

TRAM TRansport of Animals and Meat

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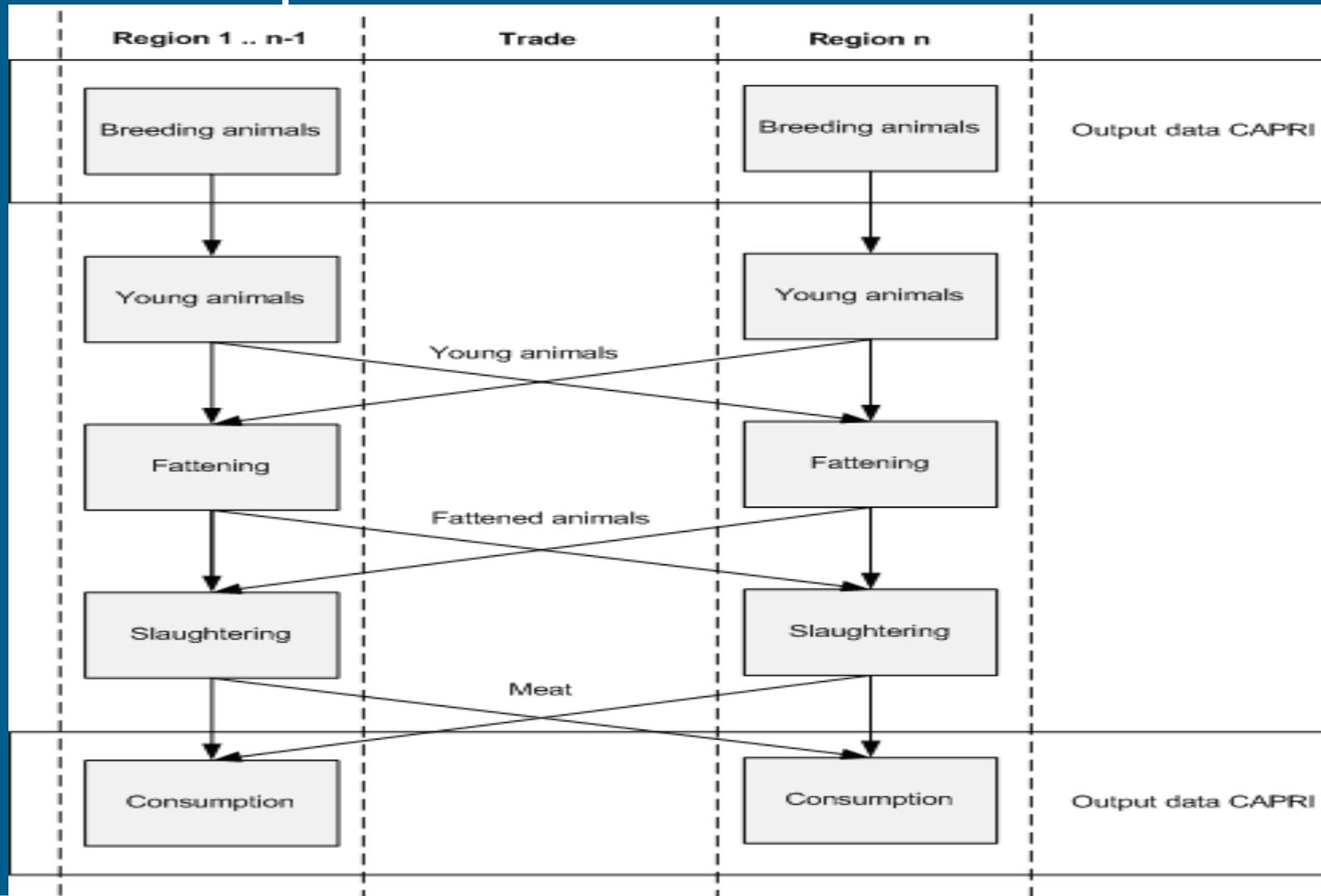
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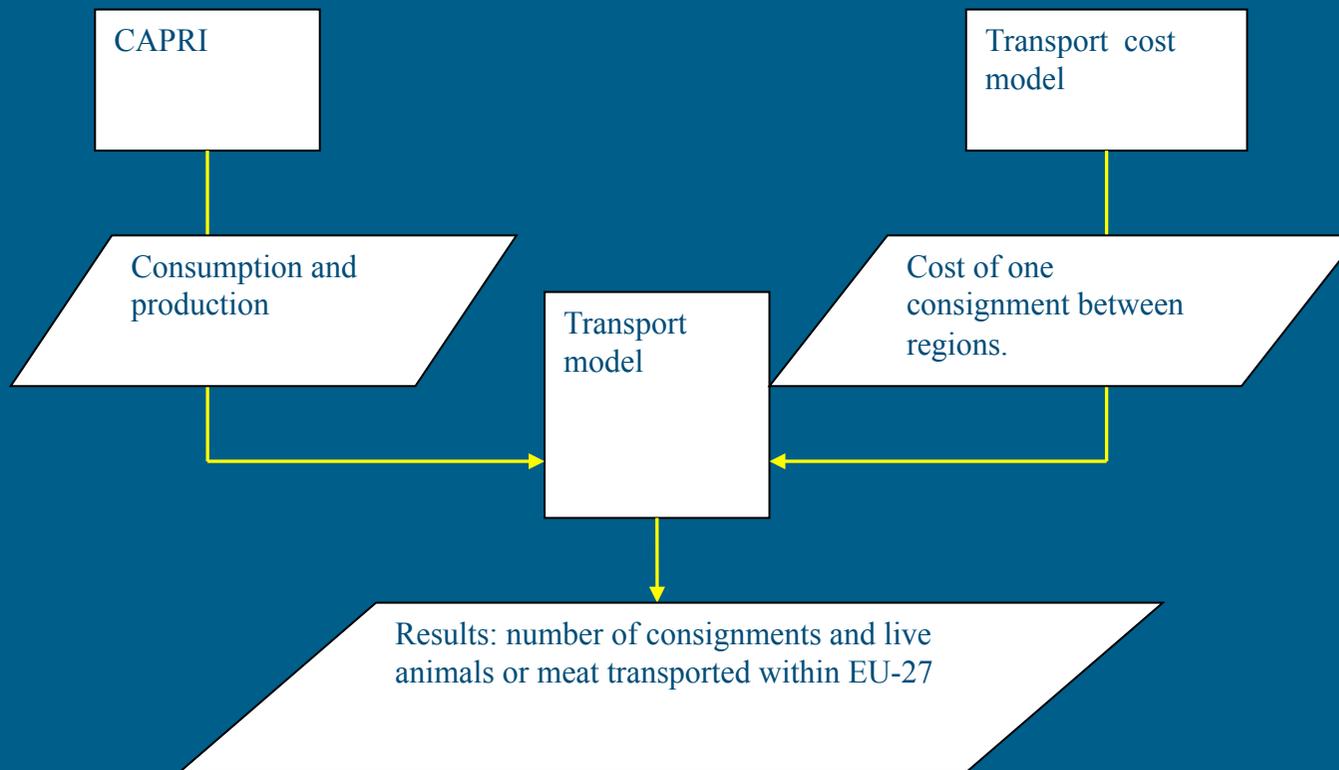
1. Problem and goal

- 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



Structure of model



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.

Results Base line (in 1000 animals and long distance transport (> 8 hours) in % of all animals)

| | 2002 | | 2013 | |
|---------|---------------|---------------|---------------|---------------|
| | Total animals | % animals LDT | Total animals | % animals LDT |
| cattle | 4212 | 30 | 4361 | 33 |
| pigs | 21372 | 32 | 31745 | 53 |
| poultry | 985019 | 26 | 835764 | 37 |
| sheep | 4977 | 39 | 16140 | 79 |
| total | 1015580 | 22 | 888010 | 38 |

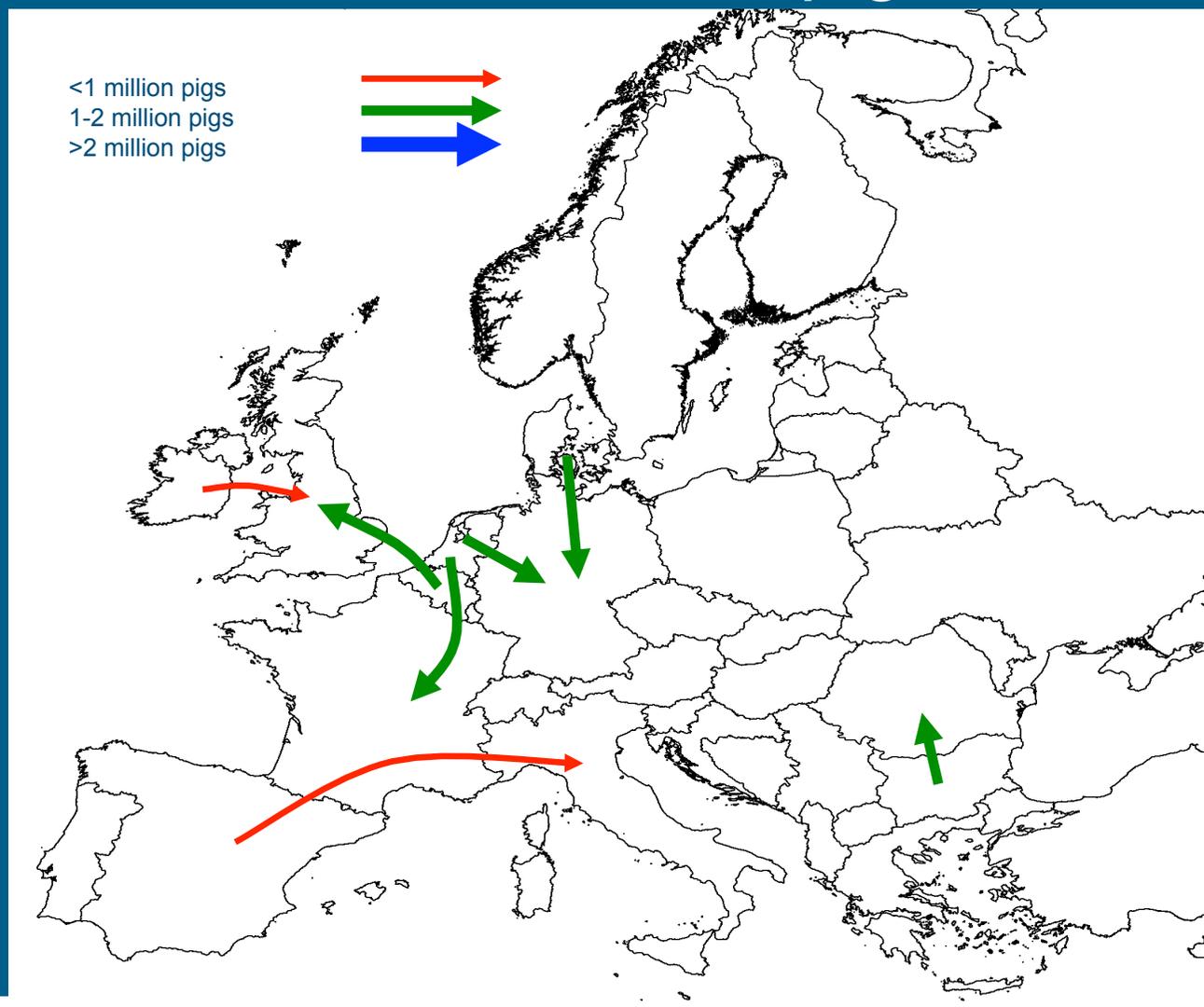
Results 2013 combination of policy options

| | 2013: regulation 1/2005 | | 2013: sl. animals max 8 hrs | |
|---------|-------------------------|------------------|-----------------------------|------------------|
| | total animals | % animals LDT | total animals | % animals LDT |
| cattle | 4361 | 33 | 4555 | 27 |
| pigs | 31745 | 53 | 22092 | 29 |
| poultry | 835764 | 37 | 822964 | 17 |
| sheep | 16140 | 79 | 15611 | 82 |
| total | 888010 | 38 | 865220 | 18 |

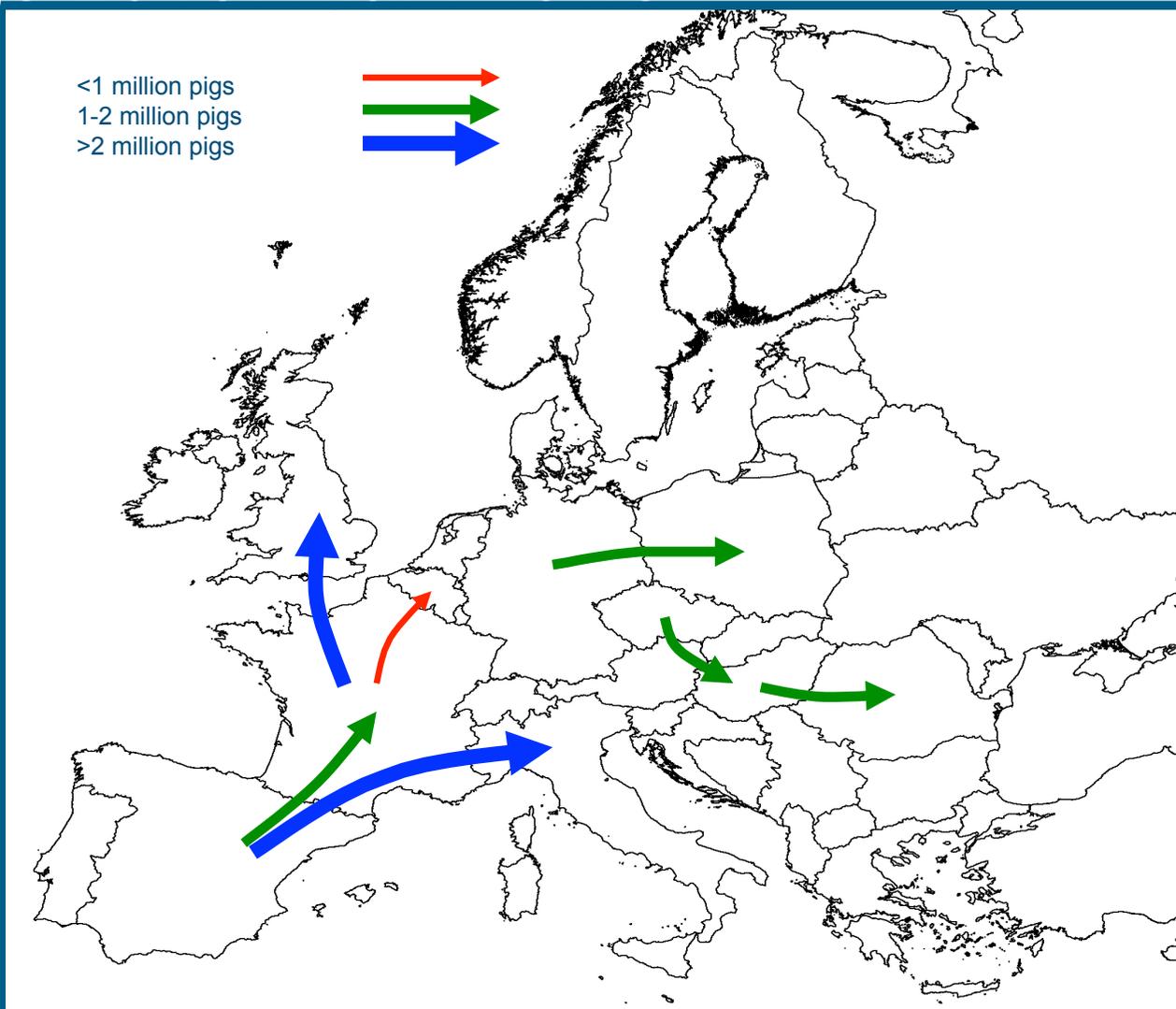
Number of animal on LDT (1000 animals)

| Species | Existing | 8-hour | 10% more space | 8 hour 7 more space |
|--------------|----------|---------|----------------|---------------------|
| Cattle | 1,424 | 1,221 | 1,424 | 1,221 |
| Pigs | 16,742 | 6,477 | 15,295 | 6,488 |
| Poultry | 307,910 | 135,878 | 278,489 | 135,878 |
| Sheep & Goat | 12,735 | 12,867 | 12,735 | 12,867 |

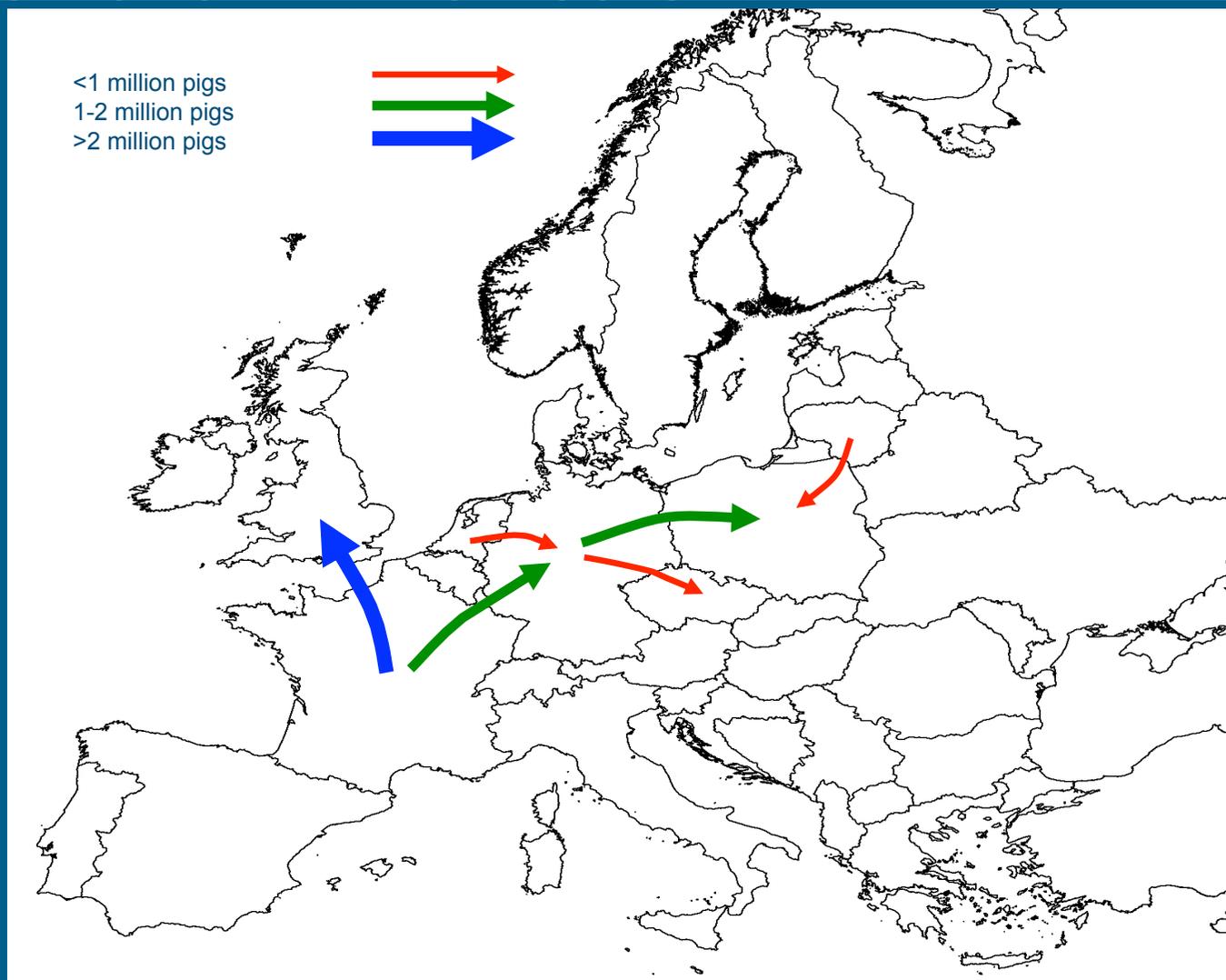
Pigs 2002 : main flows of pigs



Pigs 2013: main flows



Pigs 2013 Limit 8 hours



Environmental indicator (travelled km) per options

| Type of transport | 2002 | 2013 | | |
|-------------------|------|------|-------------|------------|
| | | base | 8 hrs limit | space +10% |
| Live animals | 116 | 191 | 120 | 192 |
| Meat | 424 | 592 | 635 | 609 |
| Total | 540 | 783 | 755 | 801 |

Results

- Policy options 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 fattening 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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