March 2017

INTESA SANPAOLO GROUP RESPONSE TO

*Joint Committee Discussion Paper
on the Use of Big Data by Financial Institutions*

Intesa Sanpaolo Group is one of the largest European banking groups with a strategic presence in Eastern Europe and in the Mediterranean basin. It provides companies with a full range of services and products to households and businesses. The Group is active in capital markets through Banca IMI, its investment bank, in the asset management business through Eurizon, in the venture capital through IMI Fondi Chiusi, in the third sector through Banca Prossima and Mediocredito Italiano for long-term credit. ISP is also at the forefront of financial innovation.

Intesa Sanpaolo Group welcomes the opportunity to present its comments to the European Supervisory Authorities on the use of Big Data by Financial Institutions.

Key messages:

- Intesa Sanpaolo recognizes the importance of the Big Data phenomenon as a tool that can potentially foster innovation and promote the development of new products/services tailored on the customer's needs (eg. in the field of cyber security or fraud, or by offering most suitable financial advice, according to the customer's profile).

- However, Intesa Sanpaolo does not believe that the use of Big Data can or should have, as a consequence, a lower privacy protection, provided that the customer is adequately informed of the logic of the treatment underlying the Big Data Analysis, the purpose of such a treatment and his/her acquired consent when required.

- Intesa Sanpaolo believes that, at this stage, the EU regulatory framework is comprehensive and there is no need to further expand it, although some adjustments should be envisaged in order to allow Financial Institutions to fully embrace the digital revolution and guarantee a level playing field for all entitles involved in the same kind of services. It is indeed worth to highlight that the number and kind of diverse players to be considered in this new scenario includes also tech-giants. In this regard, we think there is a risk of weakening of the level playing field between established financial institutions and potential new entrants, especially where the latter are strong technology companies using Big Data.

- At this stage, given the fact that Big Data Technologies are at their early stage and the new forthcoming regulation frameworks (such as the GDPR-General Data Protection Regulation, for example) have not been implemented yet, it might be premature to foresee any new regulatory framework. Therefore, Intesa Sanpaolo suggests the ESAs to adopt a "wait and see approach" and highlights in its response some possible suggestions to improve the existing legal framework.

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Responses

1.Do you agree with the above description of the Big Data phenomenon? If not, please explain why. Please also mention whether you consider that other characteristics are relevant to understanding the use of Big Data.

We agree with the description of the Big Data phenomenon provided by the European Supervisory Authorities (ESAs).
However, we would like to add another relevant characteristic to understand it. This new tool requires a significant financial commitment to be deployed by the business system: rapidity and effectiveness in the implementation of innovative solutions brings a competitive advantage to the entities which will be able to capture this opportunity, being them incumbents or new entrants.

2.Which financial products/activities are (likely to be) the most impacted by the use of Big Data and which type of entities (e.g. large, small, traditional financial institutions, Fintechs, etc.) are making more use of Big Data technologies? In light of ESAs' objective to contribute to the stability and effectiveness of the financial system, to prevent regulatory arbitrage, do you consider that there is a level playing field between financial institutions using Big Data processes and those not using them (e.g. because they do not have access to data or the (IT) resources needed to implement Big Data processes) or between established financial institutions and potential new entrants (e.g. Fintechs) using Big Data processes? Please explain.

In our view, any kind of financial products/activities is being impacted and particularly those that are virtualized/digitalized, with priority to the application of predictive models to marketing (cross selling and pricing), to processes (optimizations, prioritizations, operational strategies) and security.

Any kind of Financial Institution can take advantage of Big Data: large organizations, because Big Data is already a reality for them and Fintech start up too, because their business model is based on this new tool. Nevertheless, it is worth to highlight that the number and kind of diverse actors to be considered in this new scenario includes not only start-ups, but also tech-giants. In this regard, we think there is a risk of weakening of the level playing field between established financial institutions and potential new entrants, especially where the latter are strong technology companies using Big Data. Indeed, there are important entities which have legitimately gained a dominant position in a specific market (e.g. search engines or social networks) which allows them to collect impressive amounts of data. These companies could use such Big Data in order to access different markets, using their position in their market of origin to strengthen their presence in new sectors such as the financial market. In our opinion, the maintaining of a level playing field could require a new approach and the issue of the transfer of competitive advantages from a market to another should deserve greater scrutiny from the ESAs.

With regard to the insurance sector, the most impacted segment seems to be "Property and Casualty" (P&C). In particular, the pricing process of products like Motor, House, Health Insurance, etc. will certainly benefit from a proper implementation of Big Data processes, in terms of better risk selection, or fraud detection, etc. For example: in car insurance, the integration of telematics and Big Data analytics provides to insurers an excellent instrument to monitor the driving behavior, rewarding safe drivers at the time of renewal. Life insurance will be also strongly impacted, mainly in terms of better comprehension of the customer needs and improvement in behavioral finance. There is a substantial difference in the value proposition of players that adopt Big Data technologies compared to those who don't. Soon, the traditional insurers that have not implemented Big Data processes will not be able to offer personalized products (in terms of pricing, features, customer service, etc.), exposing themselves to adverse risk selection, becoming more attractive to customers with riskier behavior and unhealthy lifestyle.

3. Do you offer/are you considering using Big Data tools as part of your business model? If so, please briefly describe: i) what type of entity you are, e.g., long established, start-up, a product provider, an intermediary; ii) the service you provide; iii) the nature of your clients; iv) your business model; v) whether the Big Data tools/strategy were developed by an external company or internally and whether you have related agreements with other entities (including non-financial entities); vi) what are the types of data used (personal, anonymised, user data, statistical data etc.) sources of data; and vii) the size of your Big Data related activity and/or forecast activity (e.g. to what extent are business decisions already taken on the basis of Big Data analysis; what other business actions could be based on Big Data in the future)?

Yes, we are using Big Data to streamline our internal processes and to improve existing products and services. We are constantly working to improve our data management system for business and risk management purposes in compliance with the regulatory and supervisory requirements.

i) Intesa Sanpaolo is a long-time established commercial bank with both retail and corporate customers, spread across several geographies also outside the EU countries.
ii) Within the Group, there are insurance companies and entities that provide specific products (eg: leasing, factoring, asset management, etc…). The Group provides its customers with a wide range of financial products and services covering different business needs (Corporate, Retail and Financial Institutions) and "vertical" area of business (Insurance, wealth management etc…).
iii) Any person and any kind of company can be our customer. We provide all kind of financial services for any kind of customer, from individuals to the largest national firms, government institutions and multinational companies.
iv) ISP's Business Model is based on covering its Customer's needs by a multichannel and multi product/service organization.
v) We have established a dedicated internal team that deals with the development of Big Data projects to support the entire Group. We are also supported by external partners -and Fintech are of course among them – who provide us with the best knowledge we transfer to our specialists.
vi) Concerning the sources, we use both internal and external data (from reliable sources). We use personal data according with the privacy legislation. We are also developing a data-masking model and IT controls access. Also, we use statistical data, user data and anonymized data.

vii) For the time being, the support offered by Big Data is limited but a growing development is expected. As a consequence, Big Data technologies will probably be part of our business model since we aim at being a "Data Company". This is a strategic and huge transformation for our Group as in the past, we managed Data only by our legacy systems. Strategies are based on Big Data analysis to build a dialogue with our customers in terms of assistance, caring and commercial offers, within the limit of the privacy law. The increasing amount of available information can be used to better understand, and therefore address, the needs of the current clients (e.g. for up/cross selling) and to attract new customers (e.g. by providing a tailored value proposition).

In ISP Group Insurance Division Big Data methodologies and processes are at their early stage of adoption. Projects/Proofs of Concept have been developed, both in Life and P&C sectors, aiming to explore the opportunities that can arise from their deployment. Mainly, external companies have been used for the technical know-how, while internal organizational units have maintained the project leadership and decision making. In Life Sector, personal and financial behavior policyholder data have been used to develop advanced analytics models, with the final aim of predicting and understanding the customer behavior (for example 'early surrender' of the policy). In P&C, different initiatives are taking place: experimental Proof of Concept projects are being run with the purpose to develop: dynamic/personalized pricing in motor, predictive models that aim to identify prospects with higher propensity of buying coverage, etc. For these projects, Insurance data is mainly used.

5. Do you consider there are (non-regulatory) barriers preventing you (or which could prevent you in the future) from collecting and processing data? Are there barriers preventing you from offering/developing Big Data tools in the banking, insurance and securities sectors? If so, which barriers?

Generally speaking, we consider there are some non-regulatory barriers that could prevent a Financial Institution from collecting and processing data. Firstly, the risk to incur in reputational damage in case of non-compliance with certain legal requirements. Secondly, technological barriers could (potentially) emerge. Financial Institutions could find obstacles in adjusting their technologies to certain requirements of the GDPR (e.g., reversible encryption of all the data lake, data protection by design...) and at the same time to respond to their business' needs. If these technological obstacles will not be overcome, Financial Institutions could be forced to abandon the use of Big Data and this could be detrimental also for their customers. Finally, there are gaps in digital skills which don't help to embrace new opportunities offered by Big Data both for the benefit of the bank itself and its customers. To respond to this challenge, we are developing, for example, a training programme that involves the Data Owners, the Data Technical Owners and the Data Scientists and we are also hiring talented young professionals for Data Science positions.

6. Do you agree with the above short, non-exhaustive, presentation of some of the main applicable requirements? If not, please explain why. Please also mention whether you consider that other legal requirements are essential and should be mentioned

We agree with the regulatory requirements identified in this document. We wish to stress the importance of some of these requirements, also in the light of the risks identified by this discussion paper: the transparency towards customers, particularly regarding the correct

identification of data associated to a specific subject, the reliability of the sources identified for the extraction of data and the correctness / updating level of data.

This is particularly relevant when Big Data is used to produce legal consequences on the subject (e.g. in the creditworthiness assessment procedure). These requirements should prompt the Data Controller to avoid from collecting non-authentic data or considering data from uncertain sources (such as, for example, from social networks).

Another crucial regulatory requirement is the transparency towards the subject on the purposes of the processing when using Big Data technologies. In this case, the subject must receive clear and specific information.

Finally, we suggest to consider also Directive (EU) 2016/943 of the European Parliament and of the Council of 8 June 2016 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure. This is an important new legal framework that might have some impact on Big Data.

7. Do you consider any of these regulatory requirements as unjustified barriers preventing you from using Big Data technologies? If so, please explain why. Please also explain whether you consider that further regulation (including soft law/guidance, etc. and insofar as it falls within the scope/remit of the ESAs) should be introduced to facilitate the use of Big Data technologies.

Generally speaking, we do not consider the existing legislation as an unjustified barrier to the use of Big Data technologies.

Finding the appropriate mechanisms to implement privacy principles in the Big Data environment is the most effective way to prevent a clash between privacy and Big Data. For example the "privacy by design" principle, introduced by the General Data Protection Regulation (GDPR), can be the right way to address the risks related with protection of personal data from the very beginning of the processing of the data itself and apply the necessary and most effective solutions in the different stages of the Big Data chain.

Nevertheless, we point out that the current legal framework (included the GDPR) is also based on the principles of purpose and purpose limitation. In fact, according to the current legal framework, personal data may be processed only for specific purposes that must be declared to the consumer and can be collected only on condition that the consumer gives his or her consent.

In case of use of Big Data, large amounts of Big Data are collected and processed without any initial specific purpose, and it may become clear what the potential use of that data could be only after it has been collected.

Another principle that is often mentioned is that of data minimization, meaning that there must be proportionality between the type and amount of data gathered and the purpose for their gathering; in any event, the amount and type of data collected should never be unjustified and excessive in relation to the purposes for which they are collected.

Finally, we would also like to highlight certain unintended consequences of prudential requirements on the digital developments. Please, refer to the European Banking Federation's

response on this point: *"The prudential regulation has some unintended consequences for the deployment of Big Data technologies in the financial sector: first, it penalizes the investment in software by considering it as an intangible asset and deducting it from the computation of CET1 (including any software developed to deploy data techniques). Second, it sets up a framework for remunerations that affects experts on data technologies and do not allow banks to compete with non-financial providers that are able to offer equity-like packages that are typical of the digital space".*

8. Do you consider the potential benefits for consumers and respectively financial institutions to be accurately described? Have you observed any of them in practice? If so, please provide examples. If not, please explain whether you are aware of any barriers that may prevent the above potential benefits from materialising?

Big Data can enhance the customization of digital contents for consumers regarding products and services, while making the processes more cost-effective for Financial Institutions.

Digital data application such as geo-localization for example, facilitates real-time assistance for customer. Analysis on customers product usage allows to better profile clients and building tailor-made offers.

Another example comes from the matching of CRM data with the web navigation data of current clients. By leveraging the knowledge of the clients' navigation data, Financial Institutions can better set-up their digital marketing campaigns by specifically targeting the audience. This process leads to lower campaign costs and more appealing digital advertising for the customers. Furthermore, increasing availability of information leads to more accurate credit worthiness assessments, reducing risks and costs for the financial institution.

Another benefit that we observe, is the possibility to offer services even to those people who relying exclusively on traditional instruments and would be excluded from commercial offerings.

In addition to that and, thanks to the huge amount of information provided through electronic channels (e.g. through online trading application) customers are today well equipped both from a digital and a financial point of view to fully understand and take advantage of the Big Data technologies: they can choose from a wide range of products and compare the offerings of different banks.

Concerning the insurance sector, benefits for consumers are basically related to customized products and services, built and based on their specific needs. "Good" habits will be awarded by insurers that will apply lower prices to the "good" customers.

However, it should be borne in mind that these are just "potential" benefits: in order to turn them into real benefits a huge work of upgrading skills, for example, should be done on customers, Financial Institutions and also on regulators. Indeed, we believe that to implement effective audit and certify innovative solutions (e.g. Big Data non-parametric models for rating) Data scientists' skills should also be developed by regulators.

Also, a too rigid interpretation of the GDPR could limit the use of Big Data technology. This means that if some measures (such as for example, the data protection impact assessment) are perceived as excessively cumbersome for Financial Institutions, they could decide not to propose new products/services related to the use of Big Data, thus limiting ultimately the advantages for the consumers.

9. Do you agree with the description of the risks identified for consumers and respectively financial institutions? Have you observed any of these risks (including other risks that you are aware of) causing detriment to consumers and respectively financial institutions? If so, in what way? If not, please explain why. Please also mention whether certain risks for consumers and financial institutions have not manifested yet but have the potential of developing in the future and hence need to be closely monitored by Supervisory Authorities

Yes, we generally agree. However, risks (financial, ethical, personal …) are generated not only by Big Data itself, but also by the complexity of the ecosystem. Customers and Financial Institutions are connected in an open network. The Customer-Bank interaction is more and more driven by applications that collect and process Data. If Data is not reliable, problems will emerge from both sides (i.e. bad decisions, etc…).
Future potential risks could stem from Artificial Intelligence: thanks to this new technology, traditional employees could be substituted by a sort of "digital manager". However, this innovative process can be properly managed and addressed to allow traceability in case the Regulator would ask why a certain product has been sold to a certain customer (e.g. the need to explain the underlying logic to a certain algorithm). Please, refer to this point also to the EBF's response to this Discussion Paper.

10. Is the regulatory framework adequately addressing the risks mentioned above? Bearing in mind the constant evolution of technologies/IT developments and that some of the above mentioned regulatory requirements are not specific to the financial services sector (e.g. GDPR), do you think further regulation is needed to preserve the rights of consumers of financial services in a Big Data context? Please explain why.

Yes. It requires that data is accurate and kept up-to-date and this ensures that profiles created of or applied to an individual person, and any decision taken on the basis of them, are appropriate and accurate.

11. Do you agree that Big Data will have implications on the availability and affordability of financial products and services for some consumers? How could regulatory/supervisory authorities assist those consumers having difficulties to access financial services products?

We agree with the fact that the use of Big Data will have general consequences on financial products/services. As a financial technology tool, Big Data is neutral in terms of availability and affordability of financial products and services, as its value for consumers depends on the quality of its application (for example, data generated from social networks is not a reliable sources for creditworthiness purposes).

However, in our view, sophisticated analytics can substantially improve decision-making, minimize risks and discover valuable insights that would otherwise remain hidden. Furthermore, Big Data offer the opportunity of building in – house credit models, which enables banks to reduce costs, target the right audiences, recalculate risk portfolios and optimize offerings.

12. Do you believe that Big Data processes may enable financial institutions to predict more accurately (and act accordingly) the behavior of consumers (e.g. predicting which consumers are more likely to shop around, or to lodge a complaint or to accept claims settlement offers) and could therefore compromise the overarching obligations of financial institutions to treat their customers in a fair manner? Please explain your response.

Please, refer to the answer provided by the EBF on this point.

13. Do you agree that Big Data increases the exposure of financial institutions to cyber risks? If yes, what type of measures has your institution adopted or is going to adopt to prevent such risks? What could supervisory/regulatory authorities do in this area?

In order to prevent potential risks, we are clustering data (Data Governance) according to risk profiles and will adopt all the measures in order to mitigate and manage the risks (i.e. GDPR). through specific programs that involves people (i.e. Chief Data Protection Manager and Chief Security Officer), models, tools and techniques. Regulatory/Supervisory Authorities has a crucial role in defining the problem and set up standard processes.
Please, refer also to the EBF response on this point: *"It would be relevant to streamline harmonised format and procedure for security (IT) incident reporting to avoid overlap and redundancy in reporting to multiple competent authorities (NIS Directive, PSD2, Data protection regulation, Single Supervisory Mechanism SSM).*

14. Would you see merit in prohibiting the use of Big Data for certain types of financial products and or services, or certain types of customers, or in any other circumstances?

We don't see any benefit in prohibiting the use of Big Data for certain services or financial products, as these are often used in order to protect consumers (for example, under MIFID rules, investment firms have to require and collect a great amount of Data in order to assess the best financial products to be offered to their clients); moreover, the increase of new regulatory requirements seems to encourage the use of more Data and information. For example, Solvency II requires insurers to have internal processes and procedures in place to ensure the appropriateness, completeness and accuracy of the data.

15. Do you agree that Big Data may reduce the capacity of consumers to compare between financial products/services? Please explain your response

We do not agree with this statement and we think that customers would take better decisions if they can rely on an amount of well-explained data.

16. How do you believe that Big Data could impact the provision of advice to consumers of financial products? Please explain your response.

According with our response to question n. 8, we believe that customers can take advantage of better analysis if they can rely on a better service and better data which are both well processed and visualized. Big Data can bring real facts and show connections, i.e. discover related events, get better conditions, suggest the right moment to buy and sell, etc. Provided that the analysis of algorithms and the data are accurate and reliable, Big Data can become a mass market tool to support also customers currently not served by a human operator.

17. How do you believe Big Data tools will impact the implementation of product governance requirements? Please explain your response.

We believe that Big Data tools will impact the implementation of product governance requirements significantly. It will be necessary to ensure the quality and accuracy of the data and the reliability of the algorithms. These two elements can only be achieved through proper organizational measures and processes.

18. How do you believe Big Data tools will impact know-your-customer processes? Please explain your response.

We believe that Big Data is significantly impacting our KYC processes because it becomes a priority to ensure the correctness of data.
Analytics are changing the way Financial Institutions interact with their customers. The multichannel interaction and the historical Data, are converging into our Data Lake giving us a multidimensional vision of our Customer. This integrated approach allows us to better segment our customers also taking into account other factors, such as the interactions with their business partners and their ability to influence the market.

19. What are key success factors for a Big Data strategy (i.e. the adaptation of the business model/plan towards Big data driven technologies and methods)?

Big Data and Analytics represent a crucial shift of mindset within a Financial Institution and require a revolutionary and comprehensive strategy. Key success factors for a Big Data Strategy are, in our opinion, a better knowledge of Customers and more efficient internal processes; the full and timely integration of the database; the creation of a data-driven decision processes. In addition to that, the development of specialized skills is also required; a clear vision to set objectives and target developments (partnership, data collection, etc...); high quality data (with certification processes, maintenance, etc..) and pervasiveness (significant coverage). To conclude, economic and organizational resources and transparent communication policies to customers are also needed.

20. What are the greatest future challenges in the development and implementation of Big Data strategies?

Big Data must be well-modeled, documented and maintained in order to be correctly analyzed. It is crucial to extend a Data Governance to any Data as well as link Data Quality and compliancy to Data Governance.

Big Data must be contextualized and semantically connected to other Data. Any source must be classified and any Data must be governed according business and/or regulatory frameworks.

The challenge is to improve our analysis processes and our predictive capabilities keeping the focus on a managed Data growth and governance.

21. This DP refers to a number of measures and tools meant to ensure compliance with conduct and organisational regulatory requirements as well as data and consumer protection rules in the context of big data analytics. Are other measures and tools needed? If so, what are they and what they should cover?

Data processing is becoming increasingly transnational. This implies that more and more agreements must be made between jurisdictions and states. The risk of overruling can be avoided looking for alternatives: organizational accountability can become, in our view, a key building block of privacy protections in the form of corporate privacy management programs, corporate rules and cross-border privacy rules and ethical guidelines.

Also, we think that there will be other opportunities for further metrics and tools especially applied to new technology use: firstly, artificial Intelligence and then Blockchain.

22. How do you see the development of artificial intelligence or Blockchain technology in connection with Big Data processes?

Data Scientists can work on prototypes based on several AI techniques such as Machine Learning, Data Mining and Neural Networks. These prototypes process Data Marts derived from huge queries (kind of ETL phases) on the Data Lake. This represents the connection between these areas. Both Artificial Intelligence and Blockchain are key elements, but their current level of development (especially for AI) and application (Blockchain) are not mature enough to predict clearly how they could develop in connection with Big Data in the future.