TRAM TRansport of Animals and Meat

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1. Problem and goal

- Existing EU regulation (1/2005) on transport of live animals is criticized by policy makers and NGO’s. New policy options are discussed at EU level.
- Aim of the research is to estimate the possible impacts of policy options for regulation of transport of live animals.
2. Conceptual model

Region 1..n-1 | Trade | Region n
---|---|---
Breeding animals
Young animals
Fattening
Slaughtering
Consumption

Breeding animals
Young animals
Fattening
Slaughtering
Consumption

Output data CAPRI

Output data CAPRI
Structure of model

CAPRI

Consumption and production

Transport model

Transport cost model

Cost of one consignment between regions.

Results: number of consignments and live animals or meat transported within EU-27
Conceptual model (2): assumptions

- Regional production and regional consumption is input from CAPRI model.
- Model solves the differences between production and consumption by transporting
  - Young animals
  - Fattened animals
  - Meat.
- Space: NUTS 1 regions in EU-27 + Rest of World
- Time: year (no seasonal aspects);
- Species: cattle, sheep, pigs and poultry (no horses)
NUTS 1 regions in EU-27
Used data

- Literature (technical data i.e. fattening costs, slaughter costs);
- Questionnaires (transport cost model);
- Eurostat;
- Expert knowledge (technical data and regional slaughter capacity, regional specializations);
- TRACES (to calibrate the model).
Policy options

- Basic scenario for 2002 and 2013 with existing EU regulation (1/2005);
- Policy options
  - Animals for slaughter are not allowed to travel more than 8 hours (excluding loading and unloading);
  - 10% more space per animal compared to regulation 1/2005;
  - Combination of both options.
<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th></th>
<th>2013</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total animals</td>
<td>% animals LDT</td>
<td>Total animals</td>
<td>% animals LDT</td>
</tr>
<tr>
<td>cattle</td>
<td>4212</td>
<td>30</td>
<td>4361</td>
<td>33</td>
</tr>
<tr>
<td>pigs</td>
<td>21372</td>
<td>32</td>
<td>31745</td>
<td>53</td>
</tr>
<tr>
<td>poultry</td>
<td>985019</td>
<td>26</td>
<td>835764</td>
<td>37</td>
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<tr>
<td>sheep</td>
<td>4977</td>
<td>39</td>
<td>16140</td>
<td>79</td>
</tr>
<tr>
<td>total</td>
<td>1015580</td>
<td>22</td>
<td>888010</td>
<td>38</td>
</tr>
</tbody>
</table>
## Results 2013 combination of policy options

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>2013: regulation 1/2005</th>
<th>2013: sl. animals max 8 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>total animals</td>
<td>% animals LDT</td>
</tr>
<tr>
<td>cattle</td>
<td>4361</td>
<td>33</td>
</tr>
<tr>
<td>pigs</td>
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<td>16140</td>
<td>79</td>
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<tr>
<td>total</td>
<td>888010</td>
<td>38</td>
</tr>
<tr>
<td>Species</td>
<td>Existing</td>
<td>8-hour</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>Cattle</td>
<td>1,424</td>
<td>1,221</td>
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<tr>
<td>Pigs</td>
<td>16,742</td>
<td>6,477</td>
</tr>
<tr>
<td>Poultry</td>
<td>307,910</td>
<td>135,878</td>
</tr>
<tr>
<td>Sheep &amp; Goat</td>
<td>12,735</td>
<td>12,867</td>
</tr>
</tbody>
</table>
Pigs 2002: main flows of pigs

- <1 million pigs
- 1-2 million pigs
- >2 million pigs
Pigs 2013: main flows

<1 million pigs
1-2 million pigs
>2 million pigs
Pigs 2013 Limit 8 hours

- <1 million pigs
- 1-2 million pigs
- >2 million pigs
## Environmental indicator (travelled km) per options

<table>
<thead>
<tr>
<th>Type of transport</th>
<th>2002</th>
<th>base</th>
<th>8 hrs limit</th>
<th>space +10%</th>
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</thead>
<tbody>
<tr>
<td>Live animals</td>
<td>116</td>
<td>191</td>
<td>120</td>
<td>192</td>
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<tr>
<td>Meat</td>
<td>424</td>
<td>592</td>
<td>635</td>
<td>609</td>
</tr>
<tr>
<td>Total</td>
<td>540</td>
<td>783</td>
<td>755</td>
<td>801</td>
</tr>
</tbody>
</table>
Results

- Policy option do influence international transport of live animals;
- Limiting travelling time of slaughter animals has huge impact on transport of pigs and poultry. Cattle and sheep are almost not affected. Reason: almost no transport of fattened cattle and sheep;
- Increasing space with 10% per animal has almost no impact;
- The results of the combination of policies resembles the results of the limit of transport of animals for slaughter to 8 hours.
6. Sensitivity analysis

- Increase of price of diesel from 0.8 to 1.20 €
  - No impact on transport of animals or meat
- Return freight for meat transport increased from 0 to 50%.
  - Increase of meat transport from 592 to 674 million km.
  - Decrease transport of live animals from 191 to 133 million km
  - Affects especially transport of pigs and broilers
  - Impact on cattle and sheep is negligible.
Options for model extensions

- Add more indicators to support an impact assessment;
- Add more species (i.e. horse; problem is the availability of data);
- Add more meat products (i.e. carcasses, part of carcasses);
- Extend the number of regions (i.e. Rest of the world)
- Add seasonal trade (monthly basis instead of annual basis).
- Add international knowledge especially for fatting costs, costs of slaughtering, cost for control posts.
Conclusions

- Model can support impact assessment of policy options regarding transport of live animals.
- Long distance transport (LDT) can be reduced by limiting travelling times and/or increasing space allowance.
- Policy options significantly decreases LDT for pigs and poultry. Impact for cattle and sheep is limited.
Thank you for your attention!

Questions?

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