

---

## WAREHOUSE RECEIPTS: facilitating credit and commodity markets

Daniele Giovannucci, Panos Varangis, Don Larson<sup>1</sup>

This is part of a series of straightforward and practical (rather than an academic) papers by leading experts and presented in a specially designed format as brief and basic teaching tools with resources for more in-depth expertise. They address topics relevant to the design, monitoring, and assessment of projects and interventions for the promotion of agricultural enterprises and markets in developing countries.

**Keywords:** *Warehouse receipts, inventory credit, commodity markets, credit, banks, guarantees, insurance, storage*

**Abstract:** *The lack of access to credit is a severe constraint for many farmers. Warehouse receipts are an important and effective tool for creating liquidity and easing access to credit. Such schemes also offer additional benefits such as smoothing the supply and prices in the market, improving grower incomes, and reducing food losses. The paper describes the steps of interaction involved in a warehouse receipt system, sets out the essential questions to be asked regarding the critical conditions for its success and illustrates the roles of the key actors in setting up and running such a system.*

### I. Key Issues and Principles

In many developing countries past government interventions in commodity markets have reduced the economic returns to private storage or removed the need for private credit. But with the opening of markets and the liberalization of trade, such instruments as warehouse receipts are becoming important in the transition to markets, serving to reduce uncertainty and enhance efficiency. For warehouse receipt systems to work well, government and industry must build a legal and institutional framework to guarantee performance and minimize transaction costs.

The warehouse receipts system, also known as inventory credits, can facilitate credit for inventory or products held in storage. These receipts, sometimes known as warrants, when backed by legal provisions that guarantee quality, provide a secure system whereby stored agricultural commodities can serve as collateral, be sold, traded or used for delivery against financial instruments including

---

<sup>1</sup> Daniele Giovannucci is Project Leader for “A Guide to Developing Agricultural Markets and Agro-enterprises” and Senior Consultant, Markets and Agribusiness Thematic Team (MATT), The World Bank. Panos Varangis is an Economist with the Development Research Group, The World Bank. Donald Larson, is an Economist, with the Development Research Group, The World Bank. This paper draws, in part, on work by Martin and Bryde '98, EBRD and has benefited greatly from the comments of Jonathan Coulter, NRI. See Resources section V for details .

---

futures contracts. These receipts are documents that state the ownership of a specific quantity of products with specific characteristics and stored in a specific warehouse.

Such a warehouse receipts system has the benefits of:

- mobilizing credit to agriculture by creating secure collateral for the farmer, processor, and trader
- smoothing market prices by facilitating sales throughout the year rather than just after harvests
- reducing risk in the agricultural markets, improving food security and credit access in rural areas
- increasing market power of small-holders by enabling them to choose at what point in the price cycle to sell their crops
- helping to upgrade the standards and transparency of the storage industry since it requires better regulation and inspection
- helping to create commodity markets which enhance competition, market information and international trade
- providing a way to gradually reduce the role of government in agricultural commercialization
- contributing to lower post harvest losses due to better storage conditions (i.e. induces farmers to store in more appropriate warehouses)
- lowering transaction costs by guaranteeing quantity and quality
- increasing quality awareness (assuring the quality deposited is the same as the quality withdrawn).

Such schemes are relatively simple and exist in two basic variations. A one-part receipt is preferred in Common Law countries (i.e. the UK, US model) whereas two-part receipts are preferred in Civil Law countries (majority of those that do not follow the English model i.e. most of Europe and Latin America). The basic difference is that full ownership documentation is provided for with either one or two documents. The cycle of interactions involved in a typical warehouse receipt scheme involving a two-part receipt contains the following steps:

1. After harvest the farmer deposits his crop in a licensed warehouse and receives a Certificate of Title (CT) and a Certificate of Pledge (CP). The warehouse will only release the crop to the owner of both documents.
2. The farmer applies to the bank for a loan and in exchange for the money issued he gives the bank the CP as security (and the CT for safekeeping so that the bank knows who is the owner of the crop)<sup>2</sup>
3. Before the loan matures (typically up to nine months), the farmer sells his crop to a processor or (or trader) by selling the CT (on consultation with the bank)
4. When the loan matures, or when he needs the crop, the processor repays the loan to the bank and in exchange receives the CP.
5. The processor, now owning both the CT (from the farmer) and the CP (from the bank) can collect the crop from the warehouse.

---

<sup>2</sup> In one variation, title is actually assigned to the lender and a separate repurchase agreement is drawn.

## II. The Basic Roadmap

While a warehouse receipts system can both reduce uncertainty and increase efficiency in agricultural markets, there are some essential questions to ask regarding the critical pre-conditions for its success.

### 1. Do agricultural prices currently fluctuate through the year?

For the option of delayed sale to be attractive, there must be a general price increase after the harvest season which will make it possible to cover the additional costs of storage. This will usually not be the case if the market is protected through governmental interventions to maintain a stable and seasonally subsidized price. Governments interested in developing efficient markets by using warehouse receipt systems must be committed to not intervening in the market in such a way as to crowd out private markets for storage. At the same time, government interventions may be well motivated, and alternative market-consistent instruments must be found.

### 2. Is market information available?

Using warehouse receipts, like farming, storage and providing credit is essentially speculative activity. Good market information, especially on prices and crop forecasting, is essential for decision-making. Forecasts, especially in many countries where grain production varies between surplus and deficit, are needed in order to anticipate radical price changes and to get a regional picture of supply and demand. Such information allows farmers to assess when is the best time to sell, financial institutions to assess the market value of the security and processors to be able to assess the value of buying the crop at a particular time and quality. Market information systems that regularly publish the prices of traded crops are essential. *Hotlink Market Information Services*

### 3. Is there an appropriate legal environment?

Warehouse receipts must be functionally equivalent to stored commodities. They must specify the quality and quantity of the goods stored. The rights, liabilities, and duties of each party to a warehouse receipt (producer, bank, warehouse, and so on) must be clearly defined. Ideally, receipts should be freely transferable by delivery and endorsement. Holders of receipts must have the right to receive stored goods or their fungible equivalent if the warehouse defaults or its business is liquidated. And the lender should be able to determine, before granting the loan, if there is a competing claim.

### 4. Is there an adequate licensing and monitoring system?

Although governments should develop a system of warehouse licensing and inspection of warehouse facilities so that they meet basic standards, both financial and physical, they are not always able to do so. Respected legal entities, such as trade associations, may be able to fulfill this role. Without such standards, warehouse receipts will not have credibility and so will not be treated as a reliable liquid asset, defeating their purpose. Through an appropriate agency, governments should also license inspectors. In most cases inspection of warehouses and stored commodities are performed by the private sector under license (usually from the Ministry of Agriculture). Local or international companies can perform quality determination, grading, and independent verification of stored commodities. There are reputable inspection companies that, for a fee, verify quality and quantities

stored. This may lend additional confidence in the system and build the necessary trust. Inspections need to ensure that warehouses are:

- a) financially viable and administratively reliable so as to be trusted by banks
- b) technically able to maintain quality standards during storage
- c) capable of storing according to grades and standards so as to create market segmentation

### **5. Are there adequate grades and quality standards?**

Quality standards and grades need to be specific enough as to give a clear description of the quality of the goods stored without needing to physically examine the goods. In addition, there needs to be a system to resolve conflicts if the quality stated in the receipt turns out to be different to the crop in storage. Although some crops can be stored ungraded, on an identity-preserved basis, the existence of appropriate quality standards and grades is necessary to allow more efficient use of storage space and the standardization of commodities stored (i.e., allow comingling) and ensure that the quality deposited is the same as that withdrawn. Thus, governments and the private sector should examine together the adequacy of existing quality standards and grades.

#### ***Hotlink To Grades And Standards***

### **6. Is there a viable storage industry?**

Returns to storing commodities should be market-determined, so that farmers and traders store in expectation of higher prices or rush goods to market when spot markets are especially tight (and prices are high). In practice, five major problems constrain the development of viable storage:

- Government intervention in market prices can reduce incentives for private storage and crowd out private participation.
- Distrust or absence of the legal and regulatory mechanisms necessary to ensure confidence in local warehouses.
- The high cost of financing can make it unattractive for farmers, traders, and speculators to store.
- Inadequate or low quality infrastructure makes warehouses unreliable in maintaining the value of a crop.
- Warehouses are often not spread throughout the grain-producing areas and so transportation costs become excessively high for distant producers.

### **7. Do warehouses offer reliable performance guarantees or insurance bonds?**

For warehouse receipts to be accepted by traders and banks there must be a performance guarantee for warehouses. This guarantee provides compensation if stored goods do not match what is specified by the receipt, either due to negligence or fraud by the warehouse. Without such guarantees farmers and traders will be reluctant to store crops and banks will be unwilling to accept receipts as collateral for financing. Performance guarantees are usually in the form of insurance bonds or letters of credit. These are sometimes supplemented with an indemnity fund, created through contributions from private warehouses, and collected as part of the fee charged to customers. Such funds reduce the cost of insurance bonds or letters of credit by spreading the risks and make guarantees accessible to smaller warehouses. This broadens the market for warehouse services and increases competition in storage.

### **8. Do banks trust the system?**

Without credibility among financial institutions, a warehouse receipts scheme is worthless since it provides no help to farmers in getting a loan. As a result, banks must be involved early in devising the

scheme to ensure that they are satisfied with the enforceability of the receipts in case of default. To accommodate such risks, most banks will only loan a percentage of the current market value of the crop stored. In countries where such schemes are well developed, it can be 80-90% of the value of the grain at harvest; where warehouse receipt schemes are less mature, it is more typically around 50-60% of that value.

## 9. The Roles of Diverse Actors

A successful warehouse receipts scheme relies on clear division of responsibility and clear co-ordination between the public and private sector.

**Role of public authorities:** public authorities need to shift their role from intervening in prices through altering supply and demand towards creating the necessary institutional framework. The key steps required of the government in this respect are:

- a) to pass and implement legislation on warehouse receipt law and the standard conditions for licensed warehouses
- b) to set up a licensing and inspection system for the licensed warehouses
- c) to set up a performance guarantee system
- d) to work with the private sector to establish viable quality standards

Such a shift in roles – from guaranteeing stable price levels to guaranteeing efficient markets – is a politically difficult move since food prices are obviously an important and sensitive issue and some farmers are used to having risks covered by the government in the form of market intervention.

**Role of farmers and processors:** consultation with farmers and processors is essential to ensure that the planned system suits their needs and constraints, and to ensure that they understand and support the new legislation. Ongoing feedback once the scheme has started is also important to help fine-tune its operation. As a result, the scheme should be planned through a bottom-up consultative process, not devised as a top-down bureaucratic proposal.

**Role of local banks:** when the scheme has been set up, the role of the local banks is critical to ensure that it is operable. This requires training bank staff and establishing clear internal procedures, including a system for weekly monitoring of prices of commodities being used as collateral. Warehouses that already have an established relationship with financial institutions are most likely to be seen as credible participants of the scheme at the outset, with acceptability widening to more warehouses once the scheme is shown to operate reliably.

**Role of international institutions:** these can greatly accelerate the establishment of warehouse receipts systems by supporting the institutional development to assist in providing technical assistance in establishing quality standards, training to warehouse operators and inspectors, advising on draft legislation, help set up performance guarantee schemes and draw on best practices in other countries.

## III. GOOD PRACTICES AND EXAMPLES

Although there has been considerable recent experience with warehouse receipts schemes in Poland, Hungary, Slovakia, and Bulgaria, the general experience of both transition and developing countries with warehouse receipt systems is limited, but provides important lessons on the impact of government intervention and conflicting signals. In India, sophisticated agricultural markets, including thriving futures markets, once flourished. More recently, however, government interventions in setting and maintaining domestic prices have displaced the economic viability of many storage schemes and limited the demand for inventory-based credit. In Mali, credit systems were established in 1997, based partly on inventory receipts, however a number of government-imposed conditions and delays helped to render the system ineffective.

Several countries in Latin America have introduced warehouse receipts. Argentina's warehouse receipts systems account for a significant portion of agricultural lending and total receipts issued now exceeds \$US 1 billion. Brazil's legislation dates back to 1903 but its systems have deteriorated because of political intervention, and bureaucratic entanglement. In some cases, however, the receipts are not widely used because of the low return to storage resulting from government policies, high real interest rates, an inadequate legal environment (collateral laws, liquidation procedures, property rights), and lack of uniform grades and standards.

#### **Experience with warehouse receipts for farmers in Ghana**

Since 1989, the NGO TechnoServe has worked closely with the Department of Co-operatives and the Agricultural Development Bank (ADB) in Ghana in encouraging small-scale farmers to form cooperatives and use warehouse receipts to store their crops for sale in the lean season. ADB provides loans against the members' grain, at 75-80% of current market price, and the grain is stored in co-operatively owned warehouses. The scheme is concentrated in the Brong-Ahafo "maize triangle" of Ghana – the major area of agricultural surplus, where annual price fluctuations are high.

From 1992 to 1996, participating farmers in this region were able to increase their profits on grain sales by an average of 94% per year, even despite the high interest rate of 42% charged on the short-term loans used. By 1997/98, more than 130 farmers groups were being assisted and for over 8 years, the loan repayments have been an impressive 100%.

Although this system still relies on NGO support, it contrasts with commercial grain storage that is still under parastatal control and not as vibrant. Some of the benefits resulting from the scheme include: increased food production; better food security for farming families previously forced to accept low prices when selling at the same time (harvest); reduced post-harvest losses and higher rural investment.

Source: TechnoServe '98 and Coulter and Shepherd '95.

## **IV. RESOURCES AND EXPERTISE**

### **Related teaching tools on this site**

Hotlink Guidelines for Effective Rural Finance Projects

---

Hotlink Commodity Exchanges: What, Why, and How  
Hotlink Understanding Grades and Standards -- and how to apply them

**Institutions and Web sites**

ACDI/VOCA Agricultural Cooperative Development International/Volunteers in Overseas  
Cooperative Assistance 202 638-4661  
<http://www.acdivoca.org/commsamp.asp--->

Association of American Warehouse Control Officials(AAWCO)  
<http://www.aawco.org/>

United States Department of Agriculture  
<http://www.fsa.usda.gov/daco/uswamain/warehouse.htm>  
US Grain Standards at [<http://www.usda.gov/gipsa/strulreg/standard/stindex.htm>]

U.S. Agency for International Development [Information Center](#)  
Ronald Reagan Building ; Washington, D.C. 20523-0016  
Telephone: 202-712-4810 FAX: 202-216-3524 [www.infousaid.gov](http://www.infousaid.gov)  
Charles Uphaus, of ENI/ED/AG

Kansas State University's Food and Feedgrain Institute  
105 Waters Hall; Kansas State University; Manhattan, KS 66506-4300  
Dr. Roe Borsdorf, Director email [reb@ksu.edu](mailto:reb@ksu.edu)

Olsztyn University of Agriculture & Technology  
Dr. Szczepan Figiel, Department of Marketing and Market Analysis

AMAGDE (Association Mexicana de Almacenes Generales de Deposito) [www.amagde.com](http://www.amagde.com)

Natural Resources Institute  
Central Avenue, Chatham Maritime, Chatham, Kent ME4 4TB  
Bernardette Oakenfull, Marketing, Finance and Enterprise  
01634-883915, fax 883706, email: [B.J.Oakenfull@gre.ac.uk](mailto:B.J.Oakenfull@gre.ac.uk)

TechnoServe [www.technoserve.org](http://www.technoserve.org)

The Bulgarian Warehouse Receipts Scheme [www.bgagro.com](http://www.bgagro.com)  
<http://www.sosland.com/worldgrain/archive/apr99/index.htm> feature article titled "Building a grain  
marketing infrastructure in Bulgaria"

**Readings**

Budd, N. 1991. "Financing Operation for Commodity Producers: A Guide to Pre-Export Financing of  
Physical Commodities in Origin Countries." International Financial Law Review (January): 24–28.

Coulter, Jonathan, and Andrew Shepherd. 1995. "Inventory Credit: An Approach to Developing Agricultural Markets." FAO Agricultural Services Bulletin 120. Food and Agriculture Organization, Rome.

Glaessner, T., G. Reid, and W. Todd. 1992. "A Framework for Reform in Developing Private Markets for Agricultural Stock Financing." World Bank, Latin America and the Caribbean Technical Department, Washington, D.C.

Lacroix, R. and P. Varangis. 1996. "Using Warehouse Receipts in Developing and Transition Economies" Finance & Development, Vol. 33, No. 3, September.

Martin, Eusebio and Peter Bryde. 1998. "Grain Receipts in Economies in Transition: An Introduction to Financing of Warehouse Receipts", European Bank for Reconstruction and Development.

Borsdorf, Roe, S. Figiel, and Charles Uphaus. 1998, "Grain Warehouse And Warehouse Receipt Evaluation Report", Unpublished document, USAID. Washington, D.C.

TechnoServe. 1998. "Financing Rural Growth: Farm Inventory Credit in Ghana". Available via <http://www.technoserve.org>

Varangis, Panos and Don Larson. 1996. "How warehouse receipts help commodity trading and financing". DEC notes Development Trends no. 21, September 1996, World Bank.