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# The wheat export ban in Serbia. Are export restrictions an effective instrument to dampen food price inflation?

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Many countries restricted their exports to world agricultural markets during the most recent price peaks in order to insulate their domestic agricultural prices from price developments in international markets. Their ultimate aim was countering the rise in food price inflation and protecting consumers from high food expenses. This Policy Brief reviews the repeated export bans on wheat in Serbia and their impacts on domestic price developments for wheat, flour and bread and attempts to clarify whether end consumers or players along the added-value chain actually profited from political market interventions.

Nine countries around the world restricted their wheat exports between 2008 and 2010 which affected 14 per cent in world wheat trade.[1] Besides large-scale exporters, such as Argentine, Kazakhstan, Russia and Ukraine whose global importance is on the increase, also Serbia restricted its wheat exports by export bans in 2007/08 and 2011. Serbia, an EU accession candidate, is a small wheat-exporting country in Southeastern Europe which mainly supplies regional wheat markets in its neighbouring countries. Export bans, export taxation and export quotas are instruments aimed at reducing exports in order to increase supply in the domestic market and finally bring down domestic wheat prices. However, for a falling producer price for wheat to decrease end-consumer bread prices, the price change must be transmitted across the entire food supply chain through all intermediate stages (milling industry, bakery sector, supermarkets) to the final consumers (cf. Figure 1).

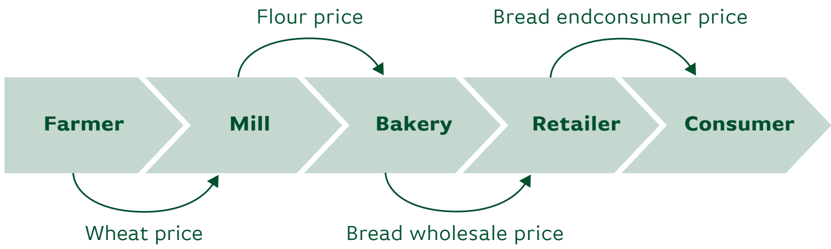
Academic literature and public debates have criticized export restrictions as instruments for protection against high world market prices, notably because of their additional price-increasing effects on already high world market prices. Previous research, however, only partially dealt with the question to which extent export restrictions achieve their target of curbing domestic price levels respectively food price inflation. If a low effectiveness of such actions were found, this would provide additional arguments for the members of the World Trade Organization (WTO) for regulations to limit the use of export restrictions.

[1] Cf. Giordani, P., Rocha, N., Ruta, M. (2012): Food Prices and the Multiplier Effect of Export Policy, CESIFO Working Paper No. 3783.

## Export ban failed to curb rise in Serbian prices

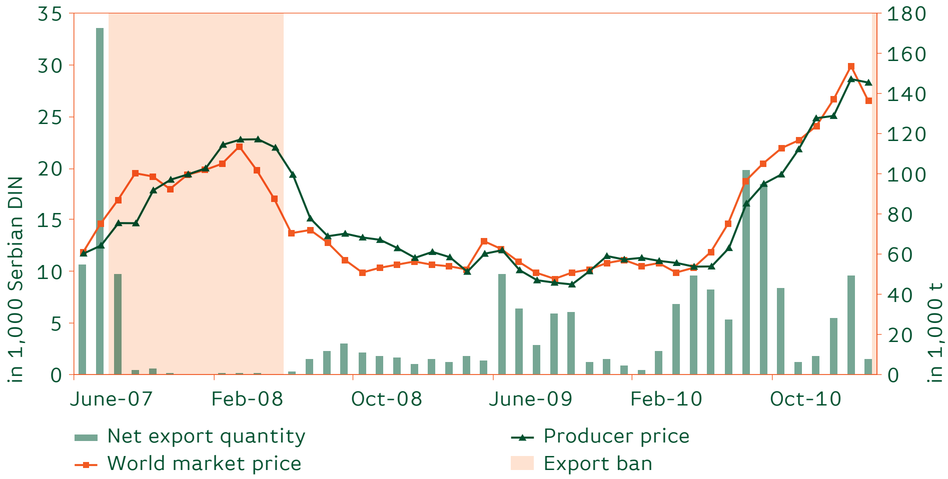
A close look at the development of Serbian wheat, flour and bread prices (see Figures 2 and 3) reveals that astonishingly enough those prices strongly increased in 2007/08. This rise can be explained with additional actions taken by the Serbian government under its crisis policy. In supplement of an export stop with price-lowering effects, the government several times bought wheat in the domestic market to stock up on its wheat reserves. This move additionally increased prices and additionally brought up the domestic wheat price above world market price level (cf. Figure 2). What added to this was that wheat imports were restricted by an import tax which drove prices up even further. There were no curbing effects on Serbian bread prices found (cf. Figure 3). The bread price rather increased disproportionately during the export ban (>50 per cent) which apparently cannot be traced to increased wheat or flour prices. Accordingly, it is obvious that end consumers did not profit at all from export controls. But who did benefit?

**Figure 1:** Wheat-to-bread supply chain



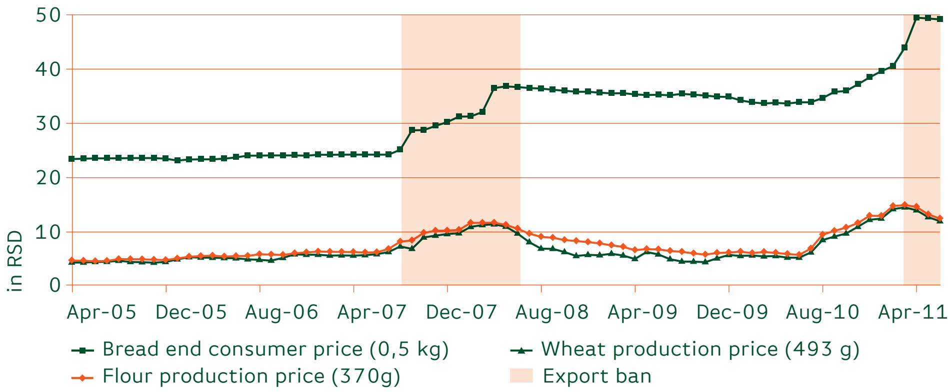

Source: Graph compiled and designed by the authors

**Figure 2:** Development of producer prices and world market price for wheat in Serbia




Source: Graph compiled and designed by the authors (Data: GTIS, HCGA and Grain Fund Serbia)

**Figure 3:** Development of wheat, flour and bread prices in Serbia




Source: Graph compiled and designed by the authors (Data: GEA Info Center, Grain Fund Serbia, Statistical Office Serbia)

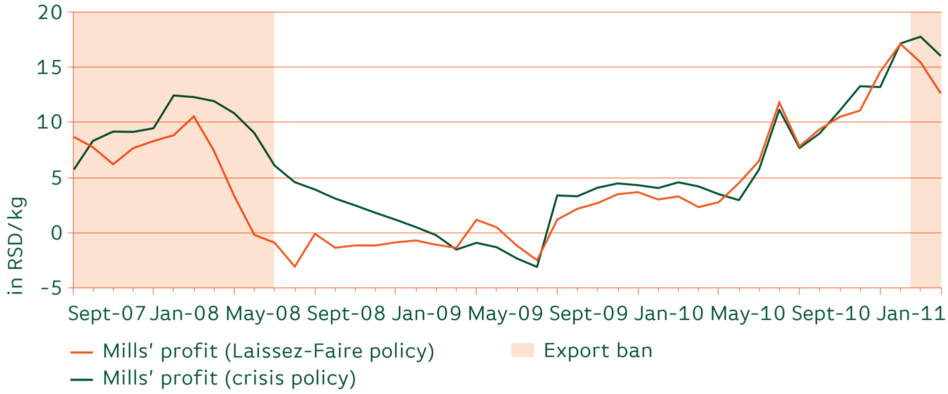
## The big milling industry profited from the export ban

This study investigates the development of profits in the big milling industry in Serbia. Big mills, in contrast to smaller ones, have their own silos to store wheat. They predominantly purchase wheat during the harvest season at relatively low prices for storage and are thus not affected by later-year price increases. Figure 4 illustrates the development of profits in the milling industry both during crisis policy and at liberal trade[2] i.e. without government interference (laissez-faire policy) in the export market.

Profits generated during the anti-crisis policy by the milling industry were apparently much higher than profits attainable under free trade conditions. This allows for the conclusion that the big industrial mills profited from the crisis policy.

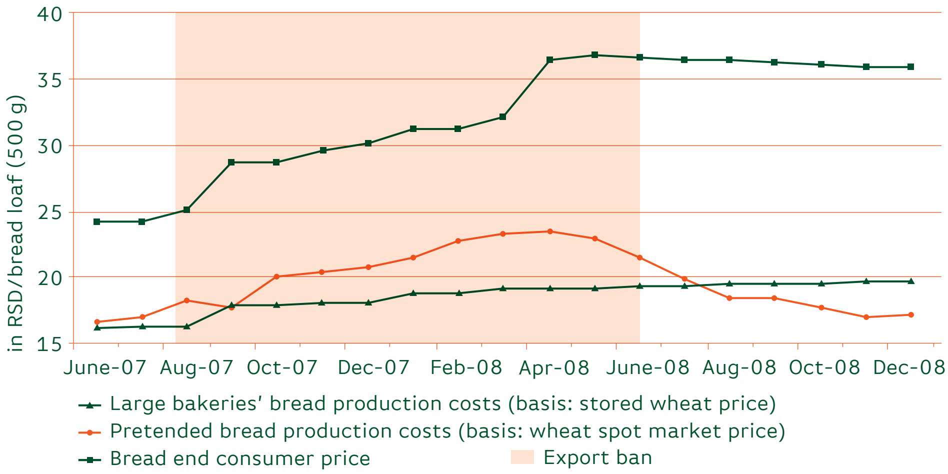
[2] Development of Serbian flour prices under liberal trade (without political market interventions) is simulated on the basis of world market wheat prices. The simulation utilizes the results of a regime-dependent, vertical price transmission analysis of the connection between wheat and flour prices.

Figure 4: Development of profits generated in the Serbian milling industry




Source: Graph compiled and designed by the authors (Data: Grain Fund Serbia and GEA Info Center)

Figure 5: Development of production costs for bread in Serbia




Source: Graph compiled and designed by the authors (Data: Grain Fund Serbia and Grain Mill Union Serbia)

## Bakery industry cleverly enforces bread price increases

The rationale given by the bakery industry for the above-described rise in bread prices during the export ban was the wheat price rise. Industrial bakeries, however, very much like big mills, have their own wheat storage capacities. Hence, it is not the current market price (spot price) which is relevant for the bakery industry but the wheat price during the last harvest (plus storage costs). Figure 5 shows that bread production costs based on costs of stored wheat were largely clearly lower than on the basis of relevant spot prices.

## End consumers are losers of this policy

Thus, the bakery industry managed even during the food price crisis to increase bread prices and improve its profits. There are indications that supermarkets claimed the majority of those profits and hence are likely the biggest winners of this crisis policy. End consumers, in contrast, who were supposed to profit from this policy were confronted by major bread prices increases of more than 50 per cent and are the losers of this policy.

## Conclusions

The intended price-curbing effect of the export ban on wheat in Serbia failed to unfold; neither increases in producer prices for wheat nor end consumer price for bread were curbed. And it was not the consumers but the players at the intermediate stages of the added-value chain, notably supermarkets, bakery and milling industries, which profited from the anti-crisis policy.

All in all, this analysis provides further arguments against a policy of insulating domestic from world-market price developments as protection from gross price increases. Export restrictions do not only have additional price-driving and destabilizing effects on world markets which spread to individual countries. This analysis rather shows that restrictions on exports are prone to policy failures and that their success may easily be impaired by additional political actions. Thus, the effectiveness of export controls as an instrument of protection against food price inflation is highly questionable, in particular when it comes to an agricultural product such as wheat, which is transformed into an end consumer product in a complex supply chain with a high degree of industrialization. The far-reaching global consequences of export restrictions and their inherent low effectiveness should make their application mandatory for regulation at a multilateral level by the WTO.

## Further information

### The findings are documented in detail in the following publications


Djuric, I., Götz, L., Glauben, T. (2012): Export restrictions on wheat markets in Serbia during global commodity price peaks – Did consumers really benefit? Invited Paper, IATRC Annual Meeting "New Rules of Trade?", December 9-11, San Diego, USA.

Djuric, I., Götz, L., Glauben, T. (2011): Influences of the Governmental Market Interventions on Wheat Markets in Serbia During the Food Crisis 2007/2008, Poster paper, XIII Congress of the European Association of Agricultural Economists, August 30 – September 2, ETH Zurich, Switzerland.

Glauben, T., Götz, L. (2011): Nahrungsmittelkrise: Protektionismus und Marktreaktionen in osteuropäischen ‚Getreidenationen', IAMO Policy Brief No. 2.

Götz, L., Glauben, T., Brümmer, B. (2013): Wheat export restrictions and domestic market effects in Russia and Ukraine during the food crisis. Food Policy, Vol. 38: 214–226.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