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The challenges of sugar market: an assessment from the price volatility perspective and its implications for Romania

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Abstract

Recently, the concerns regarding food and energy security, the threats brought by the global warming phenomenon, combined with the challenges that the commodity markets have faced since the beginning of the new millennium, have placed agricultural markets in the center of attention in both academic and policy spheres. In this revitalized awareness, a particular and fundamental role is played by sugar. The sugar market is far from being a peaceful and conventional one, bringing more challenges and unrest on its own. An unusual mixture of free and protected markets, special trade agreements and outstandingly volatile prices differentiate the trade of this product from other agricultural commodities. Historically, sugar has been one of the most volatile agricultural commodities, constituting a real challenge both for market participants and for policymakers to deal with its instability. In addition, with regard to domestic markets, sugar prices can differ substantially from country to country, generally registering higher levels than the world sugar prices. The Romanian economy manifests an increased responsiveness to external shocks, as a consequence of the processes it is traversing in the recent decades. The sugar market is consequently affected by the external instability while also facing other internal problems and challenges. The purpose of this paper is to analyze the particularities of the sugar market and their implications, by describing, modeling and analyzing the recent sugar price volatility on the Romanian market in comparison to the international one. After establishing the corresponding econometric models the paper compares the estimated conditional variance on the two markets, emphasizing the situation of the Romanian market and commenting on its implications.

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Keywords: **price volatility; agricultural commodity markets; Romanian market; conditional variance; sugar market.**

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1. Introduction

Lately, the concerns regarding food and energy security at the global lever, combined with the threats brought by the global warming phenomenon through the alteration of the traditional weather patterns, have made agriculture once more a strategically significant sector worldwide and they placed it in the center of attention in both academic and policy spheres. Furthermore, the challenges that the commodity markets have faced since the beginning of the new millennium – the extensive and puzzling price boom from 2002 and until 2008, the further intensive and sudden collapse attributed to the installation of the global economic crisis, and the subsequent price swings in the context of the troubled global economic environment – augmented the concerns and opened new perspectives of analysis.

In this revitalized awareness regarding the agricultural commodities, a particular and fundamental role is played by sugar. However, the sugar market is far from being a peaceful and conventional one, bringing more challenges and unrest on its own. An unusual mixture of free and protected markets, special trade agreements and outstandingly volatile prices differentiate the trade of this product from other agricultural commodities. Historically, sugar has been one of the most volatile agricultural commodities, constituting a real challenge both for market participants and for policymakers to deal with its instability. Price peaks similar to the ones registered in the recent years troubled the sugar market also in 1970s and 1980s. In addition, with regard to domestic markets, sugar prices can vary tremendously from country to country, generally registering higher levels than the world sugar prices.

Due to its importance and unrest, the sugar sector is one that seems to require protection. Consequently, governmental interventions are a common practice. In the United States of America there have been established quotas and import tariffs on sugar imports, while in the European Union sugar market is under the Common Agricultural Policy (CAP) regulation. As the turbulences of the recent years have increased the world price instability, the European markets responded extensively to these shocks, as currently they are not as isolated from international price movements as they were in the past under more restrictive policy regimes. That is why European policymakers are paying an increased attention to price volatility. Due to its notorious instability, the moderation of price volatility on the sugar market, while preserving reasonable prices for both producers and consumers without creating supplementary pressures on the CAP budget, is not an objective easily to achieve.

Like other Central and Eastern European countries, the Romanian economy manifests an increased responsiveness to external shocks, as a consequence of the processes it is traversing in the recent decades – the post-communist transformations, market externalizations, globalization and European Union integration. The sugar market is consequently affected by external instability while also facing other internal problems and challenges. The purpose of this paper is to analyze the particularities of the sugar market and its implications, by describing, modeling and analyzing the recent sugar price volatility on the Romanian market in comparison to the international one.

The remainder of the paper is structured as follows. The second section presents an overview of the particularities of the sugar market and its recent developments. The third section offers a literature review of the main factors influencing sugar prices and the key determinants of their recent volatility. Further, the fourth section offers an empirical assessment of sugar price volatility both on the international and Romanian market, using the GARCH models to express the conditional variance. Consequently, this section offers a methodology description with an accent on the GARCH models and an empirical illustration in which the econometric models are applied for the analysis of the sugar price series on the Romanian market and at international level. Some conclusions and implications finalize the paper in the last section.