

## PRE-HARVEST FINANCING IN AGRICULTURE

Vlado Kovačević<sup>1</sup>, Zorica Vasiljević<sup>2</sup>,  
Vladimir Zakić<sup>3</sup>

### Abstract

*This paper's goal is to determine the significance of pre-harvest financing system for agricultural sector. The system of pre-harvest financing was introduced successfully for the first time in Brazil in 1994. Pre-harvest financing was implemented as a pilot project for Serbia and Ukraine, with great support of the European Bank for Reconstruction and Development (EBRD).*

*A comparative analysis of Brazilian, Serbian and Ukrainian system of pre-harvest financing was carried out in this paper. Its results show that the system of pre-harvest financing is of great significance for the agricultural production financing. The analysis shows that a basic difference among these three systems was in issuing a contract for pre-harvest financing. Therefore, the Brazilian contract has a specific standardization level and ensures the secondary trading with these contracts.*

*Key words: pre-harvest financing, agricultural credit, forwards*

## PREDŽETVENO FINANSIRANJE U POLJOPRIVREDI

Vlado Kovačević<sup>1</sup>, Zorica Vasiljević<sup>2</sup>,  
Vladimir Zakić<sup>3</sup>

### Sažetak

Cilj rada je utvrđivanje značaja predžetvenog finansiranja za poljoprivredni sektor.

Sistem predžetvenog finansiranja je prvi put uveden u Brazilu 1994. godine. Ovaj sistem je uveden kao pilot projekat u Srbiji i Ukrajini od strane Evropske banke za obnovu i razvoj (EBRD).

U ovom radu je sprovedena komparativna analiza brazilskog, ukrajinskog i srpskog sistema predžetvenog finansiranja. Rezultati su pokazali da je sistem predžetvenog finansiranja od velikog značaja za finansiranje poljoprivredne proizvodnje.

Prema rezultatima u ovom radu osnovna razlika između tri sistema je u izdavanju samog ugovora o predžetvenom finansiranju. U brazilskom sistemu ugovor je u potpunosti standardizovan što omogućuje sekjuritizaciju i sekundarno trgovanje ovim ugovorima.

*Ključne reči: predžetveno finansiranje, poljoprivredni krediti, forvardi*

<sup>1</sup> Vlado Kovačević Ph.D., Scientific Associate, Institute for Agricultural Economics Belgrade, 11000 Belgrade, Volgina Street 15, Serbia, Phone: +381 63554414, E-mail: kovacevic\_vlado@yahoo.com

<sup>2</sup> Zorica Vasiljević Ph.D., Full Professor, University of Belgrade – Faculty of Agriculture, Nemanjina Street 6, 11080 Belgrade-Zemun, Serbia, Phone: +381 641439942, E-mail: vazor@agrif.bg.ac.rs

<sup>3</sup> Vladimir Zakić, Ph.D., Associate Professor, University of Belgrade – Faculty of Agriculture, Nemanjina Street 6, 11080 Belgrade-Zemun, Serbia, Phone: +381 11 4413424, E-mail: zakic@agrif.bg.ac.rs

<sup>1</sup> Dr Vlado Kovačević, naučni saradnik, Institut za ekonomiku poljoprivrede, 11000 Beograd, Volgina 15, Telefon: +381 63554414, E-mail: kovacevic\_vlado@yahoo.com.

<sup>2</sup> Dr Zorica Vasiljević, redovni profesor, Univerzitet u Beogradu - Poljoprivredni fakultet, Nemanjina 6, 11080 Beograd-Zemun, telefon: +381 641439942, E-mail: vazor@agrif.bg.ac.rs

<sup>3</sup> Dr Vladimir Zakić, vanredni profesor, Univerzitet u Beogradu - Poljoprivredni fakultet, Nemanjina 6, 11080 Beograd-Zemun, telefon: +381 11 4413424, E-mail: zakic@agrif.bg.ac.rs

# 1 Introduction

Instruments of pre-harvest financing are based on a future product, which is still in the field, i.e. in the process of production, as collateral for short-term loan. The instruments of pre-harvest financing are a form of forward contracts. Contracts by which the agricultural production is financed in exchange for later delivery of agricultural products, or for monetary payment, are called forward contracts and they have been present in the practice of European and other countries for more than a hundred years.

The aim of establishing pre-harvest financing instruments is to eliminate the imperfections of classic forward contracts. The classic forward contracts have a form of bilateral contracts between the agricultural production financiers, who provide financial resources or inputs for agricultural production, and farmers who are obliged, based on the received resources, to deliver a certain quantity of agricultural product in the future, when this agricultural product is going to be harvested/picked.

As delivery of forward contract is in the future, there is a possibility that one of the traders will not fulfil contractual obligations, especially in the cases of significant price changes. This is the situation when one of the traders can sell/purchase their product at a more favourable conditions compared to pre-specified price in forward contract. Second imperfection of the classical forward contracts is the absence of a central register so future crops on the same parcel can be pledged for several times. Third, in case of default of obligations, both parties in the contract solve their dispute in regular judicial procedures. The entire above-mentioned items make the forward contract highly risky in case of default of contract obligations, so personal acquaintance between the forward contract parties is preferable.

Basic elements of additional legal regulations of the pre-harvest financing instruments are the following:

1. The Central register of pre-harvest instruments by the government which eliminates the risk that future crop from the same parcel is going to be sold or pledged more than once;
2. Easier procedure of claims enforcement in case when the agricultural producer is late with servicing his liabilities;
3. Other sanction elements in case agricultural producers are being late to meet their commitments (for example, agricultural producers cannot use the governmental subsidies, lease state land, etc.).

There are two types of pre-harvest instruments: the tradable pre-harvest instruments and the financial pre-harvest instruments.

**The tradable pre-harvest instruments** with obligation to deliver certain quantity of goods were introduced first in Brazil in 1994. After the issuance and sales of such a document, a producer obtains financing in exchange for the liability to supply goods at a previously agreed place and time. In tradable instruments, the general quantity and quality of goods, and place and date of delivery are clearly defined.

**The financial pre-harvest instruments** were introduced first in Brazil in 2001 in order to attract investors who were not comfortable dealing with agrarian products. For instance, if an enterprise is involved in the supply of fertilizers or means of production and is not specialized in the sales of agricultural products, then it has the right to conclude an additional agreement with traders or with agri-export companies in order to sell its agricultural products. Financial instruments were also available to investment funds that did not want to deal with agricultural products. The essence of financial instruments is that a producer is obliged to repay the funds in a given period of time. Such pre-harvest instruments envision either the current price of products or the price of products as of the date of settlement by the CPR - ***Cedula de Produto Rural*** (FAO, 2011).

The description of Brazilian, Serbian and Ukrainian system of pre-harvest financing will be given in the following part of the text.

#### **BRAZILIAN SYSTEM**

As a large agricultural nation in the world, Brazil has quite a bit to offer in "credit technology" when it comes down to the rural segment.

Pre-harvest financing in Brazil is structured on the basis of the Law 8929 on 'Note of Agricultural Product' of 22nd August 1994, which provides for the so-called Certificate (or Note) of Agricultural Product (***Cedula de Produto Rural***). The Law 10,200 of 14 February 2001 introduced the Financial CPR.

Farmers, producers, farmers' cooperatives, etc., can be issuers of CPR. This instrument is issued in order to obtain financing for the production, or is used as collateral to avoid the risk of price fluctuation for the upcoming production. CPRs have been used primarily for coffee (covering about 3% of Brazil's production), but also for cotton, rice, livestock, wheat, maize, millet, soybeans and orange juice.

CPR is a document (promissory note, bond), whereby the farmer (debtor) promises to deliver a defined quantity and quality of agricultural products (the so-called 'physical' CPR) or a financial sum (the so-called 'financial' CPR) at a given time (Ministry of agriculture, livestock and food supply of Brazil, 2010).

CPR is as a bond endorsable to third parties. The CPR is most often secured by a security right created over the products or a mortgage over the farming land, or other existing security right. The CPR can also be guaranteed by a bank, to further decrease risks for the financier/bondholder.

But the real enforcement power of the CPR holder comes from security right – in particular the agricultural pledge. Upon default, the pledgeholder has the right to initiate a private sale of the pledged assets, provided that the private sale was expressly agreed with the pledgor in the Pledge Agreement, or that the pledgor agrees to it at the time of enforcement.

#### **SERBIAN SYSTEM**

On 25th November 2014, the Serbian Parliament adopted a new law on financing agricultural production in Serbia. The law, promoted by the Ministry of Agriculture, will help farmers access finance in a pre-harvest period. The European Bank for Reconstruction and Development (EBRD), together with the FAO's Investment Centre, provided technical support to the Serbian government during the drafting of the law and the two institutions are now involved in supporting its implementation.

The law on financing and provision of financing agricultural production ("Official Gazette of RS", no. 128/14 – hereinafter: Law), establishes a new system of financing agriculture in the Republic of Serbia, which will enable farmers to ensure the financial resources for their production in the pre-harvest production process under very favourable conditions. The law has been enforced since 1st June 2015.

The basic concept of the law founded on the Brazilian law on financing agriculture from 1994, by the introduction of so-called "Note of Agricultural Product (CPR – Cédula de Produto Rural)". This financing in Serbia has to be carried out according to the law on financing.

The Agency for Business Registers is the central register for this kind of contracts. As in the case of the Brazilian and Ukrainian systems, the central register of these contracts makes it impossible to repeatedly use future crops from the same parcel. The electronic register of contracts

for pre-harvest financing was introduced in 2015, with the great support of EBRD, and it is publicly available.

As an additional element of debtor's increased responsibility, a legal provision was introduced. A farmer (if he/she does not execute the obligation assumed under the financing agreement) moves to a passive status in the register of agricultural holdings in the Republic of Serbia, which prevents them from using subsidies meant for agricultural producers in the specific period, and other support programs by the government.

As in the Brazilian system, should the proceeds generated by the sale of crops be insufficient to cover the amount due under the CPR which was secured by an agricultural pledge, the pledge will automatically encumber next year's crops produced from the same property by law.

In 2015, 11 contracts were registered, in 2016 four contracts and in 2017 six contracts (Agency for Business Registers, Annual report for 2015, 2016 and 2017).

#### **UKRAINIAN SYSTEM**

In cooperation with Ukraine's Ministry of Agrarian Policy and Food, the European Bank for Reconstruction and Development (EBRD) and FAO, the system of pre-harvest financing is established only as a pilot project limited to the country's Poltava Region. This region has issued the first "crop receipts" – a mechanism that enables farmers to use their future harvest – crops, vegetables, even fish – as collateral for financing from banks, suppliers, traders and processors.

In order to get the system off the ground FAO, EBRD, Ukraine's Ministry of Agrarian Policy and Food, the International Finance Corporation, DANIDA, USAID, the Agrarian Markets Development Institute, private sector companies and other partners worked hard to build the necessary infrastructure. The pre-harvest financing instruments were introduced into Ukraine's legislation in 2011, and in 2013 a law on agrarian receipts was passed (FAO, 2015).

As in the Serbian system, the continental legislative framework was applied, so the pre-harvest instrument is in the form of contract.

In Ukraine CPRs are secured by pledge of future crops from a particular land plot, and creditors receive a priority for enforcement. CPRs are registered by notaries, making CPRs public and potential for out-of-court enforcement.

Creditors have a right to monitor the processes of future crops growing and interrupt possible breaches of such procedures by debtors.

According to FAO data, Ukraine has 29 CPR's issued, all closed without any disputes (until the end of 2015). The total amount of farmer's obligations under CPRs was 82.5 million UAH.

## 2 Comparative analysis of Brazilian, Serbian and Ukrainian pre-harvest systems

In Table 1, a comparative analysis of three systems was performed in accordance with the basic elements of pre-harvest financing instruments.

	Brazilian pre-harvest system	Ukrainian pre-harvest system	Serbian pre-harvest system
Legal status	Promissory note	Contract	Contract
Defined elements of contract	Yes	Yes	Yes
Eligible agricultural products	All	All	Only plant products
Unique central register of contracts	Yes	Yes	Yes
Special mechanisms of enforcement	Yes	Yes	Yes
Crop insurance	Optional	Optional	Optional
Possibility for secondary trade	Yes	Yes	Only with both parties approval
Additional mechanisms for increasing the security of contracts realization	Yes	Yes	Yes
Tax incentives	Yes	No	No
Central bank special regime for loans against pre-harvest instruments	Yes	No	No

*Source: Authors*

**Table 1: Comparative analysis of contracts on pre-harvest financing in Brazil, Serbia and Ukraine**

**Tabela 1: Komparativna analiza ugovora za predžetveno finansiranje u Brazilu, Srbiji i Ukrajini**

The key difference among these three systems is in institution responsible for keeping the CPR's central registry.

As it is noticeable, the standardization of the Brazilian CPR provides the secondary trading and securitization of CPR, while in Serbia and Ukraine there is no standardization of the pre-harvest financing contract and the elements of contracts (as quality). Furthermore, a form of contract by itself in the Serbian and Ukrainian systems hinders trading, while the Brazilian CPR in the form of securities greatly alleviates and simplifies trading with this instrument.

Tax incentives exist only in Brazil. Brazil CPRs' trading is granted an Income Tax exemption over their earnings in the case of individuals, along with a Financial Transactions' Tax across the board zero tax rate. Reliefs from taxation in the Ukrainian and Serbian systems are not introduced.

Central bank special regime for loans against pre-harvest instruments is of special importance for the development of pre-harvest financing system. Every central bank determines the credit rating concerning their risk. Two effects are achieved by providing better rating to the credits which have future product as collateral. Firstly, a "cheaper" credit, since a bank is obliged to put a smaller deposit to the central bank in case of better rating. The second effect is that the central bank, by its better rating, sends a positive signal that the instruments of pre-harvest financing are safe collateral. A good rating for the instruments of pre-harvest financing in Brazil was established while in Ukraine and Serbia they have the same status as the classic forward contracts, which is understandable since they have been recently introduced in practice, and the central bank needed time to estimate the crediting risk associated with these instruments.

### Discussion 3

According to the results of comparative analysis, all three systems of pre-harvest financing have established the basic elements: central register of contracts, extra-judicial enforcement procedure in case of contracts obligations default and additional mechanisms for sanctioning careless debtors (criminal liability, impossibility to use the state subsidies in agriculture in future period, etc.).

We can conclude that the basic differences between the most successful Brazilian system and the other two are: the possibility of secondary trading with pre-harvest instruments, the existence of reliefs from taxation and a special credit rating.

The most important element of the Brazilian system is the possibility of trading with pre-harvest instruments. This possibility stems from the registration mode of pre-harvest instruments, where a certain level of standardization is built in. This system produces effect on pre-harvest financing, or so-called securitization. The liquidity of contracts for pre-harvest financing makes this instrument more attractive for financiers, who have the possibility of faster turnover, i.e. they can resell the instrument, unlike in the two other systems.



The other two important elements for the development of the Brazilian system are the adequate credit rating of this type of credit, and reliefs from taxation, which should be considered in future development of Serbian, Ukrainian and other European systems of pre-harvest financing.

## 4 Conclusions

The chronic shortage of resources in the phase of agricultural production financing is one of the most common limiting factors for the achievement of better production results. In order to solve this problem, Brazil, Ukraine and Serbia have introduced systems of pre-harvest financing. The establishment of a pre-harvest system is significant for the improvement of financing segment in the agricultural sector. Instruments of pre-harvest financing represent a form of forward contracts, which have been in use for centuries in the European Union and worldwide. The difference between classic forward contracts and instruments of pre-harvest financing are additional mechanisms of safety improvement which ensure that both parties will meet their commitments. By means of the mechanisms which increase safety of contract execution, the system of pre-harvest financing affects the reduction of financing risk and it is expected that it will affect the increase of crediting volume and the reduction of interests in this type of agricultural credits.

Scientific publications in the field of pre-harvest financing are scarce and limited to local experiences of Brazil, without significant references to the possibility of an international application of this model. Based on relevant Brazilian references (Ribeiro, Argemiro et al, Cássio) there is a generally accepted conclusion that in last 25 years, new credit instrument is proved as a reliable financing vehicle for Brazilian farmers. This instrument made possibility to obtain higher financing resources by farmers in Brazil, reducing their dependence on government support.

We can conclude that it would be of great significance for the development of pre-harvest financing and enlargement of this system in the European and other countries, besides the establishment of elements which ensure these instruments' liquidity, to assign an adequate rating to this type of credit, as well as taxation and other reliefs which could stimulate financiers and farmers to use these types of financing instruments on a large scale. If the question is asked why the Brazilian system of pre-harvest financing is so successful, answer is



in high standardization of CPR i.e. unique CPR form, methodology for yield estimation and commodity quality. CPR's standardization has provided the possibility for secondary trading and securitization of CPR package, which was very significant for attracting CPR financiers. A recommendation for future European users of pre-harvest financing systems is to increase the standardization level of pre-harvest financing instruments.

The first comparative analysis of the current pre-harvest financing systems was carried out in this paper, with the aim of building a high quality system of pre-harvest financing in Europe and worldwide. Further analysis of pre-harvest financing would be of great significance.

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