ODI Briefing: evidence base on the value of data sharing, access and use

Some reports measure the economic value of data sharing, access and use by measuring the benefits that data collectors or stewards, intermediaries and users may reap from it. However, the estimations provided by these reports **should be taken only as a baseline, as they most likely underestimate the total contribution of data to GDP**. For one, they don't consider how the same data may be used to generate value by other intermediaries and end users in the future, and they underestimate the positive externalities that are not captured by data stewards, intermediaries and direct users.

Another set of studies has tried to look directly at how data sharing, access, and use may affect aggregate GDP numbers. In general, **estimates for the value of open data as a percentage of GDP have ranged from 0.08 percent to 7.19 percent** (see: 'The Economic Benefits of Open Data' by the European Commission, 2020) **,** derived from different mixtures of sectors, countries, types of data, potential benefits, and other factors. Note that open data is only one method of sharing data, so overall benefits will be larger than this.

The 2017 European Commission report, "Enter the Data Economy: EU policies for a thriving data ecosystem", estimated that "even limited use of big data analytics solutions by the top 100 EU manufacturers could boost EU economic growth by an additional 1.9%". A recent 2021 OECD report, 'Open data for finance as an emerging source of GDP growth' cites a 2021 McKinsey study, 'Financial data unbound: the value of open data for individuals and institutions' that estimated that a broad adoption of open-data ecosystems in the finance sector alone may **boost GDP growth by a range between 1% and 1.5%** in the UK, the USA and Europe; and bigger numbers of **around 5%** in countries like India.

It is important, however, to note that data is contextual and so are the benefits and costs associated with it. Moreover, **the potential to impact GDP by increasing openness depends on the capacity of actors to derive value from it, which is contingent to legal, commercial and technical expertise.** Maximising the impact of open data on GDP thus depends not only on providing access, but also in creating the capabilities for ensuring productive uses of data. The variability of estimates of the impact of open data on GDP responds to some extent to which sectors are included in the studies and what are the assumptions that are made about the capacity of different actors to benefit from it.

Data Sharing and Access

The 2013 independent Shakespeare review of public information (BEIS) estimated that the economic benefits of releasing just public sector information to the UK are "conservatively" estimated to be around **£6.8bn a year**, with **direct benefits at £1.8bn**, including: £1.6bn consumer surplus from direct use and consumption of public sector information-related product, £100m producer surplus from revenue generated by the sale of public sector information by holders, £100m supply chain effects from increased jobs and related consumer spending from the production of public sector information; and indirect benefits at

£5bn. Note again that public sector information is a subset of potentially sharable data, so overall economic benefits from increased sharing of data will be larger than this.

Beyond the direct benefits of data sharing to economic actors, setting up data infrastructure can also yield indirect benefits by raising the total factor productivity. In that sense a 2013 Market Assessment of Public Sector Information (BEIS) highlighted that **"the use and re-use of public sector information has much larger downstream impacts affecting all areas of society beyond the direct customer"**.

Sharing data can also create benefits for data collectors and stewards in the form of cost-savings. A 2017 study conducted by Deloitte, 'Assessing the value of TfL's open data and data partnerships", found that by sharing its data freely and openly, **TFL saves £1 million per year** in customer support costs that they would otherwise have to bear.

The 2018 HMT report 'Getting smart about intellectual property and intangible assets' highlights that knowledge assets, including data, are undervalued and underexploited in the public sector in the UK. Although official national accounts report that knowledge assets account for only 2% of public assets, studies have estimated that knowledge assets in the public sector represent at least 4x that (8% of total public assets). Based on this estimate, the **HMT considers that knowledge assets should generate £5 billion financial, economic, and social benefits per year at least.** Note that these knowledge assets includes, but is not limited to, public sector data.

But beyond sharing public data, promoting data sharing among private organisations can also boost economic growth. A 2019 **independent assessment by London Economics of the ODI's work on data trusts** identifies three ways in which data sharing can generate economic benefits: through external benefits that arise from an **increased use of data** (which may not be necessarily perceived by the data subjects or stewards themselves), through **increasing productivity** by making it less costly to develop new data-enabled products and services, and by **fostering innovation** from combining data in new ways across different organisations and industries.

A 2020 report on The Value of Data (ODI and the Bennett Institute for Public Policy) notes that "Access to data is intrinsic to its value. In general, the more accessible data is, the greater value it has, although this has to be balanced against risks to privacy and incentivising investment." Access to data allows intermediaries to generate value for the economy. The same study by Deloitte cited above, noted that by accessing TfL's open data, **intermediaries have contributed £14m per year** to London's economy and **generated over 700 jobs**.

Data Use

According to research cited by the 2018 HMT discussion paper on the economic value of data, above, firms adopting data-driven decision-making can increase their output and productivity by 5-6%. The 2017 European Commission report, above, calculates that "even limited use of big data analytics solutions by the top 100 EU manufacturers could **boost EU**

economic growth by an additional 1.9%" Some of these benefits are only realisable through having access to data held by others (ie through data sharing).

A 2019 OECD report on Enhancing Access to and Sharing of Data suggests that "data access and sharing can increase the value of data to holders (direct impact), but it can help create **10 to 20 times more value for data users (indirect impact), and 20 to 50 times more value for the wider economy (induced impact)**". Furthemore, it notes that data access and sharing can help generate social and economic benefits worth between 0.1 % and 1.5 % of gross domestic product (GDP) in the case of public-sector data, and between 1 % and 2.5 % of GDP (in few studies up to 4 % of GDP) when also including private-sector data.

The 2020 ODI/Bennett Institute report, above, cites two cases in that regard: TfL data **saves time worth £70m–£90m/year** for those travelling around London, and increases the accessibility of public transport for those with accessibility needs, according to the Deloitte study cited above. Landsat data contributes to monitoring and protecting the environment, enforcing regulations and increasing human safety, generating benefits for around **US$ 1.8b/year for its final users** (See: 'Benefits of the free and open Landsat data policy' in *Remote Sensing of Environment* journal, 2019).

One of the challenges of measuring the economic impact of open data, however, is that we can't know how it might be used by others in the future. What has been shown in the reviewed studies, then, should be taken as a baseline to estimate the economic impact of open data. **To maximise the potential benefits of open data, it's important for governments to actively create the conditions for data sharing across industry siloes, and to avoid creating conditions that may limit data use in the future**.

Additional resources

- European Commission (2020), The Economic Benefits of Open Data
- The European Data Portal (2020), High value datasets: understanding the perspective of data providers.
- The ODI and Bennett Institute for Public Policy (2020), Literature Review on The Value of Data
- The ODI (2015), Open data means business
- The ODI (2015), The economic impact of open data: what do we already know?
- World Bank (2014), Open data for economic growth
- McKinsey (2013), Open data: unlocking innovation and performance with liquid information