



JOINT COMMITTEE OF THE EUROPEAN  
SUPERVISORY AUTHORITIES

19 December 2016

## Big Data: Frequently Asked Questions and Answers

### 1. What is Big Data?

Big Data is a phenomenon resulting from a whole string of innovations in several areas. The concept is used broadly to cover the collection, processing and use of high volumes of different types of data from various sources, often using powerful IT tools and algorithms.

The term 'Big Data' encompasses the data itself and the technologies and procedures followed to process and analyse the data. In processing and combining data from different datasets and sources there is the potential for new insights and findings, such as revealing connections, which were unknown or unused before.

Big Data is used to reveal patterns or correlations, to generate new ideas or solutions or, importantly, to predict future events in a more accurate and timely manner.

### 2. Why are the ESAs consulting on the use of Big Data by financial institutions?

Internet, mobile phones and mobile-connected devices have become core elements of our lifestyle. With the costs of computing and storage decreasing, and capabilities to analyse large sets of data increasing, the use of Big Data is growing across a variety of sectors, including the financial sector.

The use of Big Data is likely to transform the way products and services are offered in the financial industry with both potential benefits for consumers and financial institutions, and potential risks. The ESAs are therefore interested in

better understanding the impact of this phenomenon on the financial industry to assess whether any supervisory or regulatory actions may be needed.

### **3. What types and sources of data do financial firms use?**

Data may come from both internal sources (such as payments data, claims or complaints databases...) and external sources (news, social media, flood risk maps...).

Consumer data: Firms collect and use various types of consumer data, for example, ID or contact details, browsing history, log data, professional data, personal interests, financial and payment data, consumer complaints or queries, social network information, driving and location data, information from store cards/credit cards, data collected for suitability assessments or data collected for creditworthiness assessments.

Other types of data such as financial markets data, news, price, meteorological statistics, etc. are also increasingly available in real time and seamlessly integrated into financial institutions' Big Data related processes.

### **4. What is the purpose of Big Data in the financial sector?**

The financial industry uses Big Data for a variety of reasons with the common end goals of deriving an economic benefit or competitive advantage from it, or enhancing efficiency.

Examples include:

- Profiling customers to help firms build up customer loyalty by:
  - a. monitoring consumer sentiment towards their products; or
  - b. providing more tailored services or products.
- Marketing campaigns.
- Fraud prevention.

## **5. What are examples of Big Data use in the financial industry?**

Financial institutions across the banking, insurance and investment sectors have already started using Big Data techniques, for example:

- Banking sector: Banks use financial and payment data to assess consumer credit worthiness.
- Insurance sector: Telematics in cars are used to monitor the driving behaviour of consumers and then offer them individualised policies and prices.
- Investment sector: Certain asset managers and some firms using high frequency trading (HFT) analyse large volumes of data from a wide variety of datasets at very high velocity through the use of algorithms to make investment decisions.

## **6. What is the scale of Big Data usage in the financial sector?**

Currently, there are no comprehensive statistics or data on the exact number of EU financial institutions using Big Data or on the market share of the key users and owners of Big Data technologies.

## **7. What are the main potential concerns about using Big Data?**

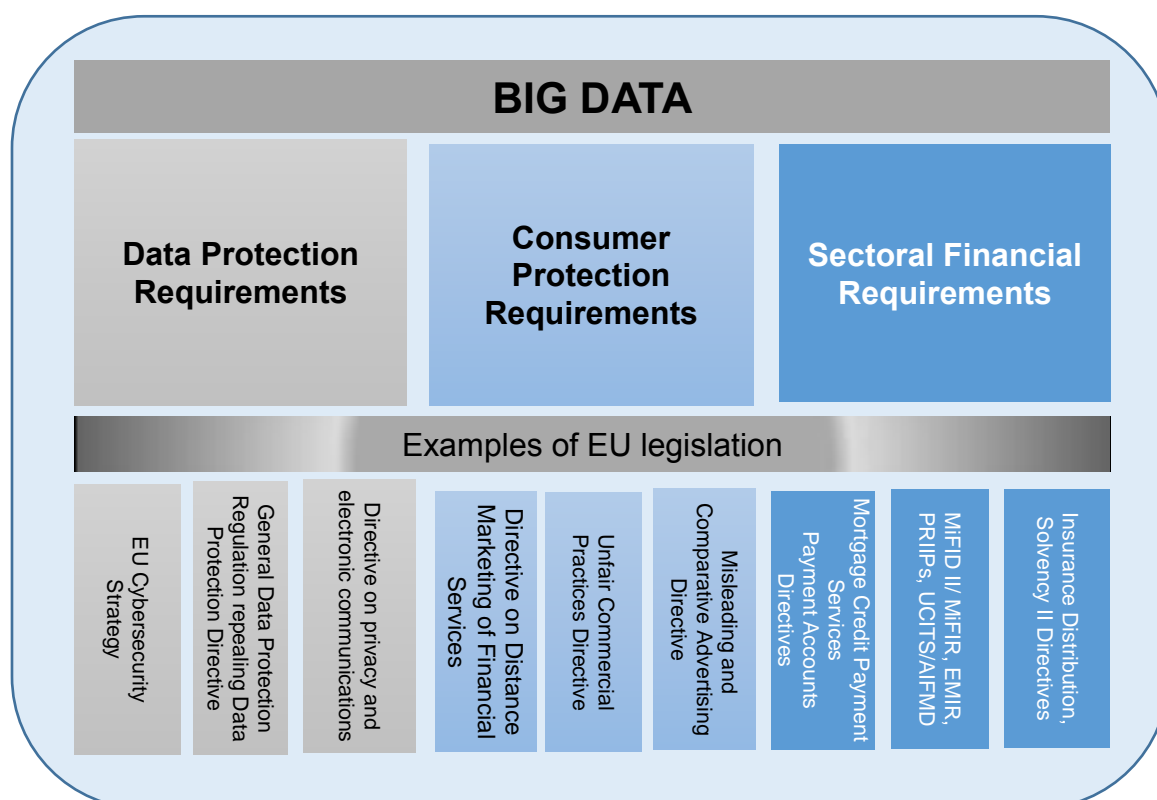
- Consumers' access to products/services: It could become harder for some consumers to access certain products and services due to being classified as 'undesirable' given firms' abilities to undertake more granular analyses. For example, consumers seeking household insurance for properties located in areas exposed to high risks such as floods, earthquakes or crime may have to pay higher prices or even be barred from accessing the services or products.
- Fair pricing practices: Firms' capacity to undertake rapid, detailed analysis could raise issues around financial institutions' pricing practices. For example, firms may increase prices based on analytical data showing a

customer's likely willingness to pay more, or demonstrating his/her inertia to switch products.

- Limitations and errors: Big Data can only deliver benefits if the data used is accurate and the algorithms are sound and unbiased.

## 8. Is Big Data covered by any existing legislation?

There is existing EU legislation on data protection, competition and consumer protection which is relevant for financial firms while not explicitly addressing Big Data.



## 9. What future action will the ESAs take?

Following the close of this consultation on 17 March 2017, the ESAs will assess the feedback they receive to determine whether any regulatory or supervisory actions are needed. The ESAs decision regarding next steps will be published in the course of 2017.