straightforward and, while the bank will usually insist on cash flow projections and historical accounts, far more weight is attached to the provision of security, the main feature of which is the potential resale value of the farm equipment. In this respect, Rheinland is very well served by the fact that it owns expensive Western equipment.

Currently, (April 2008), the Russian Government offers a series of financial incentives to food growers. Farmers are offered a subsidy for loans taken from state or private banks, which effectively reduces the rate of interest from 14 percent per annum to 8-9 percent per annum. Moreover, farming enterprises in Russia are exempt from profit tax, which is usually levied at a rate of 24 percent of a firm's annual profit.

Long term: Rheinland's managers identify lack of long-term finance as the biggest single barrier to agricultural development in Russia. Investors are few and far between – and most want a quick return on their money. Banks are still not sufficiently comfortable with the farming sector to advance long-term loans for the purchase of equipment or infrastructure. In the opinion of Rheinland, the single biggest problem caused by the collapse of communism – the absence of investment over the past fifteen years – is still not being addressed by the market.

One possible solution could involve the use of framework contracts, under which harvests for a number of years are assigned to lending banks or to offtakers. If these longer-term contracts were to be combined with the offer of a pledge of crops in storage, then sufficient security might be created to persuade banks to lend for 3-5 years to build the storage facilities which could house produce securely and also fulfil the loan security requirements.

If this solution were to be pursued then the elements of SF would begin to appear in less-developed CIS countries and could be combined to provide a security framework that the banks or investors might find acceptable. If handled skilfully, with the full involvement of the contract partners, this technique could enable a farm to access finance much more quickly than it would relying on its own development to build a credit history.

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### **WEBSITES OF INTEREST**

**DoingBusiness** [www.doingbusiness.org](http://www.doingbusiness.org)

**EBRD** [www.ebrd.com](http://www.ebrd.com)

**FAO Contract Farming Resource Centre** [www.fao.org/ag/ags/contract-farming](http://www.fao.org/ag/ags/contract-farming)

**Food Chain Centre** [www.foodchaincentre.com](http://www.foodchaincentre.com)

**IMF** [www.imf.org/external/index.htm](http://www.imf.org/external/index.htm)

**Rural Finance Learning Centre** [www.ruralfinance.org](http://www.ruralfinance.org)

**World Bank** [www.worldbank.org/wbi/sourcebook/sbhome.htm](http://www.worldbank.org/wbi/sourcebook/sbhome.htm)