

Health Economics and True Cost — Deep-Dive

Purpose. Layer 8 names subsidies and externalisation; this text deepens the **economic** logic behind them. The core concept is the **externality**: the market price of a steak reflects production costs but not the health, environmental and antimicrobial-resistance costs borne by society at large. Animal products are therefore **artificially cheap** — not because they are cheap to produce, but because part of their cost is *offloaded*. The text quantifies this, discusses corrective instruments (corrective tax, subsidy reform) and holds the firm caveat on social regressivity.

1. The basic problem: prices that lie

In economics, a **negative externality** is a cost caused by a market actor but not borne by them. For animal products these are at least three blocks: (i) **health costs** of diet-related disease (cardiovascular, T2D, colorectal cancer — cf. 0090-B2); (ii) **environmental costs** (climate, nitrogen, water, biodiversity — cf. 0090-B3); (iii) **antimicrobial-resistance costs** (cf. Murray et al. 2022, *Lancet*, doi:10.1016/S0140-6736(21)02724-0). Add the *positive* distortion of **subsidies** (production support, fisheries subsidies ~35 bn USD/year, Sumaila et al. 2019). The market price is thus doubly wrong: too low by the damages, too low by the subsidies.

2. The health costs — quantified

Springmann et al. 2018 (*PLOS ONE* 13(11):e0204139, doi:10.1371/journal.pone.0204139) put the **global societal health costs of red and processed meat for 2020 at about USD 285 billion** — three quarters of it from *processed* meat. This is the order of magnitude of avoidable treatment and productivity costs generated by meat consumption that is not in the shelf price.

3. The corrective (Pigouvian) tax — instrument and limits

The classical economic answer to externalities is the **Pigouvian tax**: levy the harmful good by the size of the external damage so the price reflects “true costs”. Springmann et al. compute an **optimal, health-motivated meat tax**: globally on average ~0.28 USD/kg for red and ~1.45 USD/kg for processed meat (in high-income countries ~0.94 and ~4.17 USD/kg). Effect under optimal taxation: **deaths –9% (~222,000), health costs –14% (~USD 41 bn)** worldwide. The instrument works — but it has a social downside (\$5).

4. True-cost accounting

Beyond the tax alone, **true-cost accounting** tries to display the full social price of a food (health + environment + social costs). Studies of the “true prices” of external health and environmental effects consistently show: the displayed price of animal products would have to be markedly higher, that of plant products mostly only a little. The point is not punishment but **price truth** — correcting a distorted signal that produces misallocation (over-consumption of the harmful good).

5. The firm caveat: regressivity

Here is the decisive honesty: **consumption taxes on staple foods are regressive** — they burden poorer households proportionally more, because they spend a larger income share on food.

A pure meat tax without compensation would deepen social inequality and hit exactly the groups the bundle’s subsistence/class caveat protects (cf. 0090-B6 §4, Hirvonen 2020). A responsible design therefore needs: **redistribution** of the revenue (per-capita dividend, relief on staples), **subsidy redirection** (instead of/in addition to the tax, dismantle support for animal production and strengthen plant production) and a **just transition** for dependent producers (cf. 0090-C4/C5). Economic price truth without social cushioning is no progress.

6. Subsidy reform as the often-better instrument

Politically and socially often more viable than a new tax is **dismantling existing perverse incentives**: a substantial share of public agriculture and fisheries funds supports industrial animal production directly or indirectly. *Redirecting* these funds (to plant production, diversification, ecological services) corrects the price signal from the other side — without the regressive effect of a consumption tax. Often the wisest policy is a **combination**: subsidy reform as the base, a moderate corrective levy with redistribution as a supplement.

7. Evidence grading

Finding	Best source	Status
Health costs red/proc. meat ~USD 285 bn (2020)	Springmann et al. 2018	Robust (model)
Optimal tax cuts deaths –9%, costs –14%	Springmann et al. 2018	Model result
Animal products underpriced via externalisation	True-cost literature	Robust (direction)
Food consumption taxes regressive	Standard public finance	Robust
Subsidy redirection as alternative	Agri/environmental economics	Plausible, politically demanding
AMR/environment as further external costs	Murray 2022, Poore & Nemecek	Robust

8. Synthesis

First: the market price of animal products systematically omits their health, environmental and AMR costs and is additionally distorted by subsidies — they are economically “artificially cheap”.

Second: the tools for price truth exist (Pigouvian tax, true-cost accounting, subsidy reform) and demonstrably work; but the pure meat tax is **regressive** and, without redistribution, socially unjust.

Third — the integrated point: price truth is the economic expression of the same diagnosis delivered by health (0090-B2) and ecology (0090-B3); its just implementation (redistribution, subsidy redirection, just transition) is necessarily bound to the class/subsistence caveat (0090-B6) and the political-economy structural critique (Layer 12). The addressee is the structure of mispricing, not the individual low-income buyer.

Track: FORSCHUNG · ORCID 0009-0003-9799-6747 · forschung@tschueller.com · CC BY 4.0 **As of:** 2026-06-16 · Deep-dive on Layer 8; Springmann 2018 and key sources web-verified 2026-06.