

146 Integrate the Costs of Externalities into ‘True Prices’ for Food

The Solution: True Cost Accounting (TCA) is delivering evidence that the environmental, social, and health costs of the food system pose an existential threat to society, while at the same time, many people cannot afford the benefits of sufficient, let alone healthy, food (Baker et al., 2020). The root cause is that these costs and benefits are ‘externalised’: not included in market prices. As a result, sustainable and healthy food is unaffordable for many consumers and unprofitable to make for most businesses. The proposed solution to this problem is true pricing, the integration of externalities into prices. This makes sustainable and healthy food more affordable to consumers than unsustainable and unhealthy food. It also makes sustainable, healthy, and affordable food production more profitable to businesses than selling unsustainable, unhealthy, or unaffordable food.

Externalities are one of various market and governance failures around food. Economists have long recognised that the solution to externalities is internalisation in prices (Pigou, 1920; Laffont, 2017). However, for a long time the science and technology did not exist to quantify, price, and account for the externalities of food products. Recent advances in, amongst others, digital analytical capacities have brought true pricing within reach (Gemmill-Herren et al., 2021). This solution proposes to consolidate 21st-century science and technology to enable policymakers, businesses, and consumers to realise true pricing. This requires establishing (i) a measurement standard to calculate true prices, (ii) an open global true price database with benchmarks for each food group and each country, (iii) making existing state-of-the-art (blockchain and ‘Internet of Things’ technology) accessible and inclusive to measure and trace true prices, and (iv) a science-based policy toolbox for governments to implement pragmatic, effective, and equitable true pricing policies.

Source(s) of the Solution: This idea emerges from the same working group and process described in Solution 25. This draws on numerous publications, including: [The Economics of Welfare \(Pigou, 1920\)](#), [Prospects for the true cost accounting of food systems \(Baker, Castilleja, De Groot Ruiz, Jones\)](#), [Principles for True Pricing \(True Price Foundation, 2020\)](#), [Price Volatility and Food Security \(HLPE, 2011\)](#), [The political economy of environmentally related taxes \(OECD, 2014\)](#), [The business case for true pricing \(True Price Foundation, Deloitte, EY, PwC, 2014\)](#), [TEEB for Agriculture and Food: Scientific and Economic Foundations \(2018\)](#), [True cost accounting for Food: Balancing the Scale \(Gemmill-Herren et al., forthcoming\)](#).

Problem addressed within food systems: True pricing aims to address the problem that environmental, social, and health costs and benefits of food are externalised (TPF, 2020). Due to these externalities, unhealthy and unsustainable food is cheaper than healthy and sustainable food. As a result, (i) healthy and sustainable diets are *less affordable* to consumers than unhealthy and unsustainable diets and (ii) selling affordable, healthy, and sustainable food is *not profitable* to businesses (or less profitable). Due to (i) and (ii), many people cannot afford sufficient food, let alone a healthy diet (FAO, 2020), the accumulation of the environmental costs of food production erodes natural capital, compromising the livelihoods of future generations (Nature, 2019), and consumption of unhealthy food leads to a loss of lives and quality of life with huge costs to the health system (Global 2017 Diet Collaborators, 2019). If we do not change those economic rules of the game that disincentivise healthy, sustainable, and affordable food, efforts by governments and business to feed the world within planetary boundaries will inevitably fail. Externalities are possibly the greatest barrier to sustainable food policies.

How this solution will address that problem: True pricing addresses the problem of externalities by internalising them. True pricing decreases the price of healthy and sustainable food and increases the price of unsustainable and unhealthy food. Healthy and sustainable diets become more affordable to consumers and more profitable to businesses. In the long term, governments can establish ‘*first-best*’ true pricing mechanisms, which are the most welfare-efficient and equitable ones that provide healthy

food for all within planetary and social boundaries. Such mechanisms could include (i) the full internalisation of external costs, (ii) restoration of damages to nature, (iii) adherence to human rights across value chains, (iv) optimal price-stabilising subsidies on healthy and sustainable food financed by public savings on healthcare and environmental mitigation, (vi) establishment of labour prices (living wages and income) that allow access to healthy and sustainable diets, and (vii) equitable redistribution of the collective benefits to the poorest.

Currently, there are still substantial technological and political constraints to implement first-best mechanisms ([OECD, 2014](#)). This requires, amongst others, designing science-based first-best mechanisms, building the technological infrastructure to collect and trace externalities along the value chain efficiently, modernising the implementation of fiscal systems, integrating true pricing into international trade agreements, and creating popular understanding and support for true pricing. Hence, in the short run, governments can adopt pragmatic ‘second-best’ true pricing policies that take these constraints into account. Second-best policies effectively incentivise sustainable, healthy, and affordable food without imposing large administrative burdens or complexities. Examples of such policies that create smart incentives with a ‘double dividend’ are the following:

- a. *Subsidise healthy and sustainable food products for consumers, financed by eliminating distorting or inefficient subsidies or through a carbon tax on emissions by businesses.*
- b. *Stimulate true pricing through public procurement, prioritising foods with low external costs.*
- c. *Integrate true pricing in risk and capital regulation by central banks.*

Market players can also use true pricing. Transparency about true prices can enable consumers to express their sustainable preferences by *selecting products with lower true prices*. Using true price information, *food companies can prevent external costs* by more sustainable production. Where prevention is not possible, *producers and consumers can remediate external costs*: pay to restore damages to nature and people. These market-led pathways create endogenous market incentives for internalisation. Governments can stimulate this by facilitating or requiring transparency of true prices. There are also barriers to second-best policies and market-led true pricing approaches. There is no standard to calculate true prices, a lack of data, reliable accounting across value chains is costly, and there is little guidance for governments about second-best true pricing policies. Governments and UNFSS stakeholders can take away these barriers in the short run by establishing a measurement standard and open global database for true pricing, making existing technologies affordable and inclusive, and providing a toolbox for second-best pricing policies to policymakers.

Solution’s alignment to the ‘game changing and systemic solution’ criteria:

Impact potential at scale: externalities exist across all food systems, at all stages of the food system, and in all locations. Applying true pricing across the system is necessary to address cross-boundary externalities.

Actionability: While many barriers still exist and a number of technological and analytical capacities still need to be developed, applying ‘second-best’ true pricing policies is possible in the short run.

Sustainability: True pricing creates collective benefits by changing the rules of the game. Once in place, there will be no turning back. The short-term interventions are modest and easy to maintain.

Existing evidence: There is a consensus amongst economists that pricing externalities is an efficient way to internalise them ([Laffont, 2017](#)). There is also empirical work that shows that environmental taxes are effective ([OECD, 2014](#)). In terms of behavioural effectiveness, a meta-study found that on average a 10% decrease in price increases consumption of healthful food by 13% ([Afhsin et al., 2017](#)). There is empirical evidence that revenue recycling could lead to majority support for environmental taxation ([McGrath et al., 2019](#)). Recent advances in science and technology, from environmental economics and LCA to blockchain and the Internet of Things, have made true pricing possible now ([Gemmill-Herren et al., 2021](#)). Actual cases of true pricing by market players have emerged in recent years. Various [food producers](#), [traders](#), and [farmers](#) have used it to make their production more

sustainable and involve their customers in price implications. A small number of retailers have used it to provide [transparency](#) about the true price or even [charge it](#). A [certifier](#) uses true pricing to improve its value chain.

Current/likely political support: In general, there is wide support for pricing externalities, especially carbon. The UN Secretary General has urged states to adopt [carbon pricing](#). [CPLC](#) brings together 34 governments and 164 businesses to establish a global carbon price. [The Holy See](#) considers economic actions ethical only if the external costs are borne by those who incur them. Recently, various governments are exploring true pricing of food. At the EU level, various actors are interested in TCA. The Netherlands applied TCA to a typical “plate”, and the Dutch Competition Authority allows [true pricing](#) as a criterion to justify sustainability collaborations. There is considerable market interest. A [Public-Private Partnership](#) of universities, banks, NGOs, and businesses is developing a methodology for true pricing in food. Also, NGOs use it (e.g., [Fairtrade International](#)). True pricing has been applied by organisations in countries including Colombia, Germany, Kenya, Mexico, Singapore, Uganda, the UK, and the US.

Contexts where this is well/not well suited: The approach is universally applicable. Nonetheless, which second-best true pricing mechanism is best suited will be country specific.