

## The Cost of Food Crime Phase 2 - Introduction

This model aims to capture the full range of impacts that food crime has on the UK economy, and is explicit in the areas where data availability prevents estimation. The most significant problem in assessing the cost of food crime is the lack of statistics and other evidence, and the consistency of the data that does exist. Therefore, we identify the data sources available and offer indicators for further developments to improve future estimates.

Only two academic papers (Spinks and Fejes, 2012; Lord et al, 2017) assess the cost-benefits of food crime, at the micro-level of an individual item or incident, in order to illustrate that there is an economic motivation for individual entities to engage in food crime. From media, professional and industry sources, there are only three figures proposed and the same three figures are used regularly to indicate the likely costs involved in Food Fraud (the term also used is 'economically motivated adulteration' or EMA). The rationale and evidence behind these figures are critically evaluated in the Literature Review section. In brief, the generally accepted figures are:

- a. The Grocery Manufacturers Association (GMA, 2010) suggested that the total cost of food fraud to the global food and drink industry is US\$10-15million a year. This is based on surveys of food industry companies who estimated their losses per event and then estimated the number of events.
- b. Attributed to PwC, around 2013, the figure of US\$30-40billion for global losses to food fraud is used. This is based on the level of counterfeit products occurring globally at an estimated 5-7% of World trade, and applied to the value of food trade globally.
- c. The Centre for Counter Fraud Studies at University of Portsmouth gives £34.6 billion for the possible fraud losses to the UK, based on loss estimate exercises across organisations in all sectors that show an average fraud loss of 5.92% of turnover per year. However, this estimate covers all types of fraud perpetrated against organisations including, for example, payroll fraud and all types of purchasing fraud.

Each of these three figures is a projection rather than being derived from a detailed economic or accounting methodology and hold a number of weaknesses. The most significant issue in current estimates of the impact of food crime is confusion between the terms in use. One of the aims of this report is to bring clarity to the issues involved by providing a framework based on the FSA/Elliott (2014) definition of food crime and to isolate the elements that should and should not be included in the calculation of the cost of food crime.

We use the definition of food crime given by the Food Standards Agency (FSA) in the brief for this project, which is stated as:

**Food crime is serious fraud and related criminality within food supply chains that impacts the safety or the authenticity of food, drink or animal feed. It can be seriously harmful to consumers, food businesses and the wider food industry. [\(footnote 1\)](#)**

The FSA (Ibid.) categorises activities observed within food crime as (Ibid.):

- theft – the dishonest appropriation of food, drink or feed products from their lawful owner with an intention to benefit economically from their subsequent use or sale
- unlawful Processing – the slaughter or preparation of meat and products of animal origin in unapproved premises or using unauthorised techniques
- waste Diversion – the unauthorised diversion of food, drink or feed intended for disposal back into relevant supply chains
- adulteration – reducing the quality of a food product through the inclusion of a foreign substance, with the intention either to make production costs lower, or apparent quality
- substitution and Counterfeiting – replacing a food product or ingredient with another substance of a similar but inferior kind
- misrepresentation – the marketing or labelling of a product so as to inaccurately portray its quality, safety, origin or freshness
- document Fraud – the use of false or misappropriated documents to sell, market or otherwise vouch for a fraudulent or substandard product

These definitions are a refinement of those given in Elliot (2014) following the 2013 Horsemeat Scandal in Europe (the NFCU was set up following recommendations in this report). They clearly articulate the FSA's fundamental mission to ensure that consumers have confidence that their food is safe and what it says it is.

Whilst cases of theft can be included in the CoFC model, the theft category was deliberately excluded in order to focus on the six categories associated with fraudulent processing and delivery activities within the supply chain. Furthermore, theft was excluded from the analysis of victimisation survey responses to avoid overestimation of food fraud activity. Therefore, throughout this report the term food fraud is used to explicitly include all food crimes with the exception of theft.

There is a large literature that assesses the costs of various types of crime by splitting costs into several categories and collecting data for these categories from various sources. To the best of our knowledge, however, there is no study that applies this method to the quantification of the cost of food crime. For instance, McCollister et al. (2010) calculate costs of crime for a range of specific crimes, using a combination of cost-of-illness and jury compensation methods known from previous studies. We make use of McCollister et al. (2010) to provide the basic framework for estimating the economic cost of crime. This is a 'bottom-up' accounting method that requires calculating individual cost elements and a summation of all elements to arrive at the total cost. However, we depart from this work in two major areas:

1. Firstly, we define each model element for use within the food fraud context. The McCollister et al. (2010) approach is a 'bottom up' cost method that aggregates the individual cost category elements. These elements need to be carefully defined for the specific context of the crime(s) being examined. Whilst 'fraud' and 'counterfeiting' are crimes investigated by McCollister et al. (2010), some cost elements are not applicable to food fraud (such as, damage to property) and other obvious issues are not considered (such as, loss of profits of genuine firms). As such, the model does not directly translate for use with estimating the cost of food fraud.
2. Secondly, we include an approach to estimate the loss of profits for genuine (non-criminal) firms in the market. A distinctive feature of food fraud is that it can occur alongside legal economic activities, which means that legal and illegal activities will impact on each other. If businesses involved in food fraud are better able to reduce product prices, this can result in the loss of profits for the genuine competing firms.

1. [Food Crime](#) food.gov original quote extended following advice from the NFCU.