Pricing suffering for policy change

Lessons from animal welfare accounting

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About me

Economics, AI evaluation, and EU animal welfare policy

- **Background**
  - Economics, quantitative risk management
- **AI governance & evaluation**
  - EU AI Act GPAI Code of Practice working groups (got nonhuman welfare in)
  - Benchmarking papers: AnimalHarmBench, TAC
- **Animal welfare reform economics**
  - Benefit-cost assessments of EU and national reforms: pigs, fur farming, aquaculture, laying hens
  - Counting animals in tourism
  - Today's topic: welfare accounting

Animal welfare reform economics: why now

Pending EU reforms need impact assessments

1 Cages for laying hens

Proposal due end 2026

Impact assessment under way

2 Crates and stalls for sows

Proposal due Q2 2027

Targeted revision of pig rules

3 Fur farming

Commission decision overdue

Citizens' initiative 2023: 1.5m
EFSA opinion, 2025
Decision due March 2026

Commission rule

Significant impacts plus options: assessment required

Two ways in

Commission analysts; MEPs and NGOs

Sources: DG SANTE, Revision of EU animal welfare legislation (accessed 27 Oct 2026); Better Regulation Guidelines, SWD(2021) 305, p. 30; Commission communication on Fur Free Europe, 7 Dec 2023.

How welfare accounting could change policy

Example: farrowing crate white paper

Inputs	Activities	Outputs	Outcomes	Impact
Welfare science, cost data, valuation methods	Score welfare; model costs; combine	White paper; briefings for officials, MEPs	Numbers used in impact assessment	Reform adopted; fewer crate-days
In place	**Done**	**Published Sept 2026**	**Early signs: Commission engaged, asked for more**	**Not yet known**

Two ways to value welfare

Indirect: what people would pay

Willingness to pay

Surveys and choice experiments

To money: yes, by design

Direct: what the animal experiences

Time in pain by intensity

Pain-Track (Welfare Footprint Institute); suffering-adjusted days (SADs)

To money: only with added weights

Animal QALY (AQALY)

Five Domains grades, survey-weighted

To money: times a moral weight

Pros of converting to money

- Fits existing impact assessments
- Interest from institutions
- Lowest weight still clears costs 40×

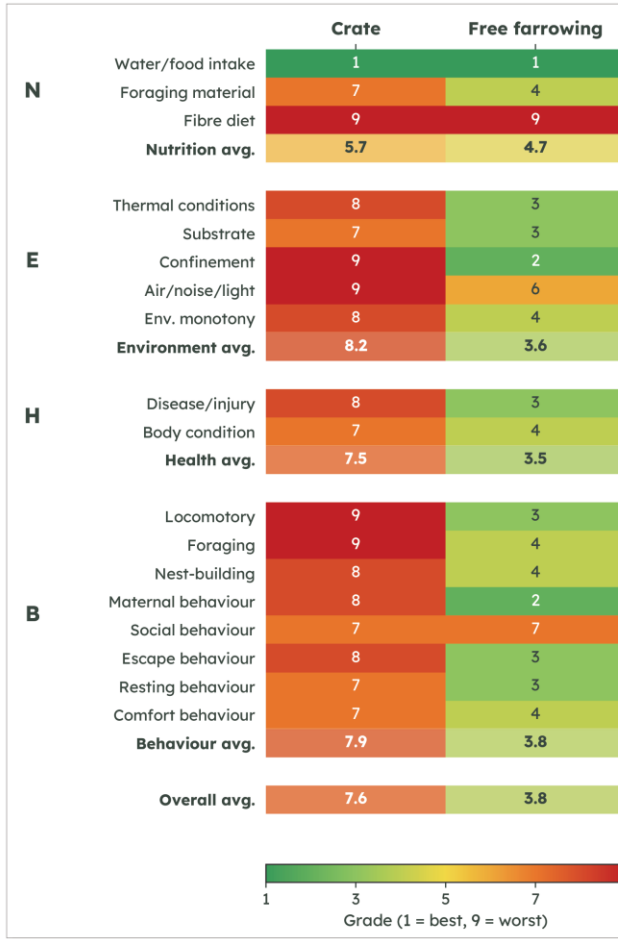
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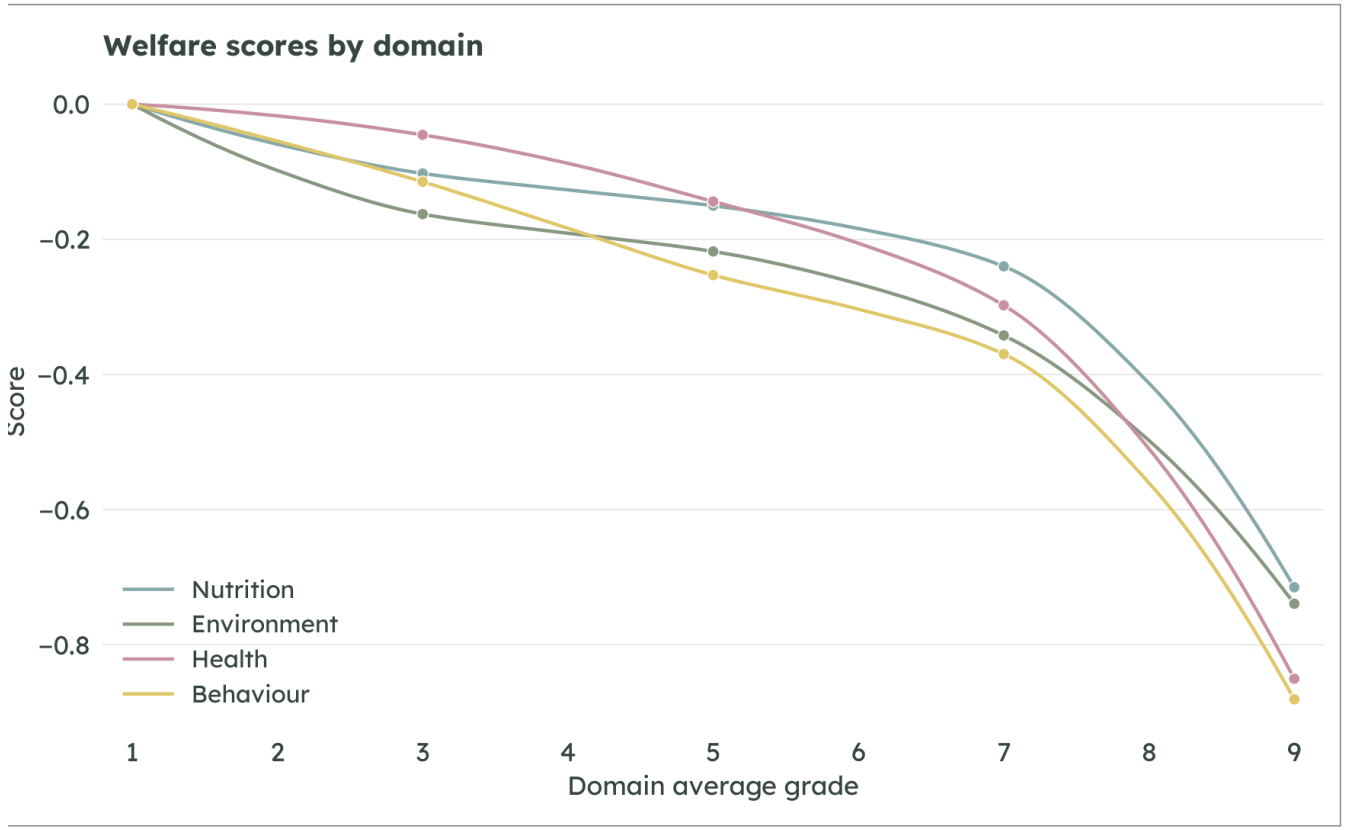
- Large uncertainty about moral weights
- Politically sensitive; may meet resistance

Framework: Treich (2025), Animal Economics, Part II (direct approach) and Part III (indirect approach).

Crates, step 1: grade, then score

18 subdomains, graded 1 (best) to 9 (worst); domain curves summed into AQALY

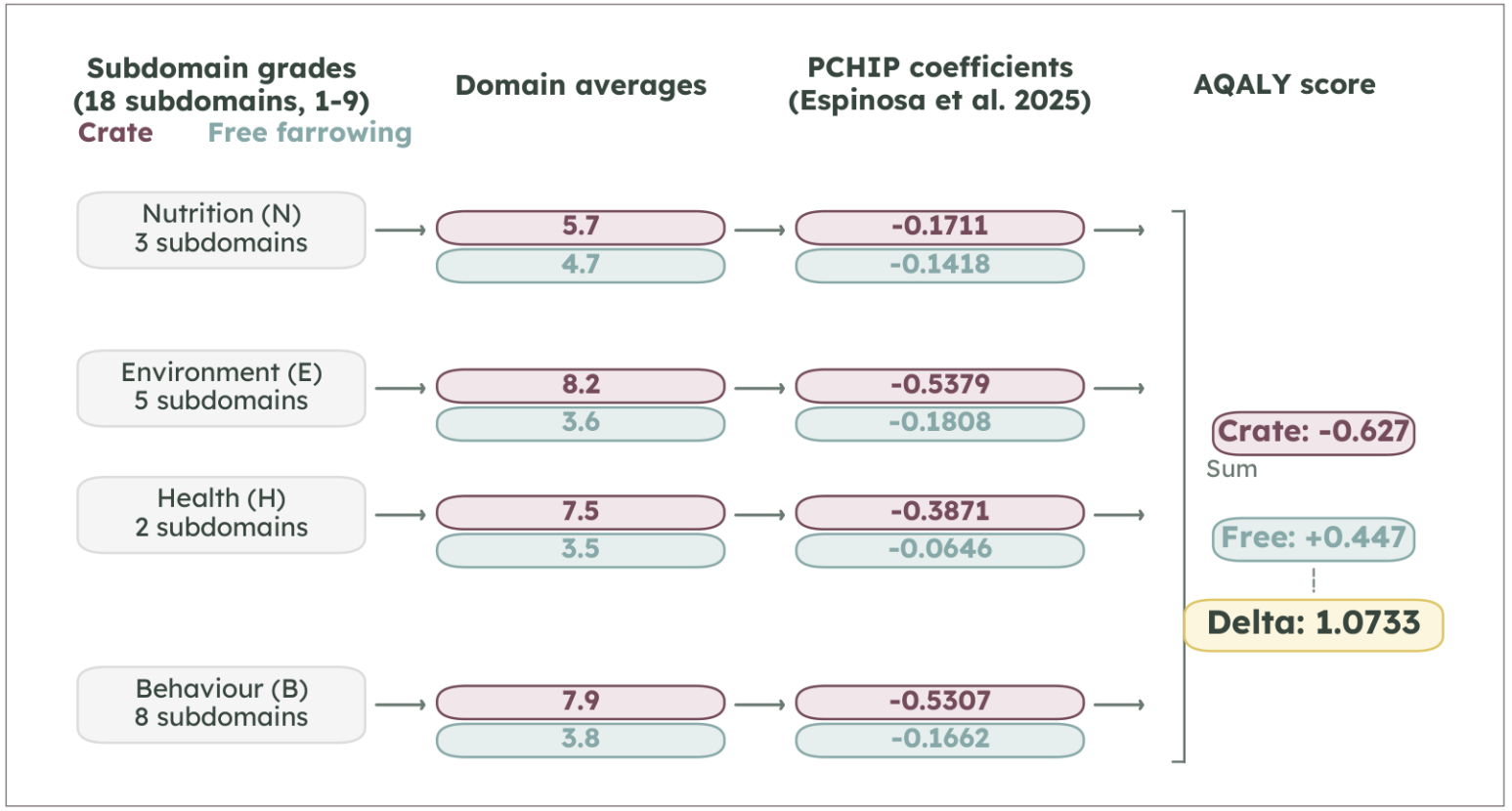




Figures B1 (p. 89) and B2 (p. 91) from Kubíková, Kaņepājs, Carpenter & Reinke (2026), Reforming Pig Welfare in the European Union, EIALP White Paper, CC BY-NC-ND. Curves: Espinosa, Browning & Treich (2025).

Crates, step 2: take the difference

Score, subtract; money comes later



1.07

AQALY per year, pen versus crate

0.003

AQALY per sow-crate-day avoided

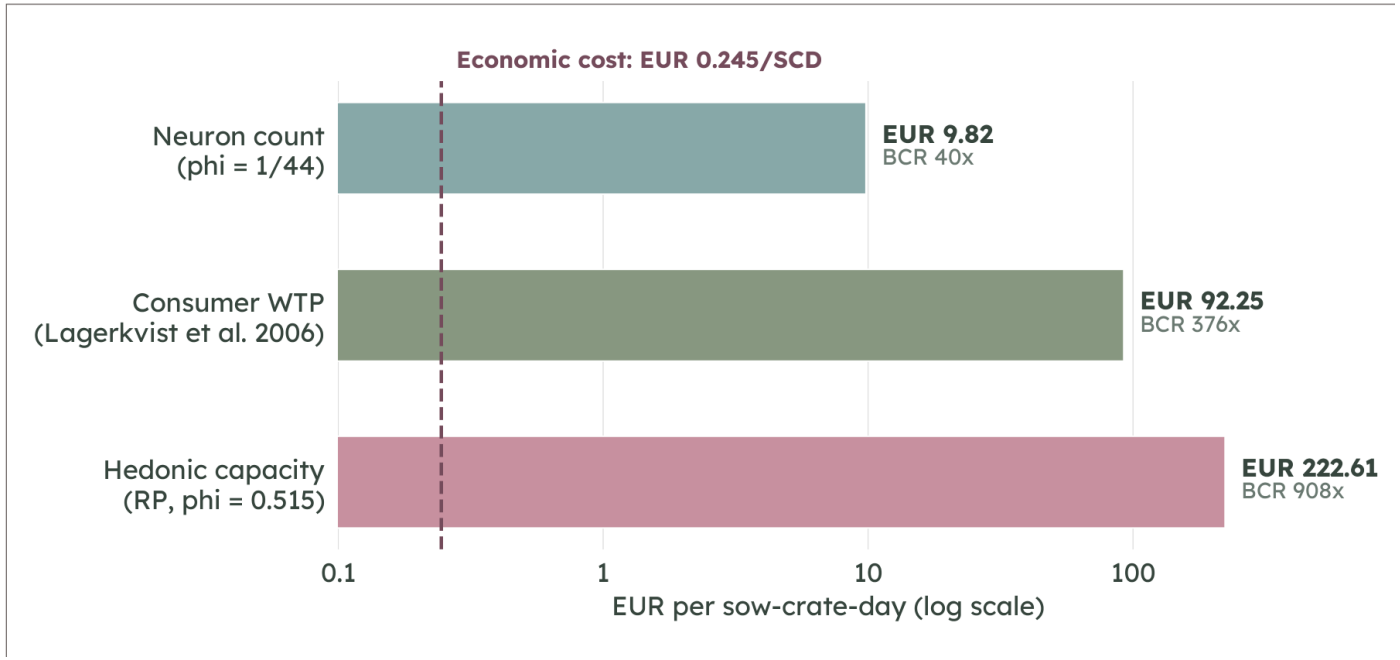
7.63 bn

sow-crate-days avoided by EU ban

Figure 7 (p. 55) and executive summary (p. 7, ban scenario 2025 to 2060) from Kubíková, Kaņepājs, Carpenter & Reinke (2026), Reforming Pig Welfare in the European Union, EIALP White Paper, CC BY-NC-ND.

Crates, step 3: put a price on it

Benefit 40 to 908 times the cost



Why the gap: two moral weights, one consumer survey

Two willingness-to-pay anchors

Ours: Lagerkvist 2006, divided by 3	**€92**
Bennett 2026 (UK), converted	**≈ €97 to 134**
Bennett, divided by 3	**≈ €32 to 45**

Like for like: a third to a half

Figure B3 (p. 92) from Kubíková, Kaņepājs, Carpenter & Reinke (2026), Reforming Pig Welfare in the European Union, EIALP White Paper, CC BY-NC-ND. Bennett conversions: own calculation.

Reception so far

What we heard

Positive — A remarkable paper; worth sharing widely

Caution — Valuing welfare may seem provocative

Asked for — More willingness to pay; human health impacts

Other applications

1. **Pig farming**
2. **Aquaculture**

Same steps: grade, score, subtract, value

AI in the farrowing pen

Safer loose farrowing, or more efficient crates

1

Crushing and space

Small pens: more deaths. 7.8 m² pens: no excess mortality vs crates

EFSA 2022, as in our white paper

2

Detect

Camera flags crushing days; warning only

Thongsrimoung et al. 2025

3

Intervene

Squeal alarm; sow wearable, mild shock

Vendor claims only

4

The catch

5% externally validated; may favour intensification

Gómez et al. 2021; Tuyttens et al. 2022

Count sow welfare and piglet losses together

Three takeaways for AI governance

1. **Welfare can be counted and even priced**

2. **Huge if tractable; positive institutional signals**

3. **Counting welfare can drive welfare tech**

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Sources

Backup slide

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