18 True Price Store

Guiding Consumers

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Introduction

Currently, the production of food almost unavoidably involves hidden true costs such as climate change, biodiversity loss, and poverty. A kilogram (kg) of cocoa beans from West Africa, for example, is responsible for about 5kg of CO₂-eq emissions. In addition, farmers would need to receive \$3.00 extra per kg of cocoa to earn a living income (True Price, 2018a).

Imagine a store where people can make choices to rectify such damage. In the True Price Store, one can pay to take out the CO₂ emissions and counteract poverty. If one enters the store, which is actually located in one of Amsterdam's main shopping streets, one sees a coffee corner where one can order drinks, as well as a pyramid of blue crates featuring a diverse range of products, such as cider from the organic fruit cooperative Fruitmotor. On Saturdays, one can buy fresh bread from Bakery Van Vessem, which optimizes its recipe to minimize its environmental damage. The windows show the best sellers: colorful chocolate bars of Tony's Chocolonely, one of the largest Dutch chocolate brands, which has been managing its true costs (with slave-free cocoa) since 2013.

If True Costs are a Problem, True Prices are a Solution

The True Price Store was founded on three insights. The first is that true costs are a major societal challenge. Owing to the external costs of global production and consumption, our economic system greatly damages the natural, social, and human capital that underpin society. Climate change is perhaps the best-known externality, which, in economic terms alone, could reduce global Gross Domestic Product by a quarter by the end of the century (Network for Greening the Financial System, 2020). However, there are many other serious externalities. On the environmental side, for example, about a million species are currently threatened with extinction (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019). On the social side, a fifth of the global working population and their families are (extremely or "moderately") poor, and in Africa the majority of workers live in poverty

(International Labour Office, 2019). Our current global economy enslaves more people for the sake of food production than most would realize (Hodal, 2019).

The external costs of the food system are estimated in the order of \$12 trillion per year (Nature Editorial, 2019). Up to 37% of global greenhouse-gas emissions can be attributed to the food system (Science Advice for Policy by European Academies, 2020), a majority of the global working poor are employed in agriculture (World Bank, 2020a) and over 70% of children forced into child labor are linked to food production (International Labour Organization, 2017b). While 690 million people were undernourished in 2019 (Food and Agriculture Organization of the United Nations, 2020), excessive fat and salt content in food leads annually to 11 million deaths and 255 million healthy life years lost (Global Burden of Disease 2017 Diet Collaborators, 2017).

The second insight is that, if true costs are the problem, true prices could well be our best chance at a solution. An economy with external costs ignores and at times even rewards damage to society: products that externalize costs to others are on the whole more profitable to the producer and cheaper to the consumer. True prices are prices that reflect the true costs: if a product has a true price, then the external costs are transparent, paid for, and repaired. As a result, with true prices there is no unresolved damage to people or the planet. True prices additionally remove the perverse incentive that bad products are cheaper than good products.

In fact, if all products had a true price, the global economy would arguably be sustainable. If no product imposes harm on workers, consumers, or the environment, then nature, at the macro-level, is conserved, the climate does not warm up, human and labor rights are respected, and every worker earns enough to give her and her family a good life.

Mission Impossible?

This sounds too good to be true. If true prices would solve so many of the world's problems, why has nobody done this before? In fact, true pricing is a form of pricing externalities that economists have long understood to be the solution to internalizing externalities. A group of British economists—Pigou, Sigdwick, and Marshall—formulated the concept of externalities and proposed to price them through corrective “Pigovian” taxes, a century ago (Pigou, 1920; Laffont, 2008).

In practice, however, it has proven to be a mission impossible for economists and policymakers to systematically price the externalities of products. For starters, establishing what these prices should be has proven elusive, owing to the difficulty of establishing “what is true” and the complexity of computing externalities. This is compounded by the typical, political view that saw pricing externalities as a tax hike that consumers would not be willing to pay. As a result, pricing externalities has been, until recently, an economists’ pipe dream.

True Price

The organization True Price was founded in 2012 on the belief that social and technological innovation made possible what was impossible a century ago. Its vision is that true pricing is the way to realize a sustainable global economy and its mission is to make it happen.

An important aim of the organization is to establish a global standard to determine true prices and advocate for true pricing. In True Price's theory of change, the most effective way to get businesses and governments to adopt true pricing is to lead by example. True Price has thus been working with businesses in food and agriculture from the start. It also holds that consumers and citizens need to be involved. So, as soon as sufficient businesses were on board, in 2019 True Price opened a store to bring true pricing to the consumer.

The store is a true pricing microcosm. Consumers who visit can see the true prices of various food products and pay for them, whereas the businesses who place their products in the store actively work to minimize the external costs of their products.

Roadmap

The remainder of this chapter will focus on three questions. First, *what* exactly is a true price and true pricing? Second, *why* try to realize true pricing if it has never worked before? And, finally, *how* can true pricing be implemented in practice?

What is True Pricing?

What is a True Price?

The true price of a product is the market price plus the *true price gap*. The true price gap consists of external costs or, colloquially, “hidden costs.” More precisely, the true price gap is defined as the costs to remediate the harm resulting from the externalities of production and consumption that breach basic rights.¹ The true price gap reflects the costs of the actions that need to be taken to restore these harms. In the case of CO₂ emissions, it reflects the costs to take CO₂ out of the air; or, in the case of child labor, the costs to provide missed education to children, offer required medical and psychological support, and compensate children for the injustice suffered.

The bar of pure chocolate that can be bought in the True Price Store has a market price of \$3.12. The true price gap is \$0.99. This includes environmental costs like carbon emissions, deforestation, and pollution, as well as social costs like underpayment of farmers, child labor, and forced labor. The true price is thus \$4.11.

It is important to note that one cannot realize a true price by just increasing the price. The extra money needs to be used to repair the damages done.

Hence, a product only has a true price if no external costs occur, or if all external costs are repaired.

What is True Pricing?

Next, what is *true pricing* in practice? Is it calculating true prices? Or taxing them? Or is it the ideal state where all products have a true price?

True Price defines true pricing as taking action to transition to a sustainable economy with true prices through *transparency* about true prices, *transformation* of products to prevent external costs, *transactions* to pay and remediate external costs, *taxation* of external costs, and *taking out* unacceptable external costs by prohibition. Hence, true pricing is something one can do, right now, and aims to solve the problem of an unsustainable economy.

Why Try?

When True Price was founded in 2012, there was little support for it among experts, who considered it to be a mission impossible. The perceived barriers can be summarized by three objections: i) it is impossible to establish what is “true;” ii) externalities cannot be calculated; and iii) people will not want to pay higher prices. We will discuss each challenge and explain how social and technological innovation has allowed them to be overcome.

What is True?

The first key challenge is a question posed by philosophers and consumers alike when they first hear about true pricing: “but what is true?” They wonder how social and environmental effects are monetizable and whether *all* things can be monetized, including child labor and biodiversity. And beyond that, how is it possible to come to a single price if people value things differently? They ask how to trace the infinite number of consequences of production, and whether monetizing harmful actions like slavery enables their commodification and justifies them through the profit, or pleasure, that they enable.

Economists have traditionally tackled the pricing of externalities through *shadow prices*. They assume that the perfect *shadow price* should take the form of a tax that factors in all positive and negative externalities, perfectly balances all (internal and external) costs and leads to a market equilibrium that benefits all parties. This has its origin in nineteenth-century (British) utilitarian and naturalistic conceptions of society, which still underpin neoclassical economics. In this paradigm, market outcomes are believed to represent an almost natural equilibrium of market forces that, ideally, should maximize the sum of the utility experienced by all individuals.

Calculating this perfect shadow price runs into all the aforementioned problems and has proven elusive for over a century. True Price found a solution:

find truth in the rights of people. A price is considered true if, in producing and consuming a product, all basic rights are respected.

This *rights-based approach* builds on the social innovation represented by the postwar consensus that the social order should be based on universal rights. After the Second World War, a global understanding that people have human rights grew. The United Nations subsequently began to recognize labor and environmental rights and the twenty-first century saw the recognition of the responsibility of market players to respect rights (United Nations, 2011). The set of universal rights is evolving, its interpretation varies per country, and adherence to them is highly imperfect. Still, universal rights have become a global consensus: all countries have come to adopt the Universal Declaration of Human Rights, just as all adopted the 2030 Agenda outlining the Sustainable Development Goals (United Nations General Assembly, 2015).

True Price argues that the implications of globally accepted rights and responsibilities are that, if market players cause negative externalities that breach a human right, they have the responsibility to remediate this harm. As a result, it is not necessary to measure all positive and negative externalities to calculate the true price. Nor does the true price gap reflect the intrinsic value of damages, such as child labor or climate change or an “exchange rate” to off-set these harms. Rather, the true price specifies what buyers ought to pay if they want to meet their responsibilities toward their fellow people in the marketplace.

Based on above principles, True Price developed a framework to establish true prices (True Price Foundation, 2020a). This framework has been successfully applied to calculate the true price of the food products found in the Store.

Too Complex to Compute and Account

The second barrier to establishing true prices is the theoretical complexity of computing externalities and accounting for them in practice. This has first been made possible by relatively recent theoretical advances in scientific fields such as environmental and ecological economics and environmental and social life cycle analysis, resulting in a new True Cost Accounting discipline. For example, a recent United Nations–The Economics of Ecosystems and Biodiversity study represented a milestone in the economic analysis of ecosystem services and biodiversity but only began in 2007.

Accounting for externalities in practice has been made possible by the recent information revolution. The cost of storing, communicating, and processing information has dramatically declined, unlocking data at an unprecedented rate. This makes it possible to gather, account, aggregate, and verify the necessary data. Whereas accounting for externalities is still immature, it was either impossible or prohibitively expensive just two decades ago.

At a modest scale, the businesses that provide products in the True Price are current examples of the possibility of computing and accounting true prices using the latest information.

Too Expensive

The final perceived barrier is that consumers and voters will be reluctant to support true pricing, as it increases their cost of living, albeit to the detriment of others, such as poor farmers or future generations.

In the end, this is an empirical question. The latest science suggests an increasing willingness on the part of consumers to participate in true cost purchasing. The selfishness of people is a fundamental tenet of classical economics, but based on armchair speculation. Actual research conducted by behavioral economists in this century suggests that the majority of individuals are willing to sacrifice material wealth for the sake of others, if others do so as well (Fehr and Fischbacher, 2003). Recent research suggests that 37%–54% of consumers are willing to pay more for sustainable food (PwC, 2019), for example. Anecdotal evidence from the True Price Store suggests that a majority of customers are willing to pay the true price, including the many unsuspecting customers—like tourists—who come to buy cool chocolate bars and have never heard of true prices.

Even if many people would not accept higher prices, this is not a show-stopper. A strong argument can be made that true prices can drop significantly. Preventing externalities is typically much cheaper than remediation. Currently, there is no pressure to reduce unknown true costs. True pricing would unleash the power of markets to decrease external costs by leveraging innovation, competition, and entrepreneurship. Finally, if governments are smart, they will tax external costs and decrease the price of sustainable and healthy food with the revenues.

The picture above shows a pyramid of blue crates in the True Price Shop in February 2020. Each crate contains a product for which the true price is known or will soon be known. In white the retail price is shown—the price at which the product is typically sold for in stores. In blue, the true price of the product is shown. For example, one crate contains bananas that typically costs 1.52 per kilogram and reveals that their true price is €1.86. Another crate contains a pair of jeans with a typical retail price of €40 and a true price of €73. True Price aims to place such blue crates with true priced products in stores and restaurants of other organizations as part of the “blue crate movement.”

How?

The previous sections presented the case that true prices are an effective and feasible solution to external costs. This leaves the question: *how* can true pricing be implemented? True Price envisions a five-step implementation (True Price Foundation, 2019):

- 1 The provision of *Transparency* about true prices of products by businesses and the use of this transparency by consumers.
- 2 The *Transformation* of production by businesses to prevent external costs.

Figure 18.1 True Price Store display

- 3 The *Transaction* by consumers to pay for repairing external costs that cannot be prevented.
- 4 The *Taxation* of external costs and the subsidization of sustainable food by governments to incentivize businesses to produce sustainable products and enable consumers to buy them.
- 5 The *Taking out* of externalities by regulation where it is feasible and remediation is undesirable.

These '5Ts' have a logical order. In practice they can occur in parallel or in different order.

Transparency

The starting point is transparency. This requires producers to compute and disclose their true prices, providing consumers and other buyers with the information needed to make sustainable decisions. Transparency also provides the information required for the other steps.

True prices are computed in five phases. In the *scoping phase*, all relevant processes of a product's lifecycle are determined, together with relevant negative externalities per process. In the *measurement phase*, the externalities are quantified, providing footprints like tons of hectares of land used or full-time equivalent hours of child labor. Measurement requires data collection. Ideally all data is primary data, collected at all the production sites across the globe. In practice, one has to work with a combination of primary data, estimates from product-specific lifecycle models, and data from macroeconomic input-output models. In the *monetization phase*, the footprints are monetized by estimating the remediation costs, using local factors where possible. In the *aggregation phase*, all remediation costs are summed to come to the true price gap. Finally, in the *validation phase*, results are validated.

Consider a pure chocolate bar of Tony Chocolonely's. It was the first company to calculate their true price and supply bars in the Store. The key parts of its lifecycle are farmers growing cocoa beans, chocolate processors using beans to make cocoa liquor and butter, sugar plantations, and the chocolate factory making the bars. Other parts include the production of lecithin, aluminum, and paper, as well as transportation and retail.

Tony's was founded with the mission to create a slave-free chocolate sector. To maximize its impact on the sector, Tony's built a value chain that others can emulate. Therefore, it sources cocoa from smallholder farmers in Ghana and Côte d'Ivoire, who produce the majority of the world's cocoa (Ceres, 2020). Similarly, Barry Callebaut, the world's largest chocolate processor, processes its beans. For each step, the potentially relevant external costs were established based on previous research.

Through its *bean to bar* program, Tony's knows the cooperatives that it sources from. This greatly facilitates the measurement phase, as primary research can be done on the main ingredient. Data from most other ingredients come from secondary sources. The analysis then results in footprints. For example, the total emissions per bar are 0.66 kgCO₂-eq.

Based on a monetization factor of \$0.13/kgCO₂-eq, this implies remediation costs of \$0.09 per bar. By similarly monetizing and aggregating all remediation costs, a true price gap of \$0.99 is established. \$0.95 of the remediation costs are related to cocoa cultivation and \$0.03 to sugar cultivation. The largest environmental costs are land use (10% of the gap), climate change (9%), and soil pollution (7%). The largest social costs were underearning of farmers and underpayment of workers (29%), child labor (14%), and harassment (10%).

The validation phase showed that the calculated results were justified, although at this stage footprints and remediation costs involve uncertainty.

After computing the true price, it can be shown to customers. Business clients can use this information to reduce the true price gap of the products that

they sell. Consumers can use it to be as sustainable as possible (select the product with the lowest true price gap) or otherwise search for products with a lower true price gap and affordable price.

Tony's, Van Vessel, and others show their true price in the True Price Store. As this is just one store, it is more significant that they use this information in their own communications. Because true prices are not widely available, brands typically provide a benchmark to give their consumers the context that they need. For example, Van Vessel uses this information to show consumers that its bread is twice as sustainable as the average bread in the Netherlands (True Price, 2018b).

Transformation

The second step is the *transformation* of production to realize (more) sustainable products. By changing the product, the ingredients and the ways of production, businesses can reduce their true costs.

For example, Van Vessel—a baker with seven stores—uses its data on true prices to develop recipes that lower the true price gap of its bread (*ibid.*).

Tony's also uses true price data to inform its interventions. When Tony's first calculated its true prices, the external costs of their cocoa were around \$9.30 per kilogram (True Price, 2018a). On the one hand, that was better than the \$16.60 of external costs of the average cocoa from Western Africa. On the other hand, it was not fully sustainable. It took various steps, including calculating the price that farmers would need to receive to realize a living income, better monitoring of child and forced labor, and measuring their carbon footprint. Later, Tony's started to pay above the market price to close the living income gap. Tony's managed to reduce its external costs from \$9.30 in 2013 to \$5.30 in 2018 (*ibid.*). To be able to pay farmers more, it needed to increase its price and explained this to consumers. Despite this, Tony's has been commercially successful, becoming one of the largest chocolate brands in Dutch supermarkets, surpassing traditional chocolate giants.

Transaction

The third step is *transaction*. In the short run, it is impossible for consumers (and businesses) to only purchase products without external costs, as these simply do not exist. Hence, to meet their responsibility, buyers need to be given the opportunity to pay the true price and remediate harms in the best way possible. Remediation is just starting to become available. It requires the availability of organizations that provide remediation in a highly reliable and effective manner.

Currently, remediation for two externalities can be provided in the Store. Hence, consumers can currently see the true price, but pay a “truer price.” The externality with most remediation providers is climate change. In the True Price Store, consumers can pay to remediate the carbon emissions from their products. This is provided to a company that plants forests in deserts and provides real-time data on trees planted. Consumers can also pay to remediate underpayment to workers. However, owing to the difficulty of reaching individual workers in the value chain, at the

moment this is given to a non-governmental organization that gives verifiable direct payments to people living in poverty. While an imperfect implementation of true pricing, the Store is working on a better system with the businesses involved.

Taxation

The fourth step is *taxation*. Transparency, transformation, and transaction enable market participants to buy and sell sustainable food if they want to. In addition, they create an incentive for businesses to make products more sustainable. Still, they do not resolve the perverse incentive that less sustainable food is cheaper than more sustainable food. Nor do they alleviate the problem that for low-income families it can be a real problem to pay more for food. This means that taxation is an important step in true pricing: governments can make value-added tax proportional to the true price gap by, for example, making more sustainable products cheaper and less sustainable products more expensive. This closes the incentive and affordability problems.

Taking-Out

The final step is governments *taking out* products that have unacceptable external costs. For various externalities, remediation is a perfectly acceptable manner to deal with external costs, and taxation is a suitable form of government intervention. For example, for CO₂ it does not matter whether it is avoided or taken out of the air quickly. Other externalities, such as forced labor, ought to be prevented. Hence, in such cases the prohibition of these externalities forms the final step of true pricing.

In practice, prohibitions are problematic. First, they often exist but are not enforced effectively. Second, governments have no jurisdiction to prohibit or enforce prohibition in other countries. Third, consumers and businesses have no way at all to prohibit or enforce prohibitions. Hence, until there is an effectively enforced global prohibition, transformation, transaction, and taxation are needed for such externalities.

Conclusion

Currently, it is possible to calculate the true price of a product and show it to consumers. Various businesses are applying it and there is a store where consumers can see and pay the true price. All these things were inconceivable less than a decade ago. This means that pricing externalities is no longer a pipe dream. However, optimism is still required to see true pricing taking over the global economy. The fact that there is at least one store where prices are a bit truer, however, could warrant a healthy dose of such optimism.

Note

- 1 An important question is if animals and nature are included in social and environmental rights held by humans or if they have rights in themselves.

References

- Ceres. (2020). Engage the Chain. An Investor Brief on Impacts that Drive Business Risks – Cocoa. Available at: <https://engagethechain.org/sites/default/files/commodity/Cocoa%20Brief%20Engage%20the%20Chain%20Oct2020.pdf>.
- Fehr, E. & Fischbacher, U. (2003). The nature of human altruism. *Nature*, 425, 785–791. doi:10.1038/nature02043.
- Food and Agriculture Organization of the United Nations, International Fund for Agricultural Development, UNICEF, World Food Programme, and World Health Organization. (2020). The state of food security and nutrition in the world 2020. Transforming food systems for affordable healthy diets. Rome: Food and Agriculture Organization of the United Nations. doi:10.4060/ca9692en.
- Global Burden of Disease 2017 Diet Collaborators. (2017). Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet* 393(10184), 1958–1972. doi:10.1016/S0140-6736(19)30041-8.
- Hodal, K. (2019). The briefing. One in 200 people is a slave. Why? *The Guardian*, February 25, 2019. Available at: www.theguardian.com/news/2019/feb/25/modern-slavery-trafficking-persons-one-in-200.
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. (2019). *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. E.S. Brondizio, J. Settele, S. Díaz, & H.T. Ngo (Eds.).
- International Labour Organization. (2017b). Global estimates of Child Labour: Results and trends, 2012–2016. Available at: www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/publication/wcms_575499.pdf.
- Laffont, J.J. (2008). Externalities. In *The New Palgrave Dictionary of Economics*. London: Palgrave Macmillan. doi:10.1057/978-1-349-95121-5_126-2.
- Nature Editorial. (2019). Counting the hidden \$12-trillion cost of a broken food system. *Nature*, 574(296). doi:10.1038/d41586-019-03117-y.
- Network for Greening the Financial System. (2020). NGFS Climate Scenarios for central banks and supervisors. Available at: www.ngfs.net/sites/default/files/medias/documents/ngfs_climate_scenarios_final.pdf.
- Pigou, A.C. (1920). *The Economics of Welfare*. London: Macmillan.
- PwC. (2019). 2019 Global Consumer Insights Survey Sustainability. Retrieved October 11, 2020. Available at: www.pwc.nl/en/insights-and-publications/services-and-industries/retail-and-consumer-goods/2019-consumer-insights-survey/sustainability.html.
- Science Advice for Policy by European Academies. (2020). *A sustainable food system for the European Union*. Berlin. doi:10.26356/sustainablefood.
- True Price. (2018a). The True Cost of Cocoa. Tony's Chocolonely 2018 progress report. <https://trueprice.org/wp-content/uploads/2018/11/The-True-Price-of-Cocoa.-Progress-Tonys-Chocolonely-2018.pdf>.
- True Price. (2018b). The First Ever True Price of Bread. Retrieved July 18, 2020. Available at: <https://trueprice.org/consumer/bread-bakker-van-vessem>.
- True Price Foundation (2019). A roadmap for True Pricing. Available at: <https://trueprice.org/a-roadmap-for-true-pricing>.
- True Price Foundation. (2020a). Principles for True Pricing. Available at: <https://trueprice.org/principles-for-true-pricing>.
- True Price Foundation. (2020b). Monetisation Factors for True Pricing. Available at: <https://trueprice.org/monetisation-factors-for-true-pricing>.

- United Nations. (2011). Guiding principles on business and human rights: Implementing the United Nations “Protect, Respect and Remedy” framework. Available at: www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf.
- United Nations General Assembly. (2015). Transforming our world: the 2030 Agenda for Sustainable Development. Available at: www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E.pdf.
- World Bank. (2020a). Understanding Poverty. Overview. Retrieved July 13, 2020. Available at: www.worldbank.org/en/topic/poverty/overview.