

Analysis of the PRICE TRANSMISSION IN THE SUGAR SECTOR

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Introduction

Introduction

Object of the presentation: price transmission in the EU sugar sector.

1. **Vertical Price Transmission:** between different levels of the supply chain
2. **Horizontal Price Transmission:** between different geographical markets

Reference period: 2006 reform of the sugar regime → present

(an empirical analysis made for the “Study on price transmission in the sugar sector” spans till late 2011)

Reference geographical markets: EU and international sugar markets

Sources:

1. *“Study on price transmission in the sugar sector”* (TENDER N° AGRI-2011-EVAL-03), funded by DG AGRI, published in October 2012.
2. **Areté’s expertise**, stemming from over 10 years of forecasting activities (prices, supply & demand, etc.) in a range of agricultural markets

Study methodology

Study methodology

Main steps

- **Review of the relevant literature** on price transmission
- **Theoretical analysis of the different types of price transmission** (vertical, horizontal, indirect horizontal)
- **Preliminary theoretical assessment of the price transmission in the sugar sector**
- **Empirical assessment of price transmission in the sugar sector**
 - **Preliminary investigations** (qualitative analysis of the dynamics of the relevant variables)
 - **Econometric tests**
 - **Vector Autoregression Model (VAR)**: all variables are treated symmetrically by including for each variable an equation explaining its evolution based on its own lags and the lags of all the other variables in the model
 - **Vector Error Correction Model (VECM)**: extension of VAR model allowing the distinction between short run and long run dynamics; it can be used if the involved variables are cointegrated

Vertical Price Transmission (VPT)

Theoretical assessment (2006 and 2016/17 reforms)

1. **Reduction of price support** (between 2006/07 and 2009/10) and **termination of intervention** (from 2010/11 onwards) removed existing constraints to price variation within the EU, thus promoting **more favourable conditions for the functioning of price transmission**
2. **Improvement of market access for sugar imports** (EBA/EPAs) promoted **stronger integration between the EU domestic markets and the international market, fostering the process of convergence** between the respective prices.
3. **Termination of the quota regime** (from 2017/18 onwards) removed quantitative limitations to marketing of sugar on the EU market.
4. The reform(s) put additional emphasis on pursuing scale economies via external growth and rationalisation of production capacity → **expected effects on concentration and competition in the sugar sector** → **possible influence on price transmission along the sugar supply chain.**

Empirical assessment*

Effects of reduction of institutional prices

1. Reduction of **sugar intervention price** did not fully translate in a decrease of **sugar ex-works prices** in the EU
2. Reduction of **sugar beet minimum price** did not fully translate in a decrease of **sugar beet prices paid to farmers** (*caution: no empirical assessment*)
3. Dynamics of sugar retail prices appear not to be influenced by policy changes

**Made in the context of 2012 study on «Price transmission in the sugar sector»*

Empirical assessment*

Empirical assessment of VPT from ex-works to retail price

- a. The **2006 reform surely contributed** (possibly in combination with other factors) **to modify VPT in the EU**, especially in the situations where ex-works price is increasing
- b. Adverse influence of the reform on VPT (transmission ceases after the reform) represents an exception in both situations (increasing and decreasing ex-works price)
- c. In France, Germany, Poland: speed of PT always increased after the reform
- d. **Asymmetry towards price increases clearly prevails**

**Made in the context of 2012 study on «Price transmission in the sugar sector»*

Empirical assessment*

Empirical assessment of VPT from retail to ex-works price

- a. VPT detected in **fewer cases** than in the opposite direction; detected more often in **situations where retail price is increasing**
- b. Results of empirical assessment too varied to allow identification of clear trends
- c. Again, **asymmetry towards price increases clearly prevails**

**Made in the context of 2012 study on «Price transmission in the sugar sector»*

VPT: conclusion

Reduction of institutional prices did not fully translate in a decrease of ex-works sugar prices and of sugar beet prices paid to farmers

Results of empirical assessment show that:

- **VPT from ex-works to retail price has clear asymmetry towards price increases**
- **VPT from retail to ex-works price is less frequent, but has again clear asymmetry towards price increases**

Despite some significant steps made in this direction, the **EU sugar market after the reform is still quite far from having achieved complete efficiency** *(in an 'efficient' market any change in the institutional price of sugar would be reflected in a corresponding change in the retail price of sugar)*

Horizontal Price Transmission

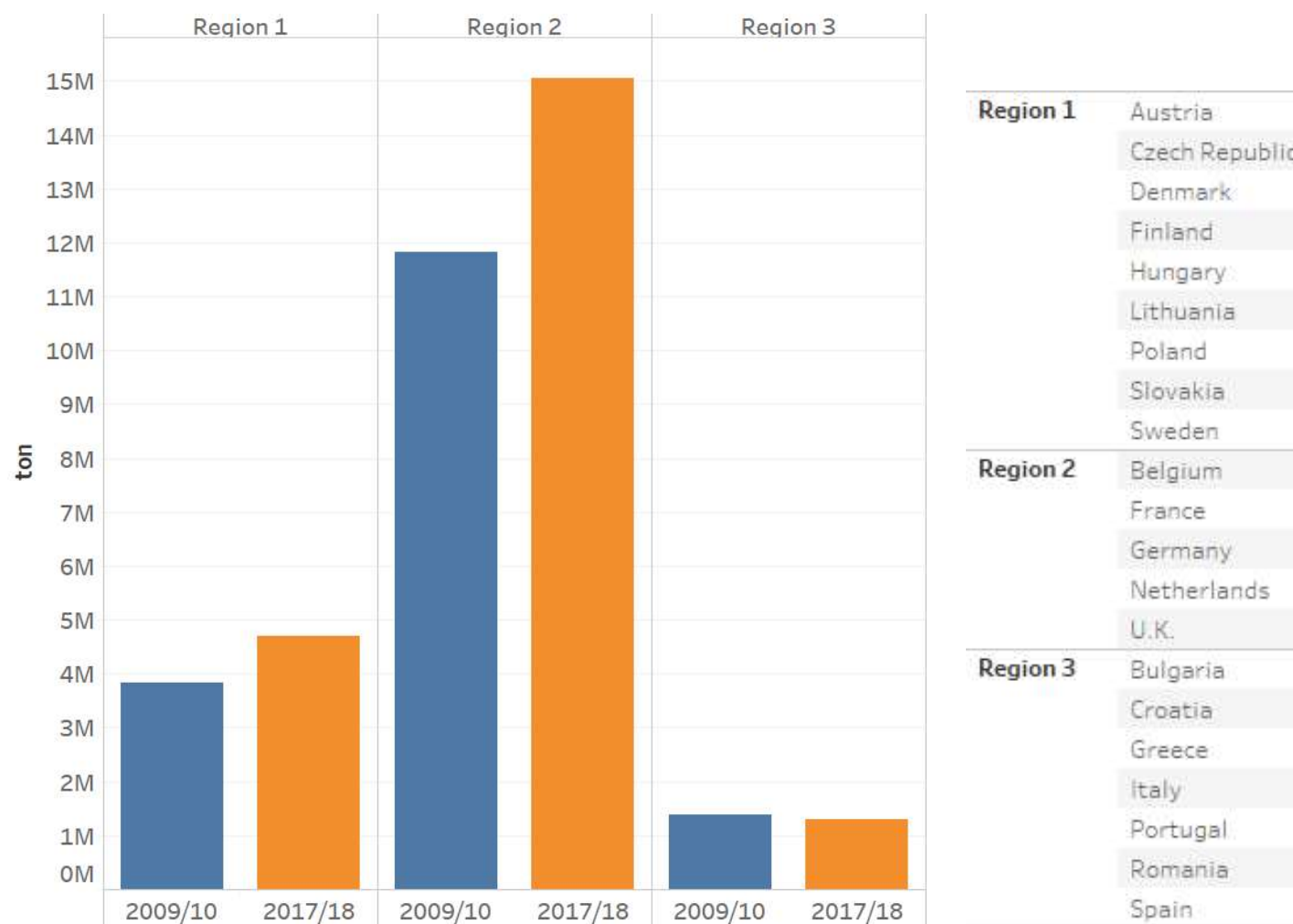
Theoretical assessment (2006 reform)

1. **Reduction of price support** (between 2006/07 and 2009/10) and **termination of intervention** (from 2010/11 onwards) removed existing constraints to price variation within the EU, thus promoting **more favourable conditions for the functioning of price transmission**
2. **Improvement of market access for sugar imports** (EBA/EPAs) promoted **stronger integration between the EU domestic markets and the international market, fostering the process of convergence** between the respective prices.

Theoretical assessment (2016/17 reform)

1. **Termination of the quota regime promotes competition among EU sugar producers and boosts production** in the areas benefitting from **more favorable conditions** → the EU has become again a **net exporter of sugar**, and this promotes the **integration between the EU market and the international market**.
2. By contrast, sugar import tariffs hamper the **integration between the EU market and the international market**, especially when the EU is a net importer of sugar.
3. Recourse to **private storage hampers HPT**, but this solution is not applied in case the EU is a structural net exporter of sugar.

The actual impact of the 2016/17 reform: evolution of the EU sugar production



The actual impact of the 2016/17 reform: evolution of the EU sugar supply balance

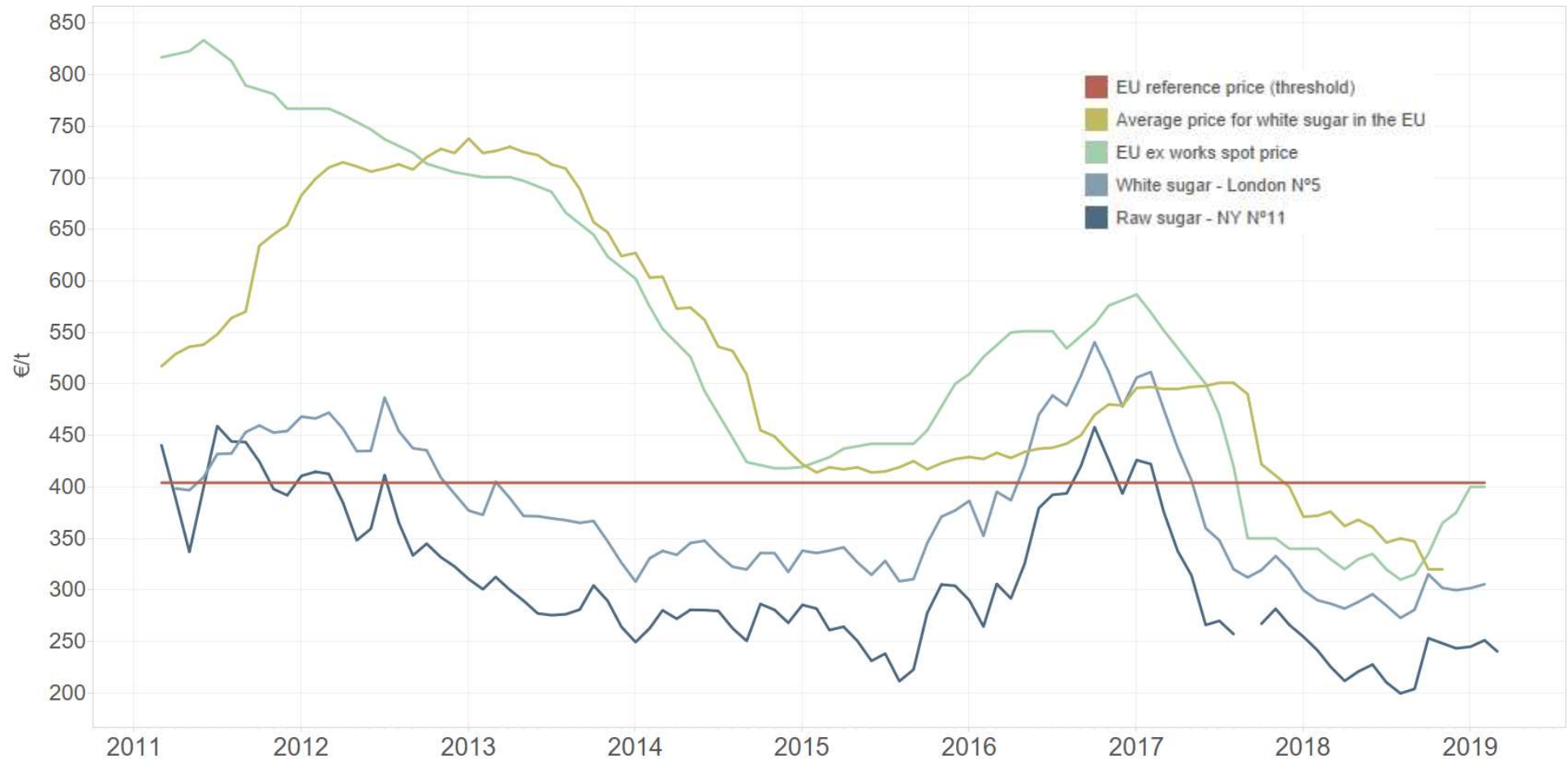
EU sugar balance

	2014/15		2015/16		2016/17		2017/18	2018/19
	Quota	Out of Quota	Quota	Out of Quota	Quota	Out of Quota		
Beginning stocks (1,000 t)	2,013		1,331		1,001		2,174	2,423
Production (1,000 t)	14,234	6,603	14,237	4,169	14,214	4,338	21,345	18,197
Import (1,000 t)	3,381	4	3,460	34	3,019	7	1,844	1,857
Consumption (1,000 t)	16,754	2,608	16,519	1,946	15,921	1,582	18,040	17,670
Export (1,000 t)	1,543	1,301	1,507	1,330	1,576	1,296	4,900	3,348
Net Imports (1,000 t)	1,838		1,953		1,443		-3,056	-1,491
Ending stocks (1,000 t)	1,331	2,698	1,001	927	737	1,467	2,423	1,459
End.Stocks/Disappearances	7.27%		5.55%		4.21%		10.56%	6.94%

Source: EU Commission

The EU has shifted from net importer to net exporter status

The actual impact of the 2016/17 reform : recent price dynamics in the sugar market



The EU has become a net exporter; the EU price is correlated to the world price (correlation world price / EU price = 0,88 over the last 4 years, = 0,95 over the last 2 years); the price basis is positive but very limited (a few dozens Euros)

The actual impact of the 2016/17 reform : recent price dynamics in the sugar market



Low EU sugar production in the 2018/19 campaign => EU production and consumption should be roughly in balance => no price correlation over the last months: flat world price vs. rising EU spot price

Assessment of impacts of CAP reforms on horizontal price transmission in the sugar sector (*2012 study*)

HPT between the international sugar market and EU domestic markets

Before the Reform

Process of **convergence between ex-works price and LIFFE price** already under way before the reform **in various MS** (e.g. France, Germany and United Kingdom)

After the Reform

- **Acceleration of the process of convergence after the reform** (when it also became more widespread) and **already before October 2009** (full implementation of EBA and ACP/EPA transition)
- **Also transmission can be detected in some cases**

*Reduction of price support and promotion of reduction of production quotas have **helped the process of convergence** by removing important constraints to variation of EU domestic prices*

Assessment of impacts of CAP reforms on horizontal price transmission in the sugar sector (*2012 study*)

HPT between domestic markets within the EU

Policy changes pertaining to the “domestic dimension” of the reform did not alter significantly the existing HPT relations

Due to the impossibility of econometric testing, **changes in HPT relations after full implementation of EBA and transition ACP/EPA might be better explained by:**

- **Increased weight of imports in the domestic supply of some MS**, due to reduction of national production (promoted by the 2006 reform) and improved access to the EU market (often combined with increased geographical diversification of sources)
- **Structural evolution of the EU sugar sector in the post-reform period** (M&A, formation/termination of marketing alliances)

Assessment of impacts of trade reforms on horizontal price transmission in the sugar sector (2012 study)

HPT between the international sugar market and EU domestic markets

- **Trade liberalization reforms since WTO formation have clearly promoted the start of a process of convergence between EU domestic prices and international sugar price**
- **Full implementation of EBA + ACP/EPA transition promoted the acceleration of the convergence process already under way before the reform** (yet “domestic dimension” of the reform played a role in getting the convergence process started and helped to create the conditions for improved access to imported sugar and stronger integration between domestic and international sugar markets)

Caution: available datasets did not allow econometric testing of HPT relations in the Nov 2009 / Dec 2011 period → the above conclusion can only be derived from conclusions on the role of the “domestic side” of the reform

Assessment of impacts of trade reforms on horizontal price transmission in the sugar sector *(2012 study)*

HPT between domestic markets within the EU

Improved access to the EU market for sugar imports from LDCs and non-LDC ACP countries plausibly combined with the “domestic” side of the reform (and with subsequent restructuring of the EU sugar sector) in **altering the pre-reform HPT relations between adjacent geographical markets**

Caution: available datasets did not allow econometric testing of HPT relations in the Nov 2009 / Dec 2011 period → the above conclusion can only be derived from conclusions on the role of the “domestic side” of the reform

Assessment of impacts of 2016/17 reforms on horizontal price transmission in the sugar sector (2019)

HPT between the international sugar market and EU domestic markets

- The elimination of production quotas forced some countries to increase production thus transforming the EU in a net exporter, favoring price converging (correlation: 0,86)
- When the EU doesn't export, the price converges to the import price, reducing the correlation with world prices (-0,67)

Conclusions on the effects of CAP reforms on HPT (2012 Study)

CAP reforms in the sugar sector (i.e. the “domestic side” of the 2006 reform):

- **have played an important role in promoting convergence between EU domestic prices and international prices;**
- **have not altered significantly existing pre-reform HPT relations between neighbouring Member States within the EU.**

However, differently from the cereal sector:

- ***convergence process is still not fully consolidated in the sugar sector***
- ***transition from convergence to HPT proper between EU domestic markets and the international market has not occurred yet***

Conclusions on the effects of trade reforms on HPT (2012 study)

Trade liberalization reforms have accelerated the pace of **convergence** processes in the **sugar** sector

*However, **convergence between EU domestic price and international price still prevails** over horizontal price transmission proper*

After such reforms, **increased sugar imports** due to improved market access (together with restructuring of the EU sugar sector) have **contributed to alter existing pre-reform price transmission relations** between Member States **within the EU**

Conclusions on the effects of quota reforms on HPT (2019)

The elimination of production quotas favors the HPT, but its not sufficient to cause the perfect convergence between EU and international prices.

This convergence, as a matter of fact, it very strong in the case of an exporting EU and tends to weaken, even in a relevant way, in the case of a balanced EU market.

Conclusions

General conclusions on the effects of the reform on price transmission in the sugar sector*

1. The reform has **contributed to improve the conditions for the functioning of price transmission** (and especially of HPT between EU domestic markets and the international market), by **removing some remarkable constraints to free variation of domestic sugar prices** →
Start of a process which might lead (in combination with other non-policy developments) to **improved price transmission in the EU sugar sector**
2. Despite **significant progress** made since the reform, the **expected effects of policy changes on vertical and horizontal price transmission in the sugar sector have occurred only in part**
The relevant processes need time to produce their effects (example: cereal sector)
3. Changes in the EU sugar regime are **probably not sufficient to promote full price transmission along the entire sugar supply chain** (i.e. down to the final consumption stage) **without the contribution of changes in other policies and of favourable non-policy developments.**
The EU sugar regime has no direct influence on the state of competition in the downstream levels of the supply chain (food industry, distribution)

**Also emerging from the 2012 study on «Price transmission in the sugar sector»*

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