PRICING-TO-MARKET AT FIRM LEVEL: EVIDENCE FROM THE RUSSIAN WHEAT EXPORT MARKET

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GEWISOLA 2013

Poster presentation at the 53rd Annual Conference of the German Society of Economic and Social Sciences in Agriculture (GEWISOLA)
“How much market and how much regulation does sustainable agricultural development need?”

Berlin, September 25-27, 2013

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Motivation
- Major shifts in global wheat markets occurred in recent years
- Supply side: Russia, Ukraine and Kazakhstan emerged as important exporters
- Demand side: Population and income growth in developing countries boost wheat trade
- Food security concerns due to high and volatile wheat prices
- Oligopolistic structure in international wheat trade
- Prior research focused on traditional wheat exporters based on aggregated national data

Our research focus
- Are wheat exporters able to exert market power and thereby influence price level and volatility?
- Are Russian wheat exporting firms able to price discriminate across destinations?

Methodology
Fixed effects panel estimation based on clustered variance estimators (cluster variable: country):

$$\ln p_{ijt} = \lambda_i + \theta_t + \beta_i \ln e_{ijt} + u_{ijt} \forall i = 1, ..., N; t = 1, ..., T \text{ and } j = 1, ..., J$$

where $p_{ijt}$ is the wheat export price (fob price) in RUB, by plant $j$ to destination $i$ in period $t$. $e_{ijt}$ refers to the exchange rate (domestic currency per RUB); $\lambda_i$ and $\theta_t$ measure the country and time effect, $\beta_i$ is the PTM-elasticity and $u_{ijt}$ denotes the error term.

Market scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>$\lambda$</th>
<th>$\beta$</th>
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</thead>
<tbody>
<tr>
<td>I Perfect competition or Imperfect competition with common markup</td>
<td>$\lambda = 0$</td>
<td>$\beta = 0$</td>
</tr>
<tr>
<td>II Constant elasticity of demand → constant markup which may differ across destinations</td>
<td>$\lambda \neq 0$</td>
<td>$\beta = 0$</td>
</tr>
<tr>
<td>III Non-constant elasticity of demand → varying markup which may differ across destinations</td>
<td>$\lambda = 0$ or $\lambda \neq 0$</td>
<td>$\beta \neq 0$</td>
</tr>
<tr>
<td>IV Amplification of the exchange rate effect → PTM</td>
<td>$\lambda = 0$ or $\lambda \neq 0$</td>
<td>$\beta &gt; 0$</td>
</tr>
<tr>
<td>V Local currency price stability (LCPS) → PTM</td>
<td>$\lambda = 0$ or $\lambda \neq 0$</td>
<td>$\beta &lt; 0$</td>
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</tbody>
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Data
- Firm-level data of Russian wheat exporting firms
- Sample period: 1998-2011
- 7511 observations
- 59 destination countries

Conclusion
- For 22 countries hypothesis of competitive pricing not rejected
- Evidence for PTM in 37 out of 59 export destinations
- Country effects reveal unequal wheat export prices among destinations