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IMPACT ASSESSMENT REPORT

Accompanying the document

Proposal for a

Regulation of the European Parliament and of the Council

on a framework for Financial Data Access and amending Regulations (EU) No 1093/2010, (EU) No 1094/2010, (EU) No 1095/2010 and (EU) 2022/2554

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GLOSSARY

Term or acronym[1]	Meaning or definition
Application Programming Interface (API)	A collection of software functions and procedures that allows different applications to communicate and exchange data.
API call	Also known as an API request, it is the process of a web or mobile application requesting data through an API. In response, the API retrieves the requested data and delivers it to the application.
Consumer	A natural person who makes use of data-driven financial products and services for the purposes outside of his or her business, trade or profession.
Customer	A natural person (consumer) or a legal person (firm) who makes use of financial products and services. In the context of PSD2, this corresponds to the term of Payment Service User (PSU), i.e. a natural or legal person in open banking which makes use of a payment service in the capacity of payer, payee, or both, as defined in PSD2 Article 4(1).
Customer data	Data typically collected, stored and processed by financial institutions as part of their normal course of business with customers. These data cover both personal and business entity data transmitted by the customers themselves (transmitted data), as well as personal and non-personal transaction data generated as a result of customer interaction with their financial service providers (transaction data).
Data	Any digital representation of acts, facts or information and any compilation of such acts, facts or information, including in the form of sound, visual or audiovisual recording, as defined by Article 2(1) of the Data Governance Act.
Data holder	A legal person or a natural person who, in accordance with applicable Union or national law, has the right or obligation to grant access to or to share certain personal data or non-personal data under its control, as defined by Article 2(5) of the Data Act. In the financial sector, it is commonly a financial institution that holds customer data. In the context of PSD2, this corresponds to the term of Account Servicing Payment Service Provider (ASPSP), i.e. a person (usually a bank) which provides and maintains a payment account for a payer, as defined in Article 4(17) of PSD2.
Data intermediation service provider	An entity providing data intermediation services, as defined by Article 2(11) of the Data Governance Act. A data intermediation service aims to establish commercial relationships for the purposes of data sharing between an undetermined number of data subjects and data holders on the one hand and data users on the other, through technical, legal or other means, including for the purpose of exercising the rights of data subjects in relation to personal data.

[1] Terms used in this impact assessment are based on terminology defined in the Data Governance Act, Digital Markets Act and Data Act proposal. The glossary includes equivalent PSD2 definitions (ASPSP and PSU) for informational purposes.

Data sharing	Provision of data by a data subject or a data holder to a data user for the purpose of the joint or individual use of such data, based on voluntary agreements or Union or national law, directly or through an intermediary, for example under open or commercial licences subject to a fee or free of charge, as defined by Article 2(10) of the Data Governance Act.
Data subject	An identified or identifiable natural person to whom personal data relates, as defined in Article 4(1) of the GDPR.
Data user	A natural or legal person who has lawful access to certain personal or non-personal data and has the right, including under Regulation (EU) 2016/679 in the case of personal data, to use that data for commercial or non-commercial purposes, as defined by Article 2(9) of the Data Governance Act. In the financial sector, in particular, it is a financial institution or third-party provider (other financial institution or fintech firm) that has lawful access to customer data held by financial institutions for the purposes of providing financial and/or financial information services. Data users may also act in the capacity of data holders.
European Digital Identity Wallet	A product that provides a common interface that allows a customer to store identity data, credentials, and attributes and to provide them to relying parties on request, as defined by Article 3(i)(42) of the Commission Proposal for a Regulation establishing a framework for a European Digital Identity (eIDAS review).
Financial Information Service Provider	A service provider authorised to access customer-permissioned data for the purposes of providing financial information services. In the more specific context of PSD2, this corresponds to the term of Account Information Service Provider (AISP), ie a third party provider in open banking which is authorised to access a customer's account data to provide account information services, as defined in Article 4(19) of PSD2.
Fintech	Technology-enabled innovation in financial services that result in new business models, applications, processes, or products.
Market participants	Data holders, data users and data intermediaries
Machine-readable format	A file format structured so that software applications can easily identify, recognise and extract specific data, including individual statements of fact, and their internal structure, as established in Article 2(13) of the Open Data Directive.
Non-personal data	Data other than personal data, as defined in Article 4(1) of Regulation (EU) 2016/679 (GDPR).
Open Banking	A framework established under the revised Payment Services Directive (PSD2) mandating financial institutions to share, at the request of a customer, payment account data with liscened Third Party Providers of payment-related services.
Open Finance	A legislative proposal for a framework regulating access to and use of customer data in finance beyond the scope of PSD2.
Open finance permissions dashboard	A graphic interface which provides a customer with an overview of data that they have authorised to share, and which allows a

	customer to manage permissions for data sharing. The term is equivalent to an 'open banking permissions dashboard' in PSD3.
Processing	An operation or set of operations which is performed on data in electronic format, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction.
Personal data	Personal data as defined in Article 4(1) of the GDPR.
Personal data use perimeter	A framework detailing how categories of personal data in scope of the open finance framework can be used in line with the GDPR for the provision of financial services and products, with the aim of promoting financial inclusion and preventing financial exclusion.
PSD2	Directive (EU) 2015/2366 on payment services in the internal market ('revised Payments Services Directive').
PSD3	Forthcoming Commission proposal for a Regulation and Directive on payment services in the internal market, amending PSD2.
Scheme	A collective contractual scheme governing the modalities of data sharing among its members, including provisions on compensation, liability and dispute settlement.
TPP	Third-party provider of financial and/or information services.

1. INTRODUCTION

This Impact Assessment accompanies the legislative proposal for a framework regulating access to and use of customer data in finance ('open finance'). Open finance refers to the access to and processing of business-to-business and business-to-customer (including consumer) data upon customer request across a wide range of financial services, except payment accounts ('open banking') data that is covered by the revised Payment Services Directive (PSD2). The open finance initiative takes a customer-centric approach and aims to ensure that all consumers and firms have effective control over their financial data, notably by strengthening personal data protection in line with the General Data Protection Regulation (GDPR) and applying the general principles of business-to-business data sharing in line with the Data Act proposal. The initiative also aims to promote data-enabled financial products and services by expanding pools of quality data and putting in place clearer governance structures for their processing. This will improve economic outcomes for those customers who wish to share their data and ensure that they have the opportunity to benefit from open, fair, and safe data-driven innovation in the financial sector. Overall, this initiative contributes to the implementation of the European strategy for data in the financial sector.

This initiative covers customer data that financial institutions typically collect, store and process as part of their normal interaction with customers. These data include both personal and business entity data transmitted by the customers themselves (transmitted data). It also includes personal and non-personal transaction data arising from customers' interactions with their financial service providers (transaction data).

1.1. Economic context

Data-driven innovation is the result of effective use of data, in combination with data analytics (software), which generates information of social and economic value. It can help boost productivity and improve or foster new products, processes, organisational methods and markets. Access to data is thus crucial for competition and innovation in the digital economy[2].Firms have become increasingly reliant on data, information and knowledge to remain productive and retain their competitive edge. Where the value of secondary data reuse for the society as a whole is larger than the private value of primary data use, access to and sharing of data can maximise the value of data across organisations, sectors and economies[3].

The data economy, which is driven by the production and use of data, has substantial growth potential[4]. In 2021, the overall size of the EU data market where digital data are exchanged as products or services marked a considerable annual increase of 4.9% to reach EUR 63.6 billion[5]. The impacts of these positive trends on the economy as a whole are captured by the value of the data economy, which has been estimated to have reached €443 billion in 2021 representing 3.6% of GDP. In 2030, the EU data economy is expected to reach

[2] See OECD (2015), *Data-Driven Innovation: Big Data for Growth and Well-Being*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264229358-en.
[3] See OECD (2019), *Enhancing Access to and Sharing of Data: Reconciling Risks and Benefits for Data Re-use across Societies*, OECD Publishing, Paris, *https://doi.org/10.1787/276aaca8-en*.
[4] European Commission (2020). Communication: A European strategy for Data EUR-Lex - 52020DC0066 - EN - EUR-Lex (europa.eu)
[5] See First report on policy conclusions, European Data Market Study 2021–2023, 9 June 2022.

the EUR 1 trillion threshold, growing as the share of GDP to 5.9%. Similarly, the number of data supplier and data user companies (i,e firms that produce and deliver data-related products, services and technologies as their main activity or that generate, collect and analyse digital data intensively) has increased along with the data market in the past few years. Data is also a critical resource for new entrants, such as start-ups and SMEs, in particular, with low initial capital[6].

Among different sectors, financial services are the biggest user of data in the EU and data-driven firms in finance stand to benefit substantially from increased data sharing[7]. Every digital interaction in finance creates data, which can be made operable and useful to other parties. This importance of data will further increase with the growing use of emerging models, concepts or technologies that rely on data, notably artificial intelligence (AI). The use of AI applications in the EU financial sector continues to grow and it is expected to have particularly important and potentially disruptive impacts on financial services in the coming years.[8] In fact, 10% of all the start-ups and scale-ups included in the EU data landscape database[9] of some 3,000 key data companies active in the area of big data are financial technology (fintech) firms.

Within financial services, and as a result of PSD2, open banking in the EU has begun to transform the way consumers and businesses use banking services (see Box in section 1.3 for an overview of the evaluation of PSD2). Open finance is expected to continue this trend in the general context of the open economy. Some estimates suggest the potential boost that open financial data could provide in the range of 1-1.5% of EU GDP in 2030, with 55% of the value accruing to customers and 45% to the industry[10].

1.2. Political context

As stated by President von der Leyen in her Political Guidelines[11], and set out in the Communication 'Shaping Europe's digital future'[12], it is crucial that Europe can reap all the benefits of the digital age and strengthens its industry and innovation capacity, within safe and ethical boundaries. The European strategy for data[13] sets out the vision of creating a single market for data that will ensure Europe's global competitiveness and enable smaller EU players to scale up. Data is also critical to achieving the European Green Deal objectives, such as supporting the circular economy, reducing waste as well as adapting to and combating climate change.

In 2020, the Commission identified the promotion of data-driven finance as one of the priorities in its Digital Finance Strategy and stated its intention to put forward a legislative

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[6] European Commission (2020). Final Study Report of the Updated European Data Market Study

[7] Financial services represent 19.9% of the share of total EU firms classified as 'data using' companies, in comparison to other sectors such as utilities (18.3%), transportation (13.7%) and manufacturing (9.3%). See Data Act Impact Assessment Data Act_EN_impact_assessment_part1_v4_SDmZN89u4DGKxiw9Tf5jteVOeDU_83524.pdf (cec.eu.int)

[8] See Chapter 4, *Artificial intelligence in the financial sector*, European Financial Stability and Integration Review 2019.

[9] See EU Data Landscape, European Data Market Study 2021-2023, November 2021.

[10] This is equivalent to some EUR 150-220 billion. See McKinsey Global Institute (2021) Financial data unbound: The value of open data for individuals and institutions | McKinsey

[11] Ursula Von Der Leyen, Political Guidelines for the next European Commission, 2019-2024.

[12] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Region, Shaping Europe's Digital Future, COM(2020) 67 final.

[13] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Region, A European strategy for data, COM(2020) 66 final.

proposal on an open finance framework. The CMU Communication adopted in 2021 confirmed the Commission's ambition to accelerate its work on open finance and announced the establishment of the Expert Group on the European Financial Data Space to provide input on a first set of use cases related to open finance. Most recently, President von der Leyen confirmed in her 2022 State of the Union Letter of Intent that data access in financial services is among the key new initiatives for 2023. It will build on the PSD2, which enabled the sharing of payment accounts data, and enable sharing of a broader set of financial services data.

The legislators recognise the benefits of further data sharing in finance. In its own initiative report on Digital Finance, the European Parliament "*underlined the importance of open banking in improving the quality of payment services by the inclusion of new market participants that provide increased operational and price efficiency to the consumer; points out that a transition from open banking to open finance, i.e. the inclusion of financial services other than payments, is a strategic priority which has the potential to improve efficiency, reduce concentration risks and enhance financial inclusion*."[14]

The ECOFIN Council concluded that "*open finance may bring additional impetus to innovation and that it should therefore be duly taken into consideration, while ensuring a level playing field and an adequate level of consumer protection, and taking into account the lessons learnt from PSD2, the potential impacts on the business models of financial intermediaries and the potential risks involved (e.g. privacy-related risks*)[15].

International developments also underscore the need for action on open finance. Third countries have already taken or are currently exploring steps to move from open banking to open finance. Most (non-EU) OECD countries are planning or are in the process of discussing further development of their data sharing frameworks and/or their expansion to other sectors beyond payments as the next stage in the evolution of open banking-type data sharing arrangements, with gradual evolution towards an expanded set of data types and other sectors of the financial (and non-financial) market[16]. This trend is reflected in regulatory developments in Australia, Singapore, and the United Kingdom.[17] The EU is a globally recognised pioneer in the field of open banking and the objective of this initiative is to maintain this lead in terms of innovation by moving forward with establishing an open finance framework.

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[14] 2021 Kovarik Report on digital finance, P9_TA(2020)0265, point 68.

[15] Council conclusions on the Commission Communication on a 'Retail Payments Strategy for the European Union', 22 March 2021.

[16] See OECD (2023), *Shifting from Open Banking to Open Finance: Results from the 2022 OECD survey on data sharing frameworks,* OECD Business and Finance Policy Papers, OECD Publishing, Paris, https://doi.org/10.1787/9f881c0c-en

[17] Australia introduced and is expanding a Consumer Data Right across economic sectors, including financial services, https://www.accc.gov.au/focus-areas/consumer-data-right-cdr-0. The Monetary Authority of Singapore has adopted a Financial Data Exchange, Singapore Financial Data Exchange (SGFinDex) (mas.gov.sg). The UK announced to explore the possible extension of open banking beyond payment accounts in its statement establishing a Joint Regulatory Oversight Committee in March 2022. See Joint statement by HM Treasury, the CMA, the FCA and the PSR on the future of Open Banking - GOV.UK (www.gov.uk). The UK Financial Conduct Authority assessed the feasibility of extending access rights beyond payment accounts with market participants in its call for input on open finance, FCA publishes feedback to Call for Input on open finance | FCA

1.3. Legal context

This initiative is a response to the commitment set out in the EU Digital Finance Strategy to put in place a European financial data space. It complements already tabled legislative proposals on (1) the European Single Access Point (ESAP)[18], and (2) the strategy on supervisory data[19].

This initiative builds upon the already existing 'open banking' provisions under PSD2, that regulate access to and processing of customer data held by account servicing payment service providers (ASPSPs – banks). Based on the review clause in Article 108 of PSD2, and as announced in the Retail payments strategy of 24 September 2020[20], an evaluation of PSD2 has been carried out and a legislative proposal to modify the PSD2 ("PSD3") is being proposed in parallel to this initiative (see dedicated PSD3 impact assessment). The two initiatives remain separate because the PSD3 proposal covers customer data relating to payment accounts only, which are not covered by the open finance initiative. Furthermore, policy measures required to improve an already existing system of data sharing under PSD2 differ from those needed to build a new regulatory system for other parts of the financial sector. At the same time, this initiative builds on the lessons learned on 'open banking' as identified in the review of PSD2 (as summarised in Box 1, based on the PSD2 evaluation report), and is fully consistent with the PSD3 proposal, as set out in the analysis of options in section 5.

[18] Proposal for a Regulation of the European Parliament and of the Council establishing a European single access point providing centralised access to publicly available information of relevance to financial services, capital markets and sustainability (COM/2021/723 final)

[19] Communication from Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Strategy on supervisory data in EU financial services (COM/2021/798 final)

[20] Communication from Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a Retail Payments Strategy for the EU (COM/2020/592 final)

Box 1 – experience from the PSD2

The Open Banking framework under PSD2 enables customers to share their payment account data held by banks with third party providers of payment-related services. Banks are obliged to share payment account data with third party providers on a non-contractual and free basis at the request of a customer. Open Banking leaves standardisation to the market and allows for different types of Application Programming Interfaces (APIs) to be used by third party providers to access payment account data.

PSD2 has enabled customers to access new types of financial services offered by banks or innovative fintech firms. The evaluation of PSD2 has shown that, despite shortcomings, the PSD2 framework regulating account data access has had success in augmenting the market in Open Banking services in the EU. Regarding the number of users of Open Banking services, combining data from Statista citing Juniper Research (November 2021) and from Konsentus (December 2021) yields an estimated 17 million users of Open Banking services in the EU at the end 2021 and projects this to grow up to nearly 54 million users by the end of 2024. With regard to the number of API calls, Konsentus estimated that there were 300 million monthly API calls in the EU as of December 2019. They expressed the expectation this would exceed 1 billion by December 2021, naming demand for Buy-Now-Pay-Later and Variable Recurring Payments as examples driving this increase. Beyond the use of pure account information services, these figures include transactions related to payment initiation services – a type of mandatory technical access that is not envisaged under open finance initiative. However, nothing would preclude market participants from engaging in transaction initiation services in the open finance area based on voluntary agreements.

Open Banking provisions in PSD2 have resulted in APIs being able to provide much richer data sources. Open Banking requirements unlocked the possibility to combine analytics and machine learning techniques to understand payment patterns and derive some key performance indicators from bank data. A majority of respondents to the public consultation find that the choice of payment services has increased over the last 5 years (70% yes – 66 replies). PSD2 fostered innovation particularly in those markets that were underdeveloped in terms of innovativeness and fintech solutions.

Notwithstanding the innovation gains, the implementation of PSD2 has also revealed important limitations to open banking. These limitations range from the cost and quality of access by third-party providers (TPPs) to account data, to difficulties related to supervision and enforcement. Provisions on Open Banking have not been fully successful with regard to the goal of broadening market access for TPPs, mostly as a result of a fragmented landscape linked to the variable quality APIs.

This initiative also contributes to the EU strategy for retail investors by supporting its objective to improve the functioning of the retail investor protection framework[21]. Moreover, it will ensure compliance with the applicable rules on cybersecurity and operational resilience

[21] Proposal for a Directive of the European Parliament and of the Council amending Directives (EU) 2009/65/EC, 2009/138/EC, 2011/61/EU, 2014/65/EU and (EU) 2016/97 as regards the Union retail investor protection rules (COM/2023/279 final)

in the financial sector, as set out in the Digital Operational Resilience Act which entered into force on 16 January 2023[22].

Generally applicable legislation

The open finance framework is designed in full coherence[23] and without prejudice to the GDPR, which provides for general rules on the processing of personal data to ensure their protection and free movement.[24] Any legal obligation to disclose personal data must meet the requirements set by the GDPR. Giving consumers control over their personal data is one of the main objectives of the GDPR[25], which stipulates generally applicable requirements, including the requirement to ensure the security of data processing[26]and the right to data portability[27]. However, the latter is subject to practical limitations as set out in this impact assessment, which have led the Commission to propose a general framework for additional data access rights in the Data Act, and the same approach is taken in this initiative.

This financial sector initiative fits into the broader **Data Strategy for Europe** and builds upon the key principles for data access and processing set out in the following generally applicable initiatives:

- The **Data Governance Act** (entered into force on 23 June 2022) is focused on increasing trust in data sharing and improving **interoperability between data spaces**. It also creates a **framework for data intermediation service providers** with a secure processing environment where companies or individuals can share data.

- The **Digital Markets Act** (entered into force on 1 November 2022) establishes new data-sharing requirements to tackle the market power of gatekeeper platforms and level the playing field in digital markets. Gatekeeper platforms will have to ensure real time access to **data provided or generated on the platform by business users and consumers**.

- The Data Act **proposal** (23 February 2022)[28] establishes new data access rights as regards the Internet of Things (IoT) data for both product users and providers of

[22] Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014, (EU) No 909/2014 and (EU) 2016/1011.
[23] Coherence with the GDPR including its general requirements on data protection and the lawful grounds for processing and the rights of data subjects, are also addressed in Section 5.4 and Annex 6. The interplay with the data portability right under Article 20 GDPR is further explained in Section 2.2 (p. 14-15) and Annex 6 (p. 92). The report also details in Section 5.4 how GDPR objectives are factored in.
[24] Article 1 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (OJ L 119, 4.5.2016, p. 1–88)
[25] See recital 7 GDPR.
[26] Under Article 32 of the GDPR, the controller and the processor must implement appropriate technical and organisational measures to ensure a level of security related to the processing of personal data which is appropriate to risk.
[27] Under Article 20 of the GDPR, the data subject has the right to receive their personal data held by a controller and transmit it to another controller, or to have the data transmitted directly from one controller to another where technically feasible.
[28] Proposal for a Regulation of the European Parliament and of the Council on harmonised rules on fair access to and use of data, EUR-Lex - 52022PC0068 - EN - EUR-Lex (europa.eu)

related services subject to user permission. For **business-to-business data sharing across the economy,** the Data Act proposal regulates unfair contractual terms in relation to data sharing (Chapter IV). It also establishes generally applicable obligations for those data holders, which are legally obliged to make data available to data recipients under Union law or national legislation implementing Union law (Chapter III). However, no such obligations to make data available exist currently in the financial sector beyond payment accounts data.

- The **Free Flow of Non-Personal Data Regulation** ensures that non-personal data can be stored, processed and transferred anywhere in the EU. It also addresses the problem of 'vendor lock-in' at the level of providers of data processing services, by introducing self-regulatory codes of conduct to facilitate switching data between cloud services.

- The **ePrivacy rules** on the processing of data in the electronic communication sector are contained in Directive 2002/58/EC. These rules protect the confidentiality of communications as well as any (personal and non-personal) data stored in and accessed from terminal equipment.

- The **Open Data Directive** sets out minimum rules governing the reuse of data held by the public sector and of publicly funded research data.

- The proposed **Framework for a European Digital Identity** that amends Regulation (EU) No 910/2014 will enable citizens and businesses in the EU to access public and private services online in a secure manner, including in the financial sector.[29]

Specific rights and obligations on data access and processing have also been regulated to various degrees in other economic sectors, not related to financial services. An overview of these initiatives, as well as a detailed description of the coherence of this initiative with the GDPR, PSD3 and the broader EU regulation for data sharing are summarised in Annex 6 (coherence of preferred policy option bundle with other relevant legal frameworks).

Lastly, the EU is bound by its international trade commitments in cross-border data flows.[30]

2. PROBLEM DEFINITION

2.1 PROBLEM TO BE ADDRESSED BY THIS INITIATIVE

The main problem is that EU financial sector customers do not have effective control over their data in order to access data-driven services beyond payments. As a result, the supply of data-driven services also remains limited. Figure 1 depicts the impeded customer data flow in the financial sector beyond payments.

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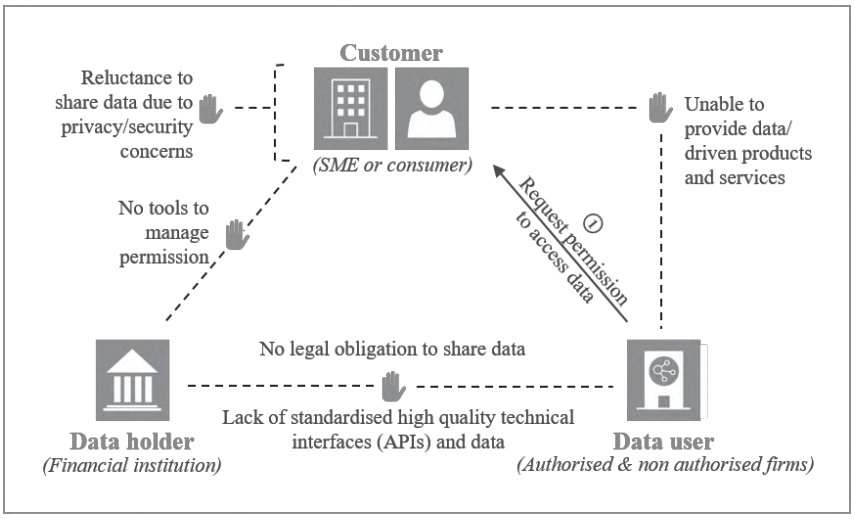
[29] Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 910/2014 as regards establishing a framework for a European Digital Identity, EUR-Lex - 52021PC0281 - EN - EUR-Lex (europa.eu)

[30] International data processing and storage as well as data transfers are governed by Chapter V of the GDPR, trade commitments under the WTO (GATS) and bilateral trade agreements, in particular on computers and related services. Moreover, the WTO has established a prudential carve out under certain conditions for financial sector measures.

Figure 1. Problems in the current data flow process in the financial sector beyond payments



Source: DG FISMA

The **relevant stakeholders** include:

- **Customers** (consumers or firms) who may want to give data users access to their data held by financial institutions to obtain personalised products and services;
- **Financial institutions** acting as **data holders of customer data**; and
- **Third-party providers** (other financial institutions or fintech firms) **acting as data users** who access customer data held by data holders based on customer request for the purposes of providing financial products and/or financial information services[31].

Customers must be entitled to decide how and by whom their financial data is used: they may either want to limit third-party access to their data for principled reasons, or they may wish to grant firms access to their data for the purposes of obtaining financial and information services. Access to consumers' and firms' financial data would enable data users (financial institutions and fintech firms) to provide tailored financial products and services that better suit customers' needs (see Box 2 in section 2.3 and Annex 7 for an overview of potential benefits and use cases). However, data users today only have limited access to such data. Therefore, those that wish to use customer data to provide new services find it difficult to do so. As a result, customers that wish to tap these potential opportunities are not able to benefit from a broader offering of more tailored services and products. At the same time, the activity of data users today is neither authorised nor supervised beyond payment accounts data, creating risks for customers.

[31] The data users that are covered in this category may be data holders themselves and they may be data holders' competitors or same-sector downstream service providers.

A set of inter-related problems explain the limited access to data. First, in the absence of rules and tools to manage data sharing permissions, customers do not trust that potential risks of sharing data are addressed, so they are often reluctant to share their data. Second, even where they want to share data, the rules governing such sharing are either absent or unclear. As a result, data holders are not always obliged to enable data users' access to their data. Third, data sharing is made more costly as both the data itself and the technical infrastructure upon which it would rely are not standardised and hence differ significantly. Addressing these problems is furthermore made more difficult by market participants' (i.e. data holders' and data users') diverging interests. This initiative aims to address these problems in order to promote better access to consumers' and firms' financial data and hence make it possible for consumers and firms to realise the gains stemming from better financial products and services.

2.2 PROBLEM DRIVERS

The above challenges are caused by the following problem drivers:

- **Problem driver 1 – Customers hesitate to share their data due to lack of trust**

Trust plays an essential role in data access, sharing and re-use across organisations, sectors and countries. It can be abused or erode over time and restoring it can be challenging. Data sharing comes with several risks to retail and business customers, such as those of breaches of confidentiality or privacy and the violation of other legitimate private interests. Evidence confirms that risks of confidentiality breach, for instance, have led data subjects to be more reluctant to share their data, including providing personal data, and in some cases to use digital services at all[32].

Several factors lead to low consumer confidence in data sharing in the financial sector. First, **customers feel that they are not able to control how their data is being used.** Lack of control over data is perceived as a major issue for both organisations and individuals. Some SMEs, for instance, have not only refrained from engaging in data sharing, but have even avoided using certain digital technologies such as cloud computing out of concerns of losing control over their data[33]. Even where individuals and organisations agree on and consent to specific terms for data sharing and data re-use, including the purposes for which the data should be re-used, there remains a significant level of risk that a third party may intentionally or unintentionally use the data differently[34]. Most of the citizens who participated in the public consultation believe that their data is shared by a financial or third-party service provider for reasons beyond what they have agreed to (58%).[35] This indicates lack of trust in data sharing. A recent market survey indicates that although many customers referred to using one of more finance-apps (80%), 61% said they never use 'open banking' products and

[32] See OECD (2019), *Enhancing Access to and Sharing of Data: Reconciling Risks and Benefits for Data Re-use across Societies*, OECD Publishing, Paris, *https://doi.org/10.1787/276aaca8-en*.

[33] See OECD (2017), OECD Digital Economy Outlook 2017, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264276284-en.

[34] For example, the case of Cambridge Analytica illustrates this risk: personal data of Facebook users was used, not for academic purposes as some users had consented to, but for a commercially motivated political campaign despite Facebook explicitly prohibiting data to be sold or transferred. See Granville, K. (2018), "Facebook and Cambridge Analytica: What You Need to Know as Fallout Widens", *The New York Times*, https://www.nytimes.com/2018/03/19/technology/facebookcambridge-analytica-explained.html.

[35] Commission's public consultation on PSD2 and open finance.

services, largely due to data sharing concerns (57%)[36]. In addition to perceived data sharing concerns, a lack of enforcement of consumer rights also leads to low levels of trust. According to a recent Eurobarometer survey, almost one in two Europeans reported not to have filed a complaint when they suffered from a breach of their rights in the financial sector[37]. Indeed, from a consumer's perspective, it may also not always be clear to whom they can address a complaint if something goes wrong when sharing data.[38]

A large majority of respondents to the targeted consultation on open finance believe that customers need more effective means to **maintain control over their data**, and that digital identity solutions, such as European Digital Identity Wallets, (78%) as well as privacy dashboards such as consent management dashboards (71%) would strengthen the ability of customers to control how their data is shared and used.[39] However, while personal information management dashboards are being tested by some data holders in the financial sector[40], the scope of these tools is restricted to consumers only and do not cover businesses, and their rollout is often limited to specific forms of consumer-permissioned access to personal data.

These findings are consistent with the experience in the payment sector: the PSD2 review shows that a lack of consumer understanding and concerns regarding data protection have led to limited data sharing.[41] Consumers have found it **difficult to understand and manage permissions** to access data. This has contributed to low trust. While PSD2 provides for a legal obligation to share payment data following customers' request, national data protection authorities[42], consumer organisations[43], and more recently the European Data Protection Board (EDPB)[44] have criticised the variations in the definition of 'explicit consent' as defined in PSD2 and the GDPR[45]. This has led to different interpretation of PSD2 requirements to share payment data amongst stakeholders[46].

Second, **customers worry about cybersecurity risks as well as how to protect their data and privacy when sharing data.** Enhanced access and sharing typically requires opening

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[36] Mambu's global open banking consumer survey (2022). Mambu-Disruption-Diaries-Open-Banking-Report.pdf (openfuture.world).

[37] Eurobarometer: Retail Financial Services and Products. Retail Financial Services and Products - October 2022 - - Eurobarometer survey (europa.eu) Of those that filed a complaint, 34% complained to the provider (e.g. a bank), 16% who complained to a national competent authority, 10% to a consumer rights protection association and 4% who filed a complaint to another organisation. This indicates that from a consumer's perspective, it may also not always be clear to whom consumers can address a complaint.

[38] Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu), p. 30

[39] Commission's targeted consultation on open finance.

[40] 'Privacy dashboards' are being developed by market participants for customers, such as by Groupe BPCE. See Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu), p. 18

[41] Evaluation of the Directive (EU) 2015/2366 on payment services in the internal market (PSD2 Evaluation Report)

[42] The Dutch DPA launched an investigation in 2020 into certain Dutch firms with a PSD2 license, noting amongst other issues a perceived lack of explicit consent as defined in the GDPR.

[43] BEUC, Recommendations to the EDPB on the interplay between the GDPR and PSD2 (April 2019)

[44] EDPB, Guidelines 06/2020 on the interplay of PSD2 and the GDPR (December 2020)

[45] PSD2 does not require consent as defined in Article (11) GDPR; data sharing is rather based on consumer request.

[46] Consumer organisations like BEUC have even argued that consumers often lack the ability to give their consent in line with the conditions of consent established in Article 4(11) GDPR when sharing financial data with third party services.

information systems so that data can be accessed and shared. This may further expose parts of an organisation to cybersecurity threats that can lead to incidents that disrupt the availability, integrity or confidentiality of data and information systems on which economic and social activities rely. Personal data breaches are less frequently experienced compared to other types of cybersecurity incidents. However, evidence suggests that their impact is increasing drastically as large-scale data breaches become more frequent with the collection, processing and sharing of large volumes of personal data[47]. The risks of enhanced access and sharing go beyond digital security and personal data breaches. They include most notably risks of violating contractual and socially agreed terms of data re-use, and thus risks of acting against the reasonable expectations of users. This is true with respect to individuals (data subjects), their consent and their privacy expectations, but also with respect to organisations and their contractual agreements with third parties and the protection of their commercial interests. In the case of organisations, these risks can negatively affect incentives to invest and innovate[48].

The vast majority of individuals responding to the public consultation believe there are security and/or privacy risks in giving service providers access to their data[49]. Moreover, studies suggest that consumers value their privacy and are aware of how this can be compromised in today's technological environment[50]. Consumers are concerned by the risks to the integrity of their personal data when transacting online. In a 2020 Eurobarometer survey on cybersecurity, citizens reported their top two concerns to be the misuse of personal data, and the security of online payments[51]. They have concerns about how their personal data can be unlawfully accessed and used and are aware of the risks posed by cybercrime (e.g. data misuse, financial crime/fraud)[52].

Concerns about data security are a significant barrier to consumer engagement[53]. All stakeholders need to ensure that the data-sharing environment is safe in order to build trust in the ecosystem. According to the GDPR, service providers must take adequate security measures when handling personal data[54]. However, ensuring that the security framework is state of the art, resilient and futureproof in a data sharing context clearly involves additional business costs for firms.

Third, **many consumers consider financial data to be particularly sensitive and their use may lead to potential financial exclusion risks.** A recent survey conducted by the Dutch National Bank shows that consumers are concerned with how their personal data is used.

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[47] See OECD (2017), OECD Digital Economy Outlook 2017, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264276284-en.

[48] See OECD (2019), *Enhancing Access to and Sharing of Data: Reconciling Risks and Benefits for Data Re-use across Societies*, OECD Publishing, Paris, *https://doi.org/10.1787/276aaca8-en*.

[49] Commission's public consultation on PSD2 and open finance.

[50] Accenture (2019), Accenture Global Financial Services Consumer Study, https://www.accenture.com/_acnmedia/PDF-95/Accenture-2019-Global-Financial-ServicesConsumer-Study.pdf

[51] More than four in ten (46%) Internet-using respondents are concerned about the misuse of their personal data, while 41% are concerned about the security of online payments. Eurobarometer (2020) Europeans' attitudes towards cyber security - Publications Office of the EU (europa.eu)

[52] OECD (2020), Personal data use in financial services and the role of financial education: a consumer-centric analysis

[53] Consumers' attitudes towards the sharing of financial data are low in certain EU MS due to perceived data security issues. See DNB Working Paper, Consumer propensity to adopt PSD2 services, January 2020

[54] As data controllers, payment service providers are obligated to take adequate measures to protect the personal data of users (Article 24 (1) GDPR), including to ensure security of personal data processing (Article 32 GDPR).

Consumers believe that financial data – data related to debts, payments, income, wealth – is more sensitive than data related to social contacts or personal preferences[55]. Inappropriate use of financial information could lead to unfair bias or prejudice that is harmful for the consumer. Some consumers could be excluded from a market as a result, whilst those who may choose not to participate in data sharing may end up paying a higher price for services[56]. Consumer associations participating in the Commission's Expert Group pointed to several types of financial exclusion risks related to increased data sharing in the absence of proper safeguards[57]. This includes, amongst others, the risks that more granular risk selection may pose for vulnerable consumers with a higher risk profile. Moreover, there is a risk that consumers who do not decide to share their data may not get access to all the services and products offered. The risk-pooling nature of some sectors, such as insurance provision, could also be at stake, potentially resulting in higher prices for many.

- **Problem driver 2 – Customers cannot make their data available to data users because data holders are not legally obliged to enable access**

The main cause of the incentive problems of data access and sharing can be attributed to a positive externality issue: data access and sharing may benefit others more than it may benefit the data holder who may not be able to privatise all the benefits from data reuse. Thus, data holders may lack incentives to share their customer data, especially if the costs are perceived to be higher than the expected private benefits. There is a high risk that data access and sharing will not occur where firms cannot recuperate a sufficient level of return on their data-related investments, for instance, through revenues from granting data access against fees[58].

A majority of consumers who participated to the public consultation on open finance believe that data holders should make their data available to other financial or third-party providers if consumers have given their permission to do so (59%)[59]. However, a lack of a clear legal obligation on data holders to enable access to data means that customers (consumers and firms) who wish to share their data with data users like third party providers face a number of legal and technical barriers to do so beyond payments accounts regulated under PSD2.

The ability of third-party service providers acting as data users to **access data based on consumer request under the data portability right set out in Article 20 GDPR is difficult to exercise in practice**. Only 7% of financial firms that replied to the targeted consultation relied on a data subject's data portability right under Article 20 GDPR in the financial sector: one third replied that they rarely do, and 29% do not[60]. This suggests that there are obstacles undermining the use of Article 20 GDPR in the financial sector. First, the right for data subjects to port data does not explicitly entitle them to do so on a continuous or real-time basis. Second, data portability is preconditioned on it being 'technically feasible'. However, the absence of technical interfaces enabling direct access of third-party providers to data

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[55] DNB (2020) A quarter of Dutch consumers shared payment data in exchange for services (dnb.nl)
[56] Excessive differentiation in pricing based on a consumer's willingness to share data could be tantamount to levelling a 'privacy premium'. See BEUC Discussion Paper on Open Insurance (2021), beuc-x-2021-041_eiopa_open_insurance_beuc_response.pdf
[57] Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)
[58] See OECD (2019), *Enhancing Access to and Sharing of Data: Reconciling Risks and Benefits for Data Re-use across Societies*, OECD Publishing, Paris, *https://doi.org/10.1787/276aaca8-en*.
[59] Commission's public consultation on PSD2 and open finance.
[60] Commission's targeted consultation on open finance.

holders renders this right moot[61]. Furthermore, even where such interfaces exist, the lack of their standardisation impedes interoperability and increases the cost of using ported data. Third, the scope of the data portability right under Article 20 GDPR is limited to the personal data that is processed under the lawful grounds of processing of consent and for the performance of a contract, which excludes categories of data processed on other relevant lawful grounds under Article 6(1) GDPR[62]. Finally, no equivalent provision exists for non-personal data that is relevant for business customers, such as SMEs. As a result, the data portability right in accordance with the GDPR may not cover all needs of customers in the financial sector (other important factors include the absence of standardised ways for sharing data and the absence of clear rules on liability in case of data misuse which are addressed in problem drivers 3 and 4).

Another avenue for third-party providers acting as data users to get access to customer data is to conclude a contract with data holders. However, **data users have in many cases been unable to obtain access to customer data on a contractual/commercial basis** due to unequal bargaining power. The latter applies to direct competitors and same-sector downstream providers, as well as SMEs and start-ups acting as data users. Firms that act as data users in a weaker position in the value chain do not have sufficient bargaining power to obtain access to certain data from data holders, whether for free or at a cost. This results in a difficult situation for companies whose business model depends on data held by third parties.[63] Furthermore, identifying which data to share and defining the exact scope and conditions for access and re-use is perceived as a major challenge by data holders, as inappropriate sharing of data can lead to significant costs, including fines due to privacy violations. The targeted consultation indicates that most firms using customer data (88.6%) have experienced difficulties in accessing data held by financial firms[64]. Two thirds of the firms using customer data held by financial firms had practical experience with ad hoc contracts to ensure data access – but indicated that the cost of concluding an ad hoc contract for data access was very high[65].

A third avenue for accessing customer data is to rely on interfaces provided by data holders to customers (e.g. online banking application). However, this avenue also faces important limitations. Third party providers acting as data users have been developing their

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[61] The qualifier of technical feasibility in Article 20(2) GDPR essentially renders this GDPR right ineffective if data holders in the financial sector lack appropriate technical interfaces for direct data sharing with third party service providers.

[62] Processing of personal data is lawful to the extent that at least one of the six lawful grounds for processing under Article 6(1) GDPR apply. All GDPR-defined lawful grounds are allowed for the processing of data in the financial sector, however the right to data portability under Article 20 GDPR is limited only to cases where personal data is processed based on consent under Article 6(1)(a) GDPR or on a contract pursuant to Article 6(1)(b) GDPR. See also Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)

[63] The 2020 public consultation on the European Strategy for Data revealed that almost 80% of the participants of the public consultation encountered difficulties in using data from other companies. These obstacles mainly relate to technical aspects (data interoperability and transfer mechanisms), denied data access, or other conditions considered unfair or prohibitive. See Study to support an Impact Assessment on enhancing the use of data in Europe, p. 132. Impact Assessment report and support studies accompanying the Proposal for a Data Act | Shaping Europe's digital future (europa.eu)

[64] Commission's targeted consultation on open finance. Concerning whether or not they experienced any difficulties in accessing the data held by financial firms only 35 out of the 93 respondents (38%) responded substantively. Of those, the overwhelming majority of 89% (31 respondents) encountered such difficulties.

[65] Commission's targeted consultation on open finance.

IT solutions in such a way as to use these interfaces as the access point to customer data. This solution was also common practice in the area of payments before the introduction of a legal obligation to grant access to payments account data under the requirements of PSD2[66]. However, such solutions are not efficient and raise concerns about their security. They tend to break down each time the customer facing interface on the side of the financial service provider is modified. According to some data holders, the fact that third party service providers are using customer facing interfaces also has a significant negative cost implication for them, since many data holders have fixed service contracts with IT suppliers that involve high fees in case of substantial increase of customer interface usage. Lastly, some data holders maintain that third-party access via customer facing interfaces poses challenges for their security systems, as it may be difficult to distinguish access authorised by customers from unauthorised access[67].

- **Problem driver 3 – Customer data and interfaces in the financial sector beyond payment accounts are not standardised, rendering data sharing more costly**

One of the most frequently cited barriers to data sharing and reuse is the lack of common standards. Inconsistent data formats are impediments to the creation of data sets, since variations in measurement and collection practices make it hard to compare and aggregate data. This is detrimental both for building data samples of robust statistical power and for data reuse across systems (i.e. interoperability)[68]. Clearly, the information that can be extracted from data depends on their quality, which can be enhanced through standardisation. Data quality typically depends on the intended use of the data: good quality for certain applications can be poor quality for others. Thus, data quality needs to be viewed as a multi-faceted concept, which is why data quality standards need to take into account the specific context of data use[69]. Furthermore, poor data quality may not only affect the ability and cost of reusing data, but also prevent stakeholders from participating in data-sharing arrangements in the first place[70].

The results of the targeted consultation on open finance strongly indicate that a lack of standardisation is an obstacle to data sharing in finance: 65% of active respondents[71] argue that a lack of standardisation hinders their ability to offer data-driven services[72]. A significant number of active respondents to the targeted consultation highlighted key reasons

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[66] Known informally as 'screen-scraping', in finance this practice involves web or mobile applications provided by data users accessing customer data via interfaces provided by data holders for their customers, requiring customers to log into their account with data holders. By introducing a legal obligation on data holders, PSD2 enabled third-party providers to obtain direct access to a customer's payment account, subject to permission. See Impact Assessment Report for a Proposal for PSD3, Annex 11.

[67] See Impact Assessment Report for a Proposal for PSD3, Annex 11.

[68] See OECD (2019), *Enhancing Access to and Sharing of Data: Reconciling Risks and Benefits for Data Re-use across Societies*, OECD Publishing, Paris, *https://doi.org/10.1787/276aaca8-en*.

[69] See OECD (2012), *Quality Framework and Guidelines for OECD Statistical Activities*, OECD, Paris, http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=std/qfs(2011)1&doclanguage=en.

[70] According to some studies, uncertainties about data quality may explain, for instance, why open data repositories are used at far lower rates than most scholars and practicing data curators would expect. See Sposito, F. (2017), *What do data curators care about? Data quality, user trust, and the data reuse plan*, http://library.ifla.org/1797/1/S06-2017-sposito-en.pdf and Federer, L. et al. (2015), "Biomedical Data Sharing and Reuse: Attitudes and Practices of Clinical and Scientific Research Staff", http://dx.doi.org/10.1371/journal.pone.0129506.

[71] An active respondent is one that provides an answer, as opposed to leaving the response field blank.

[72] Commission's targeted consultation on open finance.

preventing the sharing and portability of user data to be fully effective in the financial sector. This includes the absence of standards ensuring data interoperability (52%), and the absence of standardised APIs (49%)[73].

Indeed, very little exists in the market today in terms of recognised **standardisation of customer data and interfaces** in the financial sector beyond payments.[74] While standards in the payment sector and some related activities have started to emerge[75], no commonly recognised standards exist at this stage for the sharing of insurance, pension, and investment data as market participants often structure their data differently.[76] For example, data relating to investment advice and SME lending are not standardised across the market (see Annex 7). When it comes to API interface standardisation, the financial sector is not widely using standardised high-quality APIs beyond payments. Different standards and specifications are used for the same data and for different datasets, as opposed to fully standardised APIs. Certain data may be accessible and downloadable at a specific point in time, but this is not executed on a real-time basis.

With regard to common **contractual frameworks** which can be readily used for data access, little in terms of commonly agreed standardisation exists in the market today beyond payments[77]. The targeted consultation on open finance suggests that a clear majority of data holders (65%) and data users (69%) believe that standardisation of data could usefully be complemented by such contractual schemes.

However, data, interface and contract standardisation are needed to achieve interoperability, which is a crucial prerequisite for data sharing to take place effectively. Members of the Expert Group on European Financial Data Space suggested unanimously that there is a need for a higher level of standardisation for specific core data fields to increase interoperability[78]. The absence of standardisation of APIs has also been identified as an important element for the imperfect functioning of Open Banking under PSD2[79]. The more firms use data, the more technical barriers and lack of interoperability issues present important obstacles for access to and reuse of data[80]. They are also one of the most important

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[73] Commission's targeted consultation on open finance.

[74] In particular, ISO20022, a standard for financial messages, which is used especially for real-time payments, see Annex 9.

[75] See for example the work of the Berlin Group's 'NextGenPSD2' framework, which provides compliance standards to support PSD2 compliant APIs. Decisions on the implementation of the standards delivered by the Berlin Group are however left to individual market participants. See https://www.berlin-group.org. See Annex 9 for an overview.

[76] Compliance rules of course exist in these financial verticals. For example, investment firms must keep accurate internal records about client assets. However, no MiFID provisions standardise this data, as the format is up to the record keeper. See Article 16(8) MiFID and Article 2 of Commission Delegated Directive (EU) 2017/593

[77] The SPAA scheme developed by the European Payments Council has cooperated successfully on a contractual scheme involving data sharing in payments and are actively working to expand to 'premium -based services beyond PSD2. See The SEPA Payment Account Access (SPAA) Scheme Rulebook | European Payments Council

[78] See Report on open finance (europa.eu)

[79] PSD3 impact assessment, section 2.1.2

[80] This is evidenced by the 2020 Study to support an Impact Assessment on enhancing the use of data in Europe, which estimated that 50% of barriers to data sharing are linked to interoperability and trust related issues. The open public consultation on the European Strategy for Data moreover indicated that a majority of respondents (91%) agree that standardisation is necessary to improve interoperability of data and data re-use across economic

drivers of costs for data users, especially for SMEs. Merging different datasets and making them interoperable is one of the most resource-intensive activities for data users and datasets are rarely interoperable by default even within the same value chain. This results in a need to multiply the efforts when a company wishes to integrate different datasets[81]. Interoperability is a crucial technical enabler for data sharing, as well as one of the highest categories of costs to be borne for developing new financial products and services.

- **Problem driver 4 - Data holders lack incentives for implementing high-quality interfaces for data users**

Making data available by way of high-quality application programming interfaces (APIs) is essential to facilitate seamless access to data[82]. Indeed, where data is not made available via high quality technical interfaces, each data user would have to spend significant time and investment to enhance the data quality before being able to aggregate and merge them with other data sets. The functionality of individual APIs may also differ, complicating this process even further.

Beyond the area of payments, only a minority of financial institutions that are data holders indicate that they make data available through technical interfaces like APIs[83]. At the same time, the majority of data holders expect new innovative products and services to be developed if more customer data were available through APIs[84]. Indeed establishing technical interfaces like APIs entails upfront costs (see Annex 3), and recovery of these costs from data users is subject to a coordination problem, as follows. On the one hand, if data supply is limited due to only a few financial institutions establishing interfaces to make customer data available, data users are unlikely to invest in developing new use cases. This is especially the case if a use case relies on data made available by several financial institutions (e.g. use case improving retail investment advice, as set out in Annex 7). On the other hand, absent development of such innovative services, market demand for data access will remain limited, and financial institutions acting as data holders which establish interfaces will not be able to recover the cost for setting up these interfaces.

Even where data holders are required to make customer data available, **like under PSD2, in absence of sufficient business incentives, data holders may opt for the minimum effort to comply**. Data holders may also be unwilling to grant access to actual or potential competitors for competition reasons. PSD2 experience shows that data holders in the

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sectors (including the financial sector). See Impact Assessment report and support studies accompanying the Proposal for a Data Act | Shaping Europe's digital future (europa.eu)

[81] Data from different European credit bureaus, for example, are not interoperable by default. SMEs and start-ups working with these data sets need to spend time and resources in processing this data before being able to provide services to clients.

[82] As indicated by the fact that market-driven initiatives exist to further develop APIs and open finance interface standards, for example by the Berlin Group. Open Finance | The Berlin Group (berlin-group.org)

[83] Commission's targeted consultation on open finance. 20 out of 47 respondents that identify as data holders gave an estimate of the proportion of data holders who make data available based on APIs. The majority of these data holders (70%) stated that APIs developed by data holders were not available beyond payments.

[84] The results from the Commission's targeted consultation on open finance indicate that, among data holders, 85% of the active respondents expect new products to be developed if more data would be available through APIs. The proportion is even higher when looking at data users and intermediaries (90%).
only 20 out of 47 respondents gave an estimate of the proportion of data holders who make data available based on APIs. The majority of them (70%) stated that only a minority would do so.

financial sector (ASPSPs) might have lacked sufficient incentives to develop high-quality APIs[85]. There are several reasons for this. In addition to issues related to standardisation (problem driver 3), the evaluation of PSD2 indicates that many data holders believe that the investments for building infrastructure without compensation are disproportionate[86], while uneven implementation and enforcement may have played a role, together with the competition considerations mentioned above. At the same time, 75% of respondents to the targeted consultation on open finance agreed that data holders should be entitled to compensation for putting in place the infrastructure. The results of the targeted consultation indicate that the majority of data users and data intermediaries are more concerned about a lack of incentives to ensure high quality data and interfaces than about the additional costs which a compensation would cause for them[87].

Concerns related to the application of liability rules also hold back the development of high-quality APIs, both with respect to liability rules that protect consumers and liability rules between market participants (data users and data holders). While there are general rules on liability to protect consumers[88], the complexity inherent to increased data sharing means there is uncertainty about the application of liability rules to determine who is liable in case of fault (e.g. if shared data is incomplete, or if shared data is disclosed without permission). Data sharing may make financial service value chains longer as it may involve more data users, making it more complex for data holders and data users to determine liability and for consumers to seek redress. Complexity also stems from the fact that consumers have an increasing number of parallel contractual relations with multiple data holders and users[89]. In the financial sector, this means that data sharing exposes data holders and data users to financially very significant liability risks in case of fault, and uncertainty about liability risks can have a significant chilling effect for their willingness to engage in data sharing. The same applies to data subjects for whom data breaches may cause significant financial losses, if they face unclarity and difficult judicial proceedings to recover those losses. Indeed, a majority of the respondents (55%) to the targeted consultation agree that it is necessary to clarify who is liable in order to ensure a high quality of customer data that is shared in open finance[90]. With regard to the application of liability amongst market participants, data holders stress the risk of data sharing in the absence of full clarity on liability, given the potential increase in data

[85] A lack of incentives have led some banks to limit or complicate access to data by introducing APIs of varied quality. See Study on the application and impact of Directive (EU) 2015/2366 on PSD2 (2021), p. 169.

[86] Banks have been concerned with the cost of developing APIs, claiming lack of remuneration incentives. See Evaluation of the Directive (EU) 2015/2366 on payment services in the internal market, p. 57. See also Problem driver on insufficient incentives to provide quality access interfaces to payment data in impact assessment on PSD3.

[87] Commission's targeted consultation on open finance. Looking only at data users and data intermediaries who are not data holders, the majority (77%) are also in favour of compensation. References were made to the PSD2, with some respondents suggesting that free of charge data access by third parties did not foster the best outcome as the implementation investments have been disproportionate to benefits and return on investment for data providers.

[88] Existing crosscutting EU rules governing liability include those that apply to the data subject in Article 82 the GDPR when personal data is processed. In addition, Database Directive and Product Liability Directive, as well as national law (e.g. liability due to software malfunctions) cover instances of liability for non-personal data.

[89] This is for example the case in the trend of "embedded insurance", where insurance products and services are often sold to the customer via several micro/coverages from different providers. .Embedded insurance is a growing trend shaping insurance, see Bain & Company (2021) The Future of Insurance: As Risks Mount, Insurers Aim to Augment Protection with Prevention | Bain & Company

[90] Slightly more than half of those respondents (31%) wish for horizontal liability principles across the financial sector, while a smaller group (24.1%) suggested the liability principles to be tailored sector-by-sector.

misuse, financial crime and fraud when data is shared, which may undermine customers' trust in the bank and reputational losses[91]. Moreover, market participants in the Expert Group on the European Financial Data Space agree that a clear liability framework is required to ensure accountability and legal certainty in open finance[92].

2.3 CONSEQUENCES

The limited access to customer data caused by these problems has a number of consequences.

First, consumers do not benefit from individualised, data-driven products and services that may fit their specific needs. According to OECD[93], enhanced data access and sharing is a key means for improving transparency and empowering consumers. Open data initiatives in the financial sector demonstrate how data can be used to help people transact, save, borrow, lend and invest their money. By increasing transparency in the financial sector, this initiative can empower consumers so they become able to better compare existing offerings, which can contribute to a higher level of competition in the market. Certain segments of retail financial services display low levels of switching which suggests that consumers, in some cases, have either little inclination or choice to seek alternative financial products and services. According to a recent Eurobarometer report, only 29% of respondents have changed provider for at least one of their financial products or services in the past five years[94]. At the same time, there is evidence for growing demand for an EU open finance framework from end-users. A majority (57%) of respondents to the targeted consultation believe that increased data sharing and reuse can help consumers access offers more easily and connect them with financial products suited to their preferences and tailored to their financial profile[95]. This is why market-driven initiatives are already developing beyond open banking (see Annex 9).

In addition to fostering competition, customer data sharing may also act as a stimulus for innovation and the creation of new products and services, or the expansion of existing markets. The absence of personalised financial products limits the possibility to offer more choice and financial products and services for interested consumers who could otherwise benefit from data-driven tools that can support them to make informed choices, compare offerings in a user-friendly manner, and switch to more advantageous products that match their preferences and financial profile based on their data. Indeed, 70 % of respondents to the public consultation mention one or further innovative financial products which would stand to benefit retail customers. This is evident for example in the area of investment advice, where personalisation could help match investments to the sustainability preferences of clients (see example of use case in Annex 7): six in ten Europeans (62%) find it important that their savings and investments do not fund economic activities that have a negative climate impact.

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[91] The Association of Certified Fraud Examiners estimates total fraud (including but also extending beyond financial services) at more than $4.5 trillion annually, or the equivalent of about 5 percent of global corporate revenue. See McKinsey Global Institute (2021) Financial data unbound: The value of open data for individuals and institutions | McKinsey.

[92] Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)

[93] See OECD (2019), *Enhancing Access to and Sharing of Data: Reconciling Risks and Benefits for Data Re-use across Societies*, OECD Publishing, Paris, *https://doi.org/10.1787/276aaca8-en*.

[94] European Retail Finance Services and Products. Retail Financial Services and Products - October 2022 - - Eurobarometer survey (europa.eu)

[95] Commission's targeted consultation on open finance. See Annex 2 for more information.

Nevertheless, only one in three consumers (34%) today know whether their private savings are invested into sustainable economic activities[96].

25 out of 34 OECD countries surveyed have reported active use cases resulting from data sharing frameworks in their jurisdictions involving innovative business models, such as credit scoring applications, debt management tools, wealth management applications, alternative payment services, product comparison, account verification and balance checks by third parties. For example, in Australia, a variety of use cases include providers using consumer and product data, with consent, to get a deeper understanding of the consumers' financial situation and help them reduce their debt faster. Other reported active use cases in Australia include services that help smooth and expedite the application for and switching of loans by transferring and prefilling data used by brokers and/or lenders. Further use cases are emerging to help consumers calculate their carbon footprint and suggest alterative 'greener' purchasing options[97].

Second, the existing barriers to business data sharing are preventing firms, in particular SMEs, to benefit from better, convenient and automated financial services. The above issues concerning consumers equally apply to business customers of financial firms. Innovative B2B solutions can contribute to enhancing access to credit or more broadly better financial management of SMEs (see examples of use cases in Annex 7). This was a potential highlighted by many respondents to the targeted consultation.[98] Box 2 provides an overview of potential benefits from open finance to both SMEs and consumers.

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[96] Eurobarometer: Retail Financial Services and Products. Retail Financial Services and Products - October 2022 - - Eurobarometer survey (europa.eu)

[97] See OECD (2023), *Shifting from Open Banking to Open Finance: Results from the 2022 OECD survey on data sharing frameworks*, OECD Business and Finance Policy Papers, OECD Publishing, Paris, https://doi.org/10.1787/9f881c0c-en.

[98] Commission's targeted consultation on open finance. Only 19% of active respondents indicate that SME data is already accessible via regulatory requirements, 71% state that data required for SME creditworthiness assessment is not readily accessible from a technical perspective. However, the majority of active respondents (71%) think that a referral scheme for SMEs through an API-based infrastructure based on standardised data that gives a financial intermediary access to another financial intermediary's data could be beneficial in sourcing alternative financing options.

Box 2 – How can open finance benefit consumers and SMEs?

In general, data-driven finance would facilitate industry transition from the traditional supply of standardised products to tailored solutions that are geared towards the specific needs of customers, including improved customer facing interfaces (e.g. aggregators, comparison, and switching tools) that enhance competition, improve user experience and ensure financial services that are focused on the customer as the end user. Under the PSD2, a number of interesting examples are already emerging based on payment data, and open finance would broaden the scope for such benefits, while keeping any associated risks in check.

Open finance may offer individuals improved personal finance management by consolidating all financial services into a single dashboard, which would also be conducive to receiving personalised advice (e.g. overdraft alerts and recommendations for choosing lower interest rates products, lower overdraft charges). This could effectively improve cash flow and asset management, enabling a comprehensive 'balance sheet' view of a person's assets and liabilities and thereby contributing to sound long-term financial planning and improved asset allocation. For example, data related to retirement income and pension entitlements forms an important part of a consumer's financial profile and should therefore be accounted for. Having access to pension-related data could provide more holistic overview of an individual's saving situation and thus enable more appropriate investment advice. In this context, open finance can also support the development of pension tracking tools that provide savers with a comprehensive overview of entitlements and retirement income both within specific Member States and on a cross-border basis in terms of occupational and personal pension savings. Pension tracking tools play an important role for consumers in projecting retirement income and stimulating financial awareness and planning. Better investment advice based on a clear understanding of customer's knowledge and experience, financial situation and needs and objectives is expected to lead to improved investment outcomes for the customer (see Annex 7 for the investment use case), whilst insurance management dashboards could help consumers better manage their risks, obtain better insurance premia and help them avoid both overinsurance and underinsurance.

Data-driven services can also contribute to making processes more automated by integrating generally burdensome tasks, such as by providing comparison services across a range of providers based on the needs of a consumer for smoother and cheaper access to finance, as well as by taking care of the switching process towards a new product and quicker customer on-boarding with other financial service providers. For example, open finance would enable less cumbersome and more effective suitability and appropriateness assessments of individuals by facilitating the reuse of input data in automated processes, whilst better comparative services that match consumers with more appropriate insurance products can decrease risks in personal finance. Automation would also benefit pension services that require data aggregation from several pension providers by reducing the need for manual data collection. This includes pension investment tracking on behalf of pension scheme participants and enhanced communication with them as regards the ESG impact of the underlying investments.

Accessing credit based on automated processing would also significantly improve customer journey. For example, automated processing of mortgage applications would reduce the information collection burden on consumers when choosing or comparing credit offers (as regards mortgage amount, applicable fees and interest, required guarantee, etc). With some traditional lenders not willing to take on the credit risk of financing SMEs, open finance is also expected to enable SME access to a wider range of financial services and products (e.g. more competitive loans). For example, access to data related to their creditworthiness assessment could benefit SMEs seeking finance by streamlining the loan application process, intensifying competition among investors and reducing their funding risk as a result of more diversified financing. Data-driven solutions may also promote alternative credit scoring methods altogether for financial inclusion of both underserved SMEs and individuals, such as self-employed and so-called gig economy workers. Personalised lending offers that fit the specific customer's needs and circumstances would be facilitated, taking into account sustainability of the customer's debt profile. Thus, open finance may promote financial inclusion through more precise financial profile of customers, including those with 'thin credit' files.

transformation trends to deliver a better customer experience whilst becoming more efficient and competitive along the way. Some 1,200 banks are already active as data users under PSD2 and the vast majority of them are expected to extend their activity into other types of customer data beyond payment accounts that they hold as part of their activity as providers or distributors of the relevant financial services and products. Data is an essential resource for growth: the results from the targeted consultation indicate strongly that financial firms see data sharing and reuse as a key source of innovation of financial services and products.[99] Digital technologies rely on data, which is increasingly driving change in financial markets, producing new business models, products and ways for firms to engage with their customers[100]. It is as important to ensure that data is able to flow freely across the EU single market in a safe and secure manner, as is the case for the free movement of capital and labour. More effective access to datasets by market participants would help facilitate the development of new data-driven services.

Fourth, third-party service providers acting as data users face lost business opportunities in data-driven innovation. This is the flipside of customers not benefitting from data-driven products and services. Most end users do not directly use raw data, but rather rely on data users that access such raw data to extract and present the embedded information in more user-friendly ways, sometimes enriched through additional inferred data. These data users typically provide added-value services including advanced data analytics services. While businesses tend to use so-called data brokers, consumers often access added-value information services via apps. Overall, this leads to new demand for added-value services and thus to new business opportunities for new and old data users, including data brokers and app developers, but also for some incumbents. Established open finance firms that entered the market following the introduction of PSD2 have already confirmed their interest to expand into new data sets. The most significant impact of open finance data sharing arrangements is the emergence of new entrants as well as FinTech firms with new business models. For example, more than 400 non-bank providers are estimated to have been created since the introduction of the PSD2 in the EU. Another possible impact involves greater and closer cooperation between banks and FinTech firms as observed in Japan[101].

At aggregate economy level, the consequence is an underdeveloped EU digital financial data market in which customers cannot make full use of data-driven products and services. The EU financial data economy remains fragmented, characterised by uneven data sharing, barriers, and high stakeholder reluctance to engage in data sharing. This initiative is expected to deliver an overall stronger level of innovation and competitiveness of the European financial sector based on evidence from data sharing frameworks in OECD countries that have been producing positive impacts on customers and financial services, fostering innovation, increasing competition, lowering costs, and delivering better customer

[99] Commission's targeted consultation on open finance. The majority of respondents to the targeted consultation saw benefits for retail customers in either multiple (37%) or at least one (34%) data-driven products and services.

[100] These trends are summarised in the Commission's Digital Finance Strategy, EUR-Lex - 52020DC0591 - EN - EUR-Lex (europa.eu)

[101] See OECD (2023), *Shifting from Open Banking to Open Finance: Results from the 2022 OECD survey on data sharing frameworks*, OECD Business and Finance Policy Papers, OECD Publishing, Paris, https://doi.org/10.1787/9f881c0c-en.

experiences[102]. Open Finance is expected by OECD countries to stimulate competition by de-monopolising data and improving information availability, while also encouraging the emergence of cheaper and better financial products for consumers.

2.4 HOW LIKELY IS THE PROBLEM TO PERSIST WITHOUT FURTHER ACTION?

The baseline scenario where the Commission takes no action is described in detail in section 5.1. This section provides a short summary of the essential consequences.

The current EU legislative framework does not allow to address all the challenges described in sections 2.1 and 2.2 above. Currently, the sharing of customer data in the financial sector has its basis in two legal frameworks: PSD2, with respect to payment accounts data of both retail and business customers, as well as Article 20 of the GDPR which grants the data subject the right to receive and port personal data held by financial service providers. However, access rights to customer data under PSD2 are limited to payment account data. The GDPR, in turn, is limited to personal data and gives a data subject the right to data portability only where it is technically feasible (see also the impact assessment accompanying the Data Act). Current legislation has shown limited effectiveness in allaying customer concerns over a perceived lack of control over their financial data and in facilitating the sharing and reuse of data in a highly interoperable manner. Once agreed, the Data Act proposal would apply. However, the obligations under Chapter III of the Data Act proposal, concerning mandatory business-to-business data sharing, would not apply in the financial sector beyond payment accounts, as they only apply to data holders legally obliged to make data available under other Union law or national legislation implementing Union law.

In the absence of EU action, the following situation will accordingly persist:

Customers will continue to have limited control over their financial data when they chose to share it in the financial sector. Lack of market coordination would impede the emergence of private solutions to this problem. This will mean that issues related to low trust and lack of control, including due to 'consent' fatigue or a lack of clarity over liability, will persist.[103]

Bilateral contracts between individual data holders and data users will continue to be the main vehicle for sharing and accessing data. Contractual barriers will be solved on a case-by-case basis, thus leading to dispersed approaches towards similar legal concepts across the single market and to the persistence of unequal bargaining power between parties. Businesses will continue to take a case-by-case approach to liability through their contractual arrangements. Technical barriers may be addressed at the industry and sectoral level, but at different speeds. Without a clear data sharing regime, innovators will have less opportunity to create new services that could provide more choice and better access to financial services and products.

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[102] See OECD (2023), *Shifting from Open Banking to Open Finance: Results from the 2022 OECD survey on data sharing frameworks*, OECD Business and Finance Policy Papers, OECD Publishing, Paris, https://doi.org/10.1787/9f881c0c-en.

[103] 'Click' or 'consent' fatigue. When encountered too many times, the actual warning effect of consent is diminishing. See EDPB, Guidelines 05/2020 on consent under Regulation 2016/679 | European Data Protection Board (europa.eu) (May 2020)

Data sharing and reuse will remain limited in absence of a coordinated approach, including as regards standardisation. Due to a lack of standardisation, data users will continue to struggle accessing financial information in an interoperable and timely manner. Private initiatives on standardisation and schemes are unlikely to address the issue at a structural level for the financial sector as a whole. While some private initiatives may enable broader data sharing[104], it is unlikely that these initiatives will reach the scale required to create an ecosystem between data holders and data users[105]. The main problem is related to coordination and incentives. Whilst contractual schemes on payment accounts data have gradually emerged, this has been a very slow and painstaking process conditioned by the need to implement PSD2. Against this background, it is unlikely that schemes would emerge by themselves across a much wider range of financial products and services in the absence of a regulatory impetus. Only 19.5% of respondents to the open finance targeted consultation agreed that without regulatory intervention, contractual challenges linked to open finance to be resolved within the next 3-5 years by the market itself.[106] Given the lack of adequate incentives for interoperability and financial data exchanges, the EU financial data market will continue to face issues such as vendor lock-in situations, as there will be no common interoperability requirements in finance to make market entry and switching easier. This may prevent a level playing field.

Overall, the EU financial data market would as a result remain underdeveloped, with more expensive services and less digital finance innovation.

From a global perspective, and a perspective of strategic autonomy, no further action implies there is a risk that the EU could lag behind as other jurisdictions move from open banking to open finance and develop their regulatory frameworks to enable greater data-driven innovation in financial markets.

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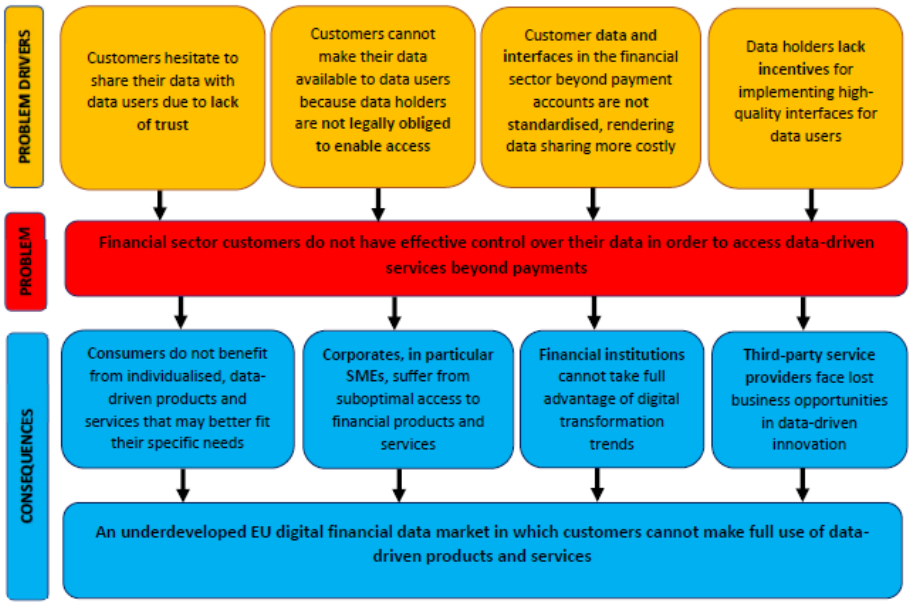
[104] See Annex 9.

[105] Commission's targeted consultation on open finance. When asked to estimate the average cost of concluding an ad hoc bilateral contract for data access, the average cost was estimated to be 'very high' by respondents who answered. Respondents argued that it was resource-intensive to cover all aspects of a bilateral arrangement, including the negotiation of terms to establish the parameters for access, performance of access method, agreement on ongoing rights and liabilities, and third-party risk assessments. Many respondents, however, abstained from answering the question.

[106] Commission's targeted consultation on open finance. This compares to the 38% respondents who believe regulatory intervention is required.

2.5 PROBLEM TREE

Figure 2: Problem drivers and consequences in the context of open finance



Source: DG FISMA

3. WHY SHOULD THE EU ACT?

3.1 LEGAL BASIS

The Treaty on the Functioning of the European Union (TFEU) confers to the European institutions the competence to lay down appropriate provisions for the approximation of laws of the Member States, that have as their objective the establishment and functioning of the internal market (Article 114 TFEU). This encompasses the power to enact legislation at EU level to approximate requirements on the increasingly important use of data for financial institutions and for their supervisors, as financial institutions active across borders would otherwise face diverging national requirements, rendering cross-border activity more costly. Creating uniform rules for data sharing in the financial sector will contribute to the functioning of the internal market by ensuring a harmonised regulatory framework on financial data governance, in line with the European strategy for data.

3.2 SUBSIDIARITY: NECESSITY OF EU ACTION

The data economy is an integral part of the EU internal market. Data flows form an intrinsic part of digital activities, and they mirror existing supply chains and collaborations. Any initiative aiming to organize such data flows must address the whole EU single market. As data holders are generally licensed financial institutions subject to EU supervision, action at EU level is needed to set uniform conditions and preserve a level playing field among financial institutions in order to safeguard market integrity, consumer protection and financial stability. Furthermore, the high level of integration within the EU financial sector – governed by broad and detailed set of rules largely set out in directly applicable regulations and supervisory arrangements that to a high degree is centralised at EU level – together with the significant cross-border activity of financial institutions, and the depth and breadth of digitalisation calls particularly for action at EU level in the financial sector.

The problems described in this impact assessment are common for all EU Member States. Legislation in the area of financial services is a shared competence between the EU and its Member States. The problem cannot be solved by Member States acting alone, given that the holders and potential users of customer data in finance often operate across several Member States in the internal market for financial services. Therefore, a single customer may have data held by financial institutions in different Member States, and to enhance trust and allow the integrated use of this data all these financial institutions would need to be subject to the same framework and the same technical standards. Individual national initiatives would result in overlapping requirements and disproportionately high compliance costs for firms without providing most of the benefits due to a lack of interoperable standards, which are fragmented along national lines.

It also is necessary for this initiative to take the form of a regulation directly applicable in all Member States (and not a directive), in order to ensure uniform rules across Member States concerning access to financial services customer data, as well as by whom and under which conditions access may occur.

3.3 SUBSIDIARITY: ADDED VALUE OF EU ACTION

To increase the use of data and leverage its potential in finance, individual action by Member States would be suboptimal and clearly insufficient. EU action is deemed necessary to provide a comprehensive way to access and use data in the single market for financial services. Action

at EU level would bring more advantages and greater value than action taken separately at national level. It would provide common rules on the access of customer data across the EU financial sector and would therefore eliminate the need for Member States to individually improve rules, standards and expectations regarding access to personal and non-personal data in the financial sector. It will also improve financial products and services and create opportunities for consumers and firms to obtain better targeted advice and personalised services across the single market.

Not taking action at EU level would be a missed opportunity to reap the full benefits of the single market, as it would result in the proliferation of piecemeal and uncoordinated approaches at national level, which would further fragment the single market for digital financial services. It would slow down the digital transformation of EU financial institutions, many of which operate across many Member States. Faced with differences in the accessibility and quality of financial data, it would be much more challenging for them to develop digital products and services both for operational and economic reasons. Developing a product for a market of 450 million people greatly benefits from the economies of scale and scope that characterise digital data. Consequently, a need to develop separate products for each national market would either result in more expensive products or less products brought to the market altogether. Such an outcome would disproportionally affect the smaller Member States. The same logic applies to innovative start-ups and new market entrants that would benefit from a single regulatory framework across the EU.

In accordance with the principle of proportionality, the proposed rules will not go beyond what is necessary to achieve the objectives set out in below. The initiative will cover only the aspects that Member States cannot achieve on their own and where the administrative burden and costs are commensurate with the specific and general objectives to be achieved. Proportionality will be carefully designed in terms of scope and intensity and using qualitative and quantitative assessment criteria to ensure that the new rules will have a wide material scope. None of the options analysed in this impact assessment goes beyond what is necessary to achieve the objectives set in the following section. EU action is therefore justified on both grounds of subsidiarity and of proportionality.

4. OBJECTIVES: WHAT IS TO BE ACHIEVED?

4.1 GENERAL OBJECTIVES

The general objective of this initiative is to promote digital transformation and speed up adoption of data-driven business models in the EU financial sector to improve economic outcomes for financial services customers (consumers and businesses) and financial sector firms. Once achieved, consumers would be able to access individualised, data-driven products and services that may better fit their specific needs. Corporates, notably SMEs, would enjoy wider access to financial products and services. Financial institutions would be able to take full advantage of digital transformation trends, whilst third-party service providers would enjoy new business opportunities in data-driven innovation.

4.2 SPECIFIC OBJECTIVES

The specific objectives of this initiative are twofold.

First, to enhance customer trust in data sharing in the financial sector (specific objective A, problem driver 1). The initiative aims to ensure a secure data-sharing framework that empowers customers by giving them meaningful and effective control over their data, providing additional safeguards in line with data protection rules and rules on digital operational resilience, as well as ensuring that the use of this data by the industry is beneficial to them.

Second, to enable effective access to customer data for data users in the financial sector, decomposed into three distinct objectives, as follows:

- **Oblige data holders to share customer data with data users** (specific objective B, problem driver 2): as explained in section 2.3, customers of financial service providers can only ensure that third-party providers obtain access to their payment accounts data under PSD2. Although GDPR also gives consumers the right to share their personal data held by any financial service provider directly with third-party providers, this only covers personal data and does not entail a right to allow for electronic access, which is necessary if customers want their data to be used for digital services.

- **Promote standardisation of customer data and interfaces** (specific objective C, problem driver 3): enabling customer data aggregation and sharing at scale in the financial sector would require that both customer data and their sharing interfaces are standardised. Furthermore, in the interest of the broader EU data policy, these standards should, to the extent appropriate, be compatible with those used in other sectoral data spaces of the economy to safeguard interoperability and enable cross-sectoral use cases.

- **Promote implementation of high-quality interfaces for customer data sharing** (specific objective D, problem driver 4): it aims to ensure that data holders implement the standards developed under the specific objective C and have sufficient economic incentives to provide high quality interfaces, distributing the related costs between data holders and data users in the data value chain. Moreover, as data reuse involves risks, such as data misuse, financial crime or fraud, it must be ensured that

the liability in case of data misuse, financial crime or fraud is clear and predictable and liability risks do not act as a disincentive for data holders to make data available.

5. WHAT ARE THE AVAILABLE POLICY OPTIONS?

5.1 BASELINE

If the Commission did not propose this initiative, the cross-sectoral rules (both existing and proposed) set out in section 1.3 above would apply to data sharing in finance beyond payments.

In a 'no action scenario' in the financial sector, it is therefore expected that:

A lack of effective control over data sharing would continue to **limit consumer confidence and trust in the secure sharing of their data**. This includes the absence of control tools in the financial sector that enable consumers to monitor and manage the use of their personal data. Some financial institutions may continue to provide customers with dedicated tools to comprehensively manage permissions for data access they have given (market-driven consent management dashboards), and data intermediation service providers under the Data Governance Act may provide an additional market offer for such functions. But these will depend on the voluntary initiative of market participants and will therefore not be offered to all customers, and are not necessarily based on common standards, leading to less clarity for consumers.

Outside the scope of the PSD2, there would be **no effective and comprehensive obligation for data holders to make data available** to third party providers, and the **possibility for these firms to offer innovative financial products and services to customers based on effective access to customer data held by financial services providers would remain limited**.

- Concerning non-personal customer data, making data available to third-party service providers would remain voluntary based on bilateral contracts.
- Concerning personal customer data, the GDPR right to portability of personal data with third parties would apply, subject to the limitations set out above that will continue to impede its effectiveness for the purposes of data access in financial services (see section 2.2).
- The obligations established by the Data Act proposal (Chapter III - Articles 8 to 12) for data holders in business-to-business data sharing would not apply, as they would only apply to data holders legally required to make data available, which is not the case for the data considered under this initiative[107]. There would be no legal obligation in the Data Act requiring data holders to share data with data users if their customer so requests. Thus, data access in finance beyond payments **would remain largely contractual, and contractual barriers would continue to be tackled on a case-by-case basis**, preventing sufficient scaling up of third-party access to customer data in the financial sector.

[107] Article 8(1) of the Data Act proposal, EUR-Lex - 52022PC0068 - EN - EUR-Lex (europa.eu)

- Chapter IV of the Data Act proposal would introduce an unfairness test for contractual terms concerning the access to and use of data unilaterally imposed on a micro, small or medium-sized enterprise. Article 34 of the Data Act proposal may be used by the Commission to develop certain model contractual terms. Nevertheless, even with the use of such terms individual contracts will have to be negotiated for every data access.

Without an obligation to make data available, data holders would likely continue to share customer data in limited circumstances beyond a data subject's right to port their personal data under Article 20 GDPR. As a result, customers would be unlikely to benefit significantly from individualised, data-driven financial products and services that may fit their specific needs.

When it comes to **standardisation of data and interfaces as well as schemes**, there has so far been little progress in terms of market driven efforts in areas outside payments (see Annex 9 for an overview). While some ongoing initiatives go beyond payments (Berlin Group's open finance work), others (SPAA API access scheme) face challenges to expand into the broader financial sector. The consultation replies show that while most stakeholders expect some progress on standardisation, consumers and third-party providers with the highest interest in open access expect limited progress in terms of adoption of market driven standards. The Data Governance Act, including Art 12 (d) and (i), the European Data Innovation Board established under DGA Art 30, and the Data Spaces Support Centre will play an active role, but would have benefited from additional dedicated standardisation efforts specific to the financial sector.

Implementation of customer data access interfaces (APIs) with a high quality would continue to be rare. Neither the GDPR nor the Data Act proposal would make such interfaces mandatory for the financial sector, and absent regulation no data holder is ready to make the first move. Even if APIs were available, the quality of data that could be accessed would also vary substantially across data holders due to the absence of any common data standards, rendering the services based on such access by third-party service providers too costly and thus unfeasible. In the framework of the DGA, data intermediaries could mitigate this elevated cost of individual connections across data holders by offering a single access point for third-party service providers. However, the lack of common data standards may constitute a real challenge even for data intermediaries. In any case, structuring data sharing through data intermediaries may imply higher cost for access to the data.

However, the DMA would improve the **level-playing field** between gatekeeper platforms and financial services providers who, based on customer request, would be able to access relevant customer data held by these large technology providers in order to offer new financial services to businesses and consumers.

5.2 DESCRIPTION OF THE POLICY OPTIONS

Policy options have been chosen based on the Commission Expert Group on the European Financial Data Space and on stakeholder feedback. As presented in section 5.4 (see Figure 3), the policy options are organised by specific objective. They are depicted below and described in detail in the subsequent sections.

5.2.1 Enhance customer trust in data sharing (specific objective A)

Privacy and other legitimate commercial and non-commercial interests need to be protected, otherwise incentives to contribute data and to invest in data-driven innovation may be undermined, in addition to the risks of direct and indirect harm to right holders, including data subjects. In open finance, a particular challenge is when customers have relationships with multiple firms (data holders; data users), which can make it cumbersome to track and revoke the respective permissions granted. A first policy option would therefore be to ***require*** market participants (i.e. data holders, data users and data intermediaries) to provide customers with **common and consistent open finance permission dashboards** to manage customer permissions for data sharing[108] (**Option A.1**). Open finance permission dashboards give customers a holistic overview of permissions granted and ensure a strong measure of control over personal and non-personal data in open finance. In this respect, the dashboards allow customers to track permissions by providing them with an overview of the validity period and purpose of the permissions they have granted a data user of each data relationship. In addition, open finance dashboards provide customers with an interface through which to manage and, if appropriate, withdraw permissions with respect for each separate data relationship of the customer.

Thus, dashboards would be available for all customers and cover both personal and non-personal customer data. Open finance dashboards would have to be implemented by both data holders and data users, with separate dashboards as one solution. For example, the dashboard on the data holder side would provide a specific customer with an overview of all permissions granted to data users with respect to data of that customer held by a particular data holder, whilst the dashboard on the data user side would provide a specific customer with an overview of all data holders, from which a particular data user is sourcing that customer's data., Another alternative could be an eIDAS-notified solution, such as the proposed European Digital Identity Wallets to be issued by Member States[109]. In this case, open finance dashboards would be managed by customers through the common interface provided by the European Digital Identity Wallet which can provide a customer with control over their data permissions. In turn, data holders and data users would be able to rely on the wallet to check and verify customer permissions. Data holders and data users could also use data intermediation services providers under the Data Governance Act to put in place the dashboards[110]. Option A.1 would involve binding rules established in the legislation that set

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[108] Otherwise known as 'privacy dashboards', 'consent management platforms' or 'personal information management tools', these dashboards are graphical customer facing interfaces that provide customers with a simplified and accessible overview of the data they have allowed to share. They are used to manage a user's permissions for data sharing. Currently dashboards developed by the financial sector are limited to managing processing based on consent, based on Article 6(1)(a) GDPR. However, financial services are often contract-based, and rely on Article 6(1)(b) GDPR.

[109] The 'European Digital Identity Wallet', as proposed by the Commission, would provide a common interface that allows the user to store identity data and attributes linked to her/his identity, and to provide them to relying parties on request. The selective disclosure of data attributes will be a core design feature of the European Digital Identity Wallet. This feature could be the basis for open finance dashboards. Wallets will be available to all natural and legal persons in the Union, and are to be issued either by a Member State, under a mandate from a Member State or independently but recognised by a Member State. See Article 6(a) of the Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 910/2014 as regards establishing a framework for a European Digital Identity

[110] Data intermediation service providers are neither data holders nor data users. Rather, they establish commercial relationships for the purposes of data sharing between an undetermined number of data subjects and

out a common approach to their development and implementation. This would ensure consistent implementation irrespective of the specific solution chosen.

A second policy option would be to require market participants to provide **common and consistent open finance permission dashboards** for customers (like Option A.1), and in addition set **eligibility rules** on who can access customer data under the open finance framework (**Option A.2**). These eligibility rules would be the same as the requirements existing already today for Account Information Service Providers (AISPs) under PSD2[111]. This would ensure that data can be accessed only by already regulated financial institutions or by firms subject to a dedicated 'financial information service providers' (FISPs) license which are subject to regulation covering their conduct, governance and organisation, and would be subject to DORA and have high cyber resilience standards in place[112].

A third policy option would be to include the safeguards on data *sharing* set out in Options A.1 and A.2 (**open finance permission dashboards, eligibility rules**), and complement them with **personal data use perimeters,** an additional safeguard against unlawful *use* of the accessed data, in line with the GDPR (**Option A.3**). For financial services that have an important inclusion and societal dimension (e.g. the use of consumer data related to occupational pensions) or where exclusion risks are higher for consumers as a result of granular risk assessments (e.g. the use of consumer data related to insurance policies), these perimeters would detail specific categories of personal data in scope of this initiative (see specific objective B) that financial institutions may use when providing services to consumers to guard against consumers being pressured into sharing data against their will [113]. If a customer refuses to provide personal data outside these categories, this should not be a reason for the financial institution to refuse to offer services to the customer. This would ensure that even consumers who want to refuse broad permissions for data access would still have access to these services, further limiting the risk of their financial exclusion. Whilst already present in some areas of financial sector legislation, notably in guidelines which detail how consumer information can be used in the Mortgage Credit Directive (MCD)[114], at present most pieces of legislation do not define such personal data use perimeters. Personal data use perimeters could be set by empowering the European Supervisory Authorities either to issue **guidelines or binding rules**.

Concerning **stakeholder views,** the Commission Expert Group outlined both benefits and challenges setting eligibility rules (Option A.2 and Option A.3), and stakeholders were mixed

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data holders and are subject to highly harmonised requirements as per Articles 11, 12 and 14 of the Data Governance Act. EUR-Lex - 32022R0868 - EN - EUR-Lex (europa.eu)

[111] AISPs are authorised as per the requirements under PSD2, including Article 33 PSD2. EUR-Lex - 32015L2366 - EN - EUR-Lex (europa.eu)

[112] FISPs should not be confused with the concept of data intermediation service providers introduced by the Digital Governance Act, such as data marketplaces. Data intermediation service providers function as neutral third parties that connect data subjects (i.e. individuals and companies), on the one side, with data users, on the other, whereas FISPs would be data users in their own right.

[113] Defining the general categories that are in scope of the initiative is dealt with under the options under the specific objective B, This is important to fulfil Article 6(3) GDPR on defining the types of personal data which subject to processing. EUR-Lex - 32016R0679 - EN - EUR-Lex (europa.eu)

[114] The EBA Guidelines on loan origination and monitoring further specify how to assess the creditworthiness of consumers and use consumer information laid down in Articles 18 and 20 of Directive 2014/17/EU (Mortgage Credit Directive, MCD). See EBA GL 2020 06 Final Report on GL on loan origination and monitoring.pdf (europa.eu)

in their views on the issue, with consumer associations and data holders like financial institutions generally in favour, while data users like third party providers urged caution[115]. With regards to open finance permission dashboards (Option A.1), data holders and consumer associations express general support for the introduction of control management tools that strengthen the ability of customers to grant track and withdraw permissions.[116] Data users, on the other hand, caution that dashboards need to be designed in a way that does not complicate to data sharing.[117] Stakeholders' views vary the most on the issue of personal data use perimeters (Option A.3). While consumer protection organisations support personal data use perimeters and argue they could protect vulnerable consumers against data misuse, market participants are concerned that personal data perimeters may fail to serve the purpose of offering innovative services to customers and limit opportunity to promote financial inclusion[118]. Neither data holders nor data users support binding rules on personal data use perimeters. Data users argue that binding rules on personal data use perimeters may affect their business prospects by restricting the space to innovate and devise their own data-driven methodology in line with the GDPR.[119] Data holders are of the view that binding rules on personal data use perimeters would be technically complex to implement, whereas the GDPR grants flexibility to adjust the processing of personal data for each new purpose[120].

5.2.2 Oblige data holders to share customer data with data users (specific objective B)

The options under this objective would introduce a clear legal obligation on data holders to **make customer data available to data users on a mandatory basis**, subject to customer request. Introducing a legal obligation on data holders in the financial sector to make available categories of customer data would effectively grant 'mandatory access' for data users based on customer agreement. There are three options which differ based on the scope of data required to be made available.

A first option would be to introduce a **legal obligation only for credit institutions** in their capacity as data holders (which are already required to make available payment accounts data under the PSD2), to make available all customer data also from business lines other than payment accounts, including data on savings accounts, loans, and mortgages (**Option B.1**). Under this option, other financial firms like insurers, pension providers and investment firms would not be required to make data available.

A second option would be to introduce a legal obligation to make data available for **all data holders across the financial sector** (including banking, insurance, private and occupational

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[115] Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)

[116] Commission's targeted consultation on open finance. A large majority of respondents — also among data holders — expressed support for privacy dashboards like consent management tools (71%).

[117] Some data users argue that it is important that permission dashboards be designed to avoid situations where withdrawing consent to a data user could interfere with the legal basis of another data user's lawful processing of personal data. See Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)

[118] Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)

[119] As detailed in Section 5 of the report. Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)

[120] Some members in the Expert Group on European Financial Data Space argue that defining a specific personal data perimeter for each open finance product and service would also duplicate transparency requirements in the GDPR. GDPR Articles 13 and 14 oblige data controllers to provide data subjects with extensive information on the personal data processed. See Section 5 of the report. Expert Group on Financial Data Space (2022), Report on open finance (europa.eu)

pensions, investment) to ensure comprehensive coverage[121], but **only with respect to selected data sets** which are particularly relevant for the provision of targeted retail financial products with low financial exclusion risk and for facilitating SME access to finance (**Option B.2**). For example, life insurance and non-life insurance related to medical and health coverage would be excluded from the scope of this option[122], as would data related to consumer creditworthiness assessment (CWA)[123]. The exact scope of Option B.2 would be specified in the legislation as summarised in Table 1 and would cover data sets for which there is a clear use case that benefits consumers and firms (see Annex 5 for a detailed analysis of the scope of Option B.2), such as:

- Data on consumers' holdings of savings accounts, securities accounts, loans, insurance-related and investment-related insurance products, occupational and personal pensions that are all necessary for the retail investment strategy to have a holistic overview of the consumer's saving situation, in order to develop improved investment advice and investment management tools; and
- Data necessary to provide creditworthiness assessments of SMEs.

Introducing access rights to CWA-related data related to firms could have advantages for customers seeking finance:

- improve their access to financing, including by improving access to funding for SMEs rejected from a bank loan as well as streamlining the assessment of applications for loans.
- reduce capital costs by creating competition among investors; and
- reduce the risk of disruption in financing by diversifying funding sources for SMEs.

Currently, primary data collection from SMEs during a loan application process is costly and may not deliver all the relevant data. Only a small minority of respondents to the targeted consultation believe that there is sufficient SME data accessible today (8%). Moreover, only 28.6% of active respondents to the targeted consultation believe that data required for SME creditworthiness assessment is readily available from a technical perspective. Indeed, the majority of active respondents (71%) believe that the required data for SME creditworthiness assessments are not sufficiently standardised either by market operators, or via existing regulation.

[121] One and the same firm often provides various types of financial services, including distributing products originated by other financial institutions. For example, banks not only offer payments, loans and deposits, but also intermediate access to investment and private pension products; insurance firms provide insurance, investment, and private and occupational pension products.

[122] Insurance-related data access would not include health and medical insurance products related to accident and sickness as listed in Annex I to Directive 2009/138/EC ('Classes of non-life insurance'). Moreover, it would not include life insurance products listed in Annex II to Directive 2009/138/EC ('Classes of life insurance') other than life insurance contracts covered by Insurance-Based Investment Products. See Annex 5 for more detail.

[123] CWA-related data of a consumer would not be in scope of the open finance framework to in order to safeguard consumers from being targeted with unfair or discriminatory credit offers (e.g. high cost payday loans). See Annex 5 for more detail.

Table 1. Scope of customer data under Option B.2

Scope of PSD2 (Open banking) *customer data already covered by PSD2	**Scope of Open finance** *customer data in scope of Option B.2
Payments (payment account data)	Banking-related (mortgage-related product data, credit and savings account data of individuals and firms)
	Investment-related (securities account data of individuals and firms; investor profile data of an individual for the purposes of a suitability and appropriateness assessment, insurance-based investment products)
	Pensions-related (occupational pension schemes and private pension saving plans)
	Insurance-related (insurance-based investment products, non-life insurance-related data of individuals and firms, e.g. property and vehicle insurance)
	SME-related data required for their creditworthiness assessment (e.g. audit, governance, taxation-related data on SMEs held by credit institutions)

Source: DG FISMA

The update of accessible data sets would be possible subject to further legislative action and accompanying impact assessment, since the scope of the open finance initiative would be subject to a review cause (see Annex 5). Given the sensitivity and importance of accessible data sets, this can only be decided by the co-legislators.

The third and most complete option would be the introduction of **mandatory data access** to all customer data sets held by financial institutions **across the entire financial sector** (**Option B.3**). It would give the fullest effect to the principle that customers must be in control of their data. However, Option B3 would only include data relating to activities recognised as financial services in EU legislation. For example, the management of public pensions ("pillar 1 pensions") – even if funded – does not constitute a financial service and would therefore not be covered. In a similar vein, public health insurance would not be covered by this option either. Sharing of customer data would be subject to customer request, meaning mandatory access would only be triggered once the customer has requested his or her data to be shared with a data user, as with Options B.1-2.[124] Interoperability with the Internet of Things data access rights under the Data Act proposal and with data spaces in other economic sectors would be ensured based on the right of customers to share their data with third-party service providers. This means that any cross-sectoral sharing of customer data will always put customers in control of their data and require their permission for access.

[124] The obligation on data holders to share defined categories of customer data is only triggered once the consumer as a data subject has requested his or her data to be shared with the data user. A data subject's relationship with the data user is also based on agreement of the data subject when personal data is processed, based on a lawful ground for processing under Article 6(1) GDPR.

Stakeholders are split in their views concerning any new data access rights: most incumbent financial institutions (data holders) do not support the introduction of new mandatory access (which may partially be explained by the fact that providing access to data users who are (potential) competitors is not on their commercial interest)[125]. On the contrary, many customers and third-party providers (data users) argue in favour of such access rights.[126]

5.2.3 Promote standardisation of customer data and interfaces (specific objective C)

Options C.1 to C.3 address the need to promote the development of standards (as opposed to their implementation dealt with by Options D.1 to D.4). A first option would involve a **requirement for market participants to jointly develop common standards for customer data and interfaces as part of schemes,** for those data sets that are subject to mandatory data sharing under the specific objective B (**Option C.1**). However, Option C.1 would neither define common standards in the legislation nor set a single standard (meaning that several different standards might develop as a result)[127].

This option would require market participants to be part of a contractual scheme, which is managed based on a multi-stakeholder approach. Supporting the creation of communities of stakeholders (data users, data holders and third parties) around data sharing and re-use is considered a major success factor for building trust as there is no guarantee that data would be re-used effectively even when made available through open access. Effective data reuse requires technical measures, such as the development and maintenance of APIs, and active community engagement, which can help allocate responsibilities and define the acceptable risk levels[128].

Schemes for data sharing would bring together data holders and data users but also representatives of data subjects (e.g. consumer organisations).[129] Schemes would have the task to develop data and interface standards, as well as a joint standardised contractual framework governing access to specific datasets, and establish governance rules related to data sharing. The open finance framework would establish general principles for the governance of these schemes, including rules on inclusive governance and participation of data holders, data users and data subjects (to ensure balanced representation in schemes), transparency requirements, and a well-functioning appeal and review procedure (notably around the decision-making of schemes). Where competitors are involved, there is a risk that

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[125] Commission's targeted consultation on open finance. Among data holders who replied, the majority were not in favour of new access rights (52%).

[126] All data users who replied were in favour of the introduction of new access rights. Moreover, just over half of all respondents thought that the Commission should consider proposing new data access rights in open finance (55%).

[127] To reinforce the incentives for standard development, the option would leave open the possibility for the Commission to step in. In particular, the Commission could in accordance with Article 10 of Regulation 1025/2012 request European Standardisation Organisations to develop harmonised standards.

[128] See OECD (2019), *Enhancing Access to and Sharing of Data: Reconciling Risks and Benefits for Data Re-use across Societies*, OECD Publishing, Paris, *https://doi.org/10.1787/276aaca8-en*.

[129] A scheme-based approach would leverage on market-driven initiatives which see data holders and data users cooperating to facilitate secure data access based on PSD2. This includes, for example, the Single European Payments Area (SEPA) Payment Account Access (SPAA) scheme. See SEPA Payment Account Access (SPAA) – developing a new scheme through a multi-stakeholder approach | European Payments Council. See Annex 9 for more details.

data partnerships and the use of trusted third parties could lead to implicit collusion between businesses, i.e. agreements that would limit open competition, which is why all schemes would have to comply with competition law.

A second option could be to follow the PSD2 approach and define in the legislative act **basic principles** for customer data and interfaces, but would not require market participants to be part of a scheme, leaving it up to them if they want to develop detailed standards on the basis of these principles (**Option C.2**).

A third, more comprehensive policy option would be a **single EU-wide standard for data and interfaces**. Hence, on the basis of a proposal from the Commission, the co-legislators could empower ESAs to develop a single EU-wide standard for data and interfaces covering customer data sets that are subject to mandatory access (Option C.3).

Stakeholders widely supported further standardisation as well as the use of schemes. Among the different options, the Commission expert group recommended consensually to ask market participants to draw up standards (Options C.1 and C.2) as opposed to public standards, because of the need for flexibility in light of rapid market developments.[130]

5.2.4 Promote implementation of high-quality interfaces for customer data sharing (specific objective D)

While Options C.1 to C.3 promote the development of common standards and schemes, Options D.1 to D.3 address the need to ensure that financial institutions actually implement these standards and make available the necessary interfaces.

As a first option, **data holders** could be **required to put in place APIs** implementing the common standards for data and interfaces developed under the specific objective C and make them available to data users without a contract and without being able to receive any compensation from data users for using these interfaces (**Option D.1**), following the PSD2 approach, and enforced by public authorities. Option D.1 would include certain mitigating measures for SMEs, in particular giving them flexibility in achieving its objective by making use of APIs developed and run by third parties (see Annex 8).

As a second option, data holders could be **required to put in place APIs** implementing the common standards developed under the specific objective C**,** and **make it available to data users based on a contract and in exchange for** an explicit right to receive **reasonable compensation** from data users **for making data available**, in line with Article 9 of the Data Act proposal[131] (**Option D.2**) that introduced the general principle of compensation to data holders legally obliged to make data available in the context of business-to-business data sharing. Data users would have to pay compensation for these costs when accessing data. Such compensation would merely aim to refinance the implementation of high-quality APIs and should by no means be interpreted as a price for the customer data, which clearly does not

[130] Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)
[131] The methodology for defining what level of compensation can be considered reasonable is currently under discussion as part of the Data Act proposal adoption negotiations with the co-legislators.

belong to the data holders[132]. This implementation cost would normally arise fully upfront and data holders would only be able to recuperate it from data users over a longer period of time. This is why it would seem justified not to limit the compensation level strictly at the cost incurred, but to allow for a small margin to also cover the cost of the initial financing. Smaller data holders may also choose to make data available through an external API provided by a third party on a "pay as you go" basis, over time. In this case, the initial cost would be financed by the API provider, which would then charge the data holder in accordance with the intensity of API use by data users and the margin included in the compensation to data holders would serve the same purpose, as the initial financing cost would be factored in in the price that the API provider would charge the data holder. In cases where the data user is an SME, however, which would represent the vast majority of data access relationships (see Annex 8), Option D.2 would limit compensation strictly to the costs incurred for making data available, in line with Article 9(2) of the Data Act proposal. In addition, Option D.2 would include the same mitigating measures for SMEs as Option D.1.

A third policy option under this objective would be **topping up Option D.2 with an additional requirement for market participants to agree on contractual liability for data breaches** (**Option D.3**). These requirements and would focus on establishing, as part of any construct, liability rules as well as clear obligations and rights to determine liability between the data holder and the data user. Liability issues related to the consumers as data subjects would be based on the GDPR, notably the right to compensation and liability under Article 82 of the GDPR.

Concerning **stakeholder** views, the Commission expert group recommended consensually data holders be compensated for the cost of making data available[133], while views in the public consultation were rather split with only a slight majority of individual respondents to the open public consultation (55%) opposing it[134] and a slight majority of active professional respondents (52%) expressing support[135]. The support to compensation in the targeted consultation was more pronounced, with 75% of (predominantly business[136]) respondents speaking out in favour, citing level-playing field and data quality issues[137]. However, 14% of respondents believe that there should be no compensation, arguing that it would restrict

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[132] As per Recital 31 of the Data Act proposal, reasonable compensation for any cost incurred in providing direct access to data is to be met by the data user, but not by the customer. EUR-Lex - 52022PC0068 - EN - EUR-Lex (europa.eu)

[133] Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)

[134] Individuals who opposed compensation argued that it could serve as an obstacle to data sharing, limiting innovation, and may ultimately have to be covered by the customer anyway. Individuals who supported compensation argued that it is necessary to ensure level-playing field, delivering new business models with good user experience and high service quality, as well as that compensation would have a constraining effect on data access, ensuring that access is requested only for a good reason.

[135] Professional respondents in favour of compensation argued that it is necessary to ensure a fair commercial model by providing incentives to data holders to develop solutions, for which there is data user demand. However, some were clear that charging should only permitted under certain conditions, such as strict limiting of compensation to recoup the costs of setting up the required infrastructure or an obligation to pass on part of the associated revenues to customers.

[136] 81% of respondents to the targeted consultation represented either a company or a business association.

[137] Only 19% of respondents feel that compensation should include a reasonable return on investment for collecting and structuring the data, whilst 9% want it limited to the cost of putting in place the required infrastructure. 46% believe that compensation should be set in another way.

innovation to the detriment of end-users and negatively affect smaller players and market competition. The Commission expert group also consensually supported providing a clear framework for liability in open finance. In the targeted consultation, stakeholders were also supportive: 55% of respondents were in favour, of which 31% supported uniform liability principles across the financial sector whilst the remaining 24% argued in favour of liability principles that are tailored to the specific types of financial services.

5.3 OPTIONS DISCARDED AT AN EARLY STAGE

Although a small majority of data holders argue in favour of voluntary measures[138] by way of recommendations or calls on stakeholders through Communications, voluntary measures would not be able to credibly ensure the achievement of the specific objectives in view of the lack of any enforcement mechanisms and the general reluctance of data holders to enable access of data users to customer data observed so far[139].

Voluntary measures would in particular consist of Commission encouragement for stakeholders to put in place open finance dashboards (alternative to binding Option A.1), to facilitate data access (alternative to Options B.1 to B.3), to develop standards and schemes (alternative to Options C.1 to C.3) and to promote the implementation of common interfaces (alternative to Options D.1 to D.3).

Encouraging market participants to provide common and consistent open finance dashboards is unlikely to result in the uniform implementation of dashboards across financial institutions. As the decision to provide open finance dashboards would remain at the discretion of market participants, the lack of market coordination would mean that a voluntary measure would result in operational and technical discrepancies in how dashboards are provided to customers. Moreover, a voluntary measure would mean there would be no guarantee that open finance dashboards would be available to all customers of open finance. Interpreted collectively, its voluntary nature would hamper customer confidence in open finance.

Furthermore, merely **encouraging data holders to grant data users access to customer data**, **encouraging data holders and data users to develop common standards for customer data and interfaces** and **encouraging data holders to put in place APIs implementing these standards** would give rise to a coordination problem as follows. Some data holders may unilaterally provide access, resulting in the former being negatively affected due to their inability to access data as opposed to its competitors. Such risk would lower the incentives for all data holders to make data directly available. Furthermore, if data users could access data from only a handful of data holders, the opportunities to offer additional services beyond what data holders could do would be limited, reducing the potential for innovative products, especially when they require access to data held by different providers servicing a single customer, such as tools to facilitate investment advice or insurance, pension or

[138] Commission's targeted consultation on open finance. For example, 53% of data holders that replied believe that there is no adequate framework for data access rights in the financial sector today, against 62% of all the respondents. 52% of the data holders, however, do not support legislative measures granting mandatory access, whereas 59% of all the respondents argue in favour of such access, pointing towards difficulties in gaining access in the absence of legislation. See Annex 2 for more details.

[139] Commission's targeted consultation on open finance. Most firms using customer data held by financial firms have had difficulties to access these data. See Annex 2 for details.

investment dashboards. Absent any regulatory intervention market participants are unlikely to set up schemes and develop common standards. Even if some market participants may favour common standards, it could seem attractive to "freeride" by relying on others to develop them. The more market participants seek to withhold their engagement, the less probable it is that common standards are developed. According to the targeted consultation, very few respondents (including among respondents which identified themselves as data users and consumers) would expect such schemes to develop.[140]

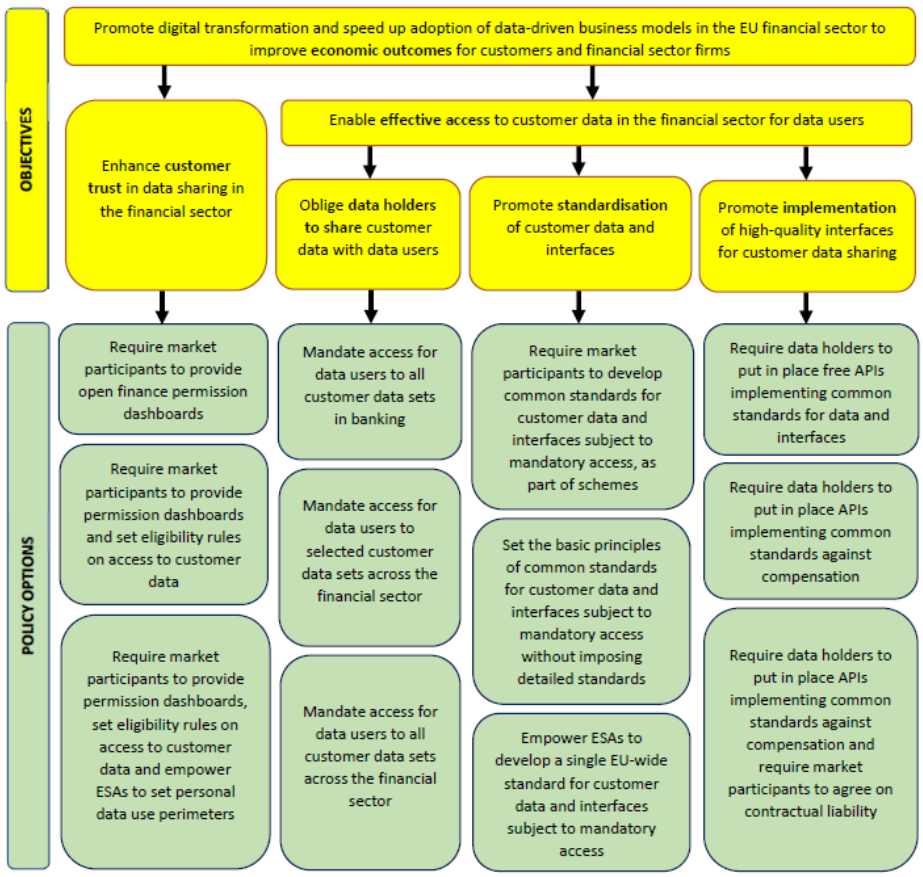
Finally, voluntary measures could not ensure implementation of standardised data formats, interfaces, and contracts by market participants. Without a way to ensure that most data holders establish APIs, there is a clear coordination problem both for cost and competition reasons. If data holder A is the only one to put in place an API, all other data holders would be able to access the customer data it holds without this data holder enjoying reciprocity with other data holders. Furthermore, data holder A will have invested a substantial amount of money to achieve this competitive disadvantage. Data holders may also not be interested in providing access to competitors or competing services. The possibility to charge data users for accessing the APIs is unlikely to solve this coordination and market issue on its own. It may even result in effective market foreclosure in case the compensation levels would be set so high that they would effectively price data users out of the market. This would have a negative economic impact on data users and their customers alike, putting a break on innovation and slowing down digitalisation in the financial sector, and therefore not reach the objective of enabling effective data access.

5.4 ANALYSIS OF THE IMPACT OF POLICY OPTIONS

On the basis of the above, Figure 3 schematically presents the policy options with the potential to achieve the specific policy objectives. These are further assessed in the following sections.

[140] Commission's targeted consultation on open finance. Only 20% of respondents to the targeted consultation agreed to the statement, that any contractual challenges linked to open finance would be resolved within the next 3-5 years by stakeholders themselves. Among data users and data intermediaries, the consensus rate was 26%.

Figure 3: Objectives and policy options of open finance



Source: DG FISMA

5.4.1 ENHANCE CUSTOMER TRUST IN DATA SHARING (SPECIFIC OBJECTIVE A)

The policy option to require data holders and data users to provide **common and consistent open finance permission dashboards** (Option A.1) would affect both data holders and data users, which would need to provide such tools and assume the associated cost of their development. Option A.1 would have a positive impact on ***customers*** and their trust in data sharing, since customers have transparency and control in terms of which market participants are accessing their data, when and for what purpose. Customers would also be able to manage their permissions, including by revoking them where appropriate[141]. In line with the data protection principles of purpose limitation and data minimisation, the open finance dashboard

[141] This withdrawal of consent is in line with Article 7(3) of the GDPR. Withdrawing consent would effectively block the processing and circulation of a data subject's customer data for use in an open finance product or service.

would act as an additional safeguard to ensure that customer data is not shared or made available under different conditions beyond what is agreed by the customer. As the open finance dashboard under Option A.1 would be obligatory, it would be available for all customers of open finance, thus adding to customer trust.

Data holders would need to develop and provide such dashboards when making customer data available to data users who would, in turn, need to integrate them in their applications. The total annual ***cost*** of these dashboards is estimated between EUR 65 million and EUR 259 million (see Annex 3). The expected ***benefit*** is substantial in terms of boosting confidence and ensuring convenience for the customer in data sharing. The ***overall economic impact*** of this option would be positive: greater customer control over their data can be expected to lead to more confidence in managing these access rights and thereby to more data sharing transactions, which would facilitate the use of innovative financial services. Basing open finance dashboards on the European Digital Identity would also provide a strong level of cybersecurity[142]. The ***social impact*** of this measure can be expected to be positive: those customers that agree to data sharing would be able to access data-driven services and products, whereas the situation of those that do not would not change. Whilst such permission dashboards are not explicitly required by existing EU legislation, Option A.1 is **coherent** with the position taken in PSD3[143] as well as responds to long-standing consumer organisation requests.

Option A.2 would require data holders and data users to provide **common and consistent open finance permission dashboards** for customers **and add eligibility rules** on who can access customer data under the open finance framework. Setting eligibility rules for access to customer data would ensure more coherence with the existing regulatory framework, as there are similar authorisation requirements for Account Information Service Providers (AISPs) under PSD2. It would also ensure all firms accessing customer data have basic governance and customer protection structures in place, are subject to cyber and digital operational resilience requirements under DORA and are supervised by financial supervisors.

The expected ***benefit*** of setting eligibility rules would be to ensure a high level of security and data protection when ***customer*** data is accessed, which in turn safeguards the operational integrity of ***financial institutions*** which are holding these data sets, thereby ensuring the proper prudential functioning of the financial system. While Option A.1 would be effective in ensuring that there is full clarity at all times about the permissions given by the data subject, Option A.2 would in addition address concerns that data users may not handle the permissioned data in a safe and responsible manner.

The PSD2 evaluation draws an overall positive conclusion on the requirements for AISPs[144]. The eligibility requirement would involve administrative burden for ***data users*** applying and acting as licensed Financial Information Service Providers (FISPs) in the form of prior authorisation and ongoing supervision[145]. The total ***cost*** for 350 FISPs[146] adds up to some

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[142] European Digital Identity Wallets are to be issued at the highest level of assurance (level 'high'), as set out in the requirements of Article 8 of the eIDAS Regulation. See Article 6(a) of Commission Proposal for a European Digital Identity EUR-Lex - 52021PC0281 - EN - EUR-Lex (europa.eu)

[143] Option 2.a of the PSD3 impact assessment

[144] Evaluation of the Directive (EU) 2015/2366 on payment services in the internal market (PSD2).

[145] It includes preparation of the application to obtain a license, an application fee, personal indemnity insurance and an ongoing supervisory fee. The levels of these costs are partly determined by the associated costs of the

EUR 22 million in one-off expenses to obtain a license, and EUR 2.24 million in annual expenses for supervision and insurance (see Annex 3). The magnitude of these costs may be seen as fully proportionate in view of the sensitive nature of financial data that would be accessed. A FISP license as part of the eligibility rules would promote level playing field as an important safeguard to ensure that all firms accessing data are subject to regulation and supervision. The eligibility rules would be implemented and justified in compliance with the EU international trade commitments.

Option A.3 would require data holders and data users to provide **common and consistent open finance dashboards** for customers, set **eligibility rules** on who can access customer data under the open finance framework, and empower the European Supervisory Authorities (ESAs) to **set personal data use perimeters** either through guidelines or binding rules. The policy choice on the latter would depend on whether the scope of this initiative excludes high-risk data sets with disproportional unintended effects or potential lack of understanding by consumers as to the consequences of making such data available, giving rise to financial exclusion risks. In case it does not (as in Options B.1 and B.3), binding rules may be necessary, whereas a guideline-based approach would be sufficient in case it does (as in Option B.2).

Compared to Option A.2, Option A.3 would therefore have the benefit of also addressing any risks that excessive data use – even if permissioned and secure – could lead to financial exclusion of vulnerable groups. As regards financial information services that directly depend on customer data sourcing from data holders, access to customer data is indispensable to enable such services. Thus, customers would not be able to use these services unless they agree to share their data. This is not considered problematic, however, in view of these type of services not being relevant from financial inclusion point of view[147].

The ***economic impact*** of personal data use perimeters would depend in part on whether personal data user perimeters would be implemented in the form of binding or non-binding measures. Binding measures which would exclude the use of any additional data under any circumstances could restrict financial innovation significantly even where a consumer explicitly requests it, while non-binding guidance would limit such risks[148]. Option A.3 does not give rise to any additional direct ***costs*** for market participants compared to Option A.2. Credit institutions already now have to consider what data to use under GDPR and need to regularly update their considerations. Guidelines on personal data use perimeters would only make this clearer. The associated costs for the ESAs would have to be internalised in their existing operational budgets. The expected ***benefit*** derived from personal data use perimeters is not quantifiable but can be expected to be substantial as it can boost consumer confidence

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national competent authorities that are responsible for the management of this licensing regime. See the Study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002

[146] According to the EBA register, 324 payment institutions were providing account information services under PSD2 in January 2023, of which 91 are licensed solely as account information service providers (AISPs). Against this background, the future number of FISPs is estimated at roughly 350.

[147] For example, not being able to view your financial products from various providers in one application may be less convenient, but it does not preclude you from viewing these products in the applications provided by each data holder separately.

[148] Report on Open Finance, Commission expert group. 2022-10-24-report-on-open-finance_en.pdf (europa.eu)

in terms of how their personal data is used to offer financial products and services, a view supported by consumer protection organisations[149].

In view of the above, **issuing guidelines on personal data use perimeters** would be the preferred approach in achieving efficiency and coherence with other policy objectives. Guidelines have been effective in specifying data requirements to be used in financial products and services[150], whilst their non-binding nature would provide the market with a flexible framework in which to use and combine data sets in scope an innovative manner and offer such services to customers. A guideline-based approach would also follow existing regulatory practice: in the area of mortgage credit, the European Banking Authority Guidelines on loan origination and monitoring detail how consumer information may be used based on the Mortgage Credit Directive (MCD). Thus, Option A.3 would ensure the strongest coherence with the existing regulatory framework.

The **impact of options A.1 to A.3 on SMEs** is linked to their representation in the main three stakeholder groups (customers, data holders, and data users), which is very high[151]. As ***customers***, SMEs would benefit from the empowerment implied by these options, and this would have a positive impact on security and trust in data sharing. This should enable them to access more innovative services, which may lower their financing costs and contribute to their competitiveness (see Annex 7 for the use case on SME financing). As ***data holders or data users***, SMEs would face the cost of providing open finance dashboards. As ***data users***, SMEs would also face the cost of licensing to become eligible to access customer data. However, there is no evidence from PSD2 implementation that such cost has served as an obstacle for SMEs to become licensed as AISPs.[152]. In view of the overwhelming number of SMEs among customers, it can be expected that the overall impact of these policy options on them would be positive.

These policy options will have an impact on **fundamental rights of consumers,** notably Articles 7 and 8 on the right to respect for private life and the right to the protection of personal data enshrined in the Charter of Fundamental Rights of the European Union. The policy options under this specific objective would enhance customer trust in data sharing and act as strong safeguards against potential adverse consequences on the fundamental rights to data protection and privacy. The introduction of data processing control tools, notably open finance dashboards (Options A.1-A.3) and personal data use perimeters (Option A.3), would strengthen the framework of sharing personal data based on the lawful grounds for processing under Article 6(1) of the GDPR, notably when personal data is processed based on consent or necessary for the performance of a contract. These control tools would also contribute to the obligation of data controllers to demonstrate compliance with the GDPR in light of the principle of accountability under its Article 5(2). Open finance dashboards (Options A.1-A.3)

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[149] Consumer protection organisations support data perimeters and argue that these perimeters can act as an additional safeguard to protect vulnerable consumers against data misuse See Section 5 of the report. Report on Open Finance, Commission expert group. 2022-10-24-report-on-open-finance_en.pdf (europa.eu)

[150] See for example the EBA Guidelines of Loan Origination and Monitoring in the area of consumer credit. Guidelines on loan origination and monitoring | European Banking Authority (europa.eu)

[151] SME representation among business customers is extremely high as over 99% of all firms in the EU are SMEs, the number of which reached some 22.5 million in 2020. By extension, their share among data holders is also high and can be estimated at around 18,000. Finally, most if not all of the 350 data users that are not also data holders are SMEs too.

[152] Evaluation of the Directive (EU) 2015/2366 on payment services in the internal market (PSD2).

could also tackle customer issues specific to the lawful grounds for processing based on consent, notably 'consent fatigue'. In addition, introducing licensed 'financial information service providers' (Options A.2-A.3) would ensure that only trusted and secure providers are eligible to access and process customer data in the financial sector. These policy options would determine the respective roles and responsibilities of the relevant entities to ensure that personal data processing in regard to the activities of open finance comply with applicable the GDPR.

The comparison of policy options under this objective are summarised in Table 2 below. Overall option A.3 is the preferred option.

Table 2. Comparison of policy options to enhance customer trust in data sharing

Policy options	Effectiveness	Efficiency	Coherence
Require common and consistent open finance dashboards (A.1)	+	-	+
Require open finance dashboards and set eligibility rules on access to customer data (A.2)	++	- -	++
Require open finance dashboards, set eligibility rules on access to customer data and set personal data use perimeters (A.3)	+++	- -	+++

Note: Effectiveness is assessed in terms of the achievement of the corresponding specific objective (+ for low; ++ for medium; +++ for high). Efficiency is assessed in terms of the associated costs (- for low costs/high efficiency; -- for medium costs/efficiency; --- for high costs/low efficiency). Coherence is assessed with respect to the existing EU legislative framework on data sharing (+ for basic; ++ for advanced; +++ for strong).

5.4.2 OBLIGE DATA HOLDERS TO SHARE CUSTOMER DATA WITH DATA USERS (SPECIFIC OBJECTIVE B)

The policy options under this objective include **mandatory data access rights for all banking data** (Option B.1), **for selected customer data sets across the financial sector** (Option B.2) or **for all customer data sets across the financial sector** (Option B.3). Mandatory data access rights would target data holders and impact both customers and data users. Options B.1-B.3 would ensure that additional data are made available by all holders of the customer data covered by such mandatory data access rights. All options would be coherent with the PSD2, as they do not cover payment accounts data. Given that policy options B.1-B.3 create rules that legally oblige data holders to make data available, this initiative would activate the obligations for data holders as set out in Chapter III of the Data Act proposal (in particular, as regards compensation, dispute settlement, and technical protection measures) with respect to customer data in the financial sector beyond payment accounts, which would further facilitate data sharing. Despite seemingly similar levels of coherence with the existing regulatory framework, Option B.1 would exhibit only basic coherence, as it would arbitrarily exclude from the scope of this initiative large chunks of customer data sets covering many types of financial services outside banking, which is contrary to the wider objectives of the EU data strategy. Whilst Option B.3 may seem to offer the highest level of coherence due to its universal coverage, Option B.2 is actually most coherent precisely because it excludes the most sensitive customer data sets for consumer protection reasons.

The ***impact on customers and data users*** would be positive for all options: customers would be able to share additional data in exchange for improved services, whereas data users would be able to launch new business models. Based on the results of the targeted consultation, the boxes in Annex 7 illustrate three potential use cases – SME financing, investment advice and

insurance dashboards – where access to data under Option B.2 would bring clear benefits to consumers and firms[153]. Options A.1-A.3 assessed in section 5.4.1 above would limit any potential negative effects of mandatory data access rights on customers. Access to data required for SME creditworthiness assessments could facilitate SME financing. The framework would develop a type of a referral scheme for SMEs through an API-based infrastructure based on standardised data. The open finance proposal would be proportionate, in that it could help SMEs rejected from a bank loan to seek alternative access to finance. The ***degree of positive impact on customers and data users is the key difference between the three options*** and would depend on the amount of data sets with a high innovative potential which would be covered: Option B.3 would imply the highest positive impact as it covers all data. Options B.1 and B.2 would be more consistent with PSD2[154] as they would specify certain data which would have to be made available. Option B.1 would have the most limited positive impact. For example, it would not enable use cases on investment advice such as the one set out in Annex 7 as the data necessary for it would not be covered. Option B.2 would have a relatively strong positive impact as it would cover the key data sets with high innovative potential (see Annex 5).

New data access rights would create opportunities for all market participants, but the scale at which these opportunities arise would depend on whether these access rights are also being taken advantage of by data holders. The latter is a matter of existing capacities and skills, and business decisions on whether to engage in such activities. For example, inclusion of CWA-related data of SMEs would have a positive impact for SMEs as data holders, as innovative services would increase their efficiency whilst data standardisation would offer new business opportunities. Mitigating measures will support SMEs as data holders (see Annex 8). The PSD2 experience shows that regulatory focus on data access and processing encourages financial firms to think how they can develop data-driven business models, either themselves or by buying external expertise. The immediate ***impact on data holders*** would be negative though due to additional ***costs*** arising from the need to put in place APIs to make data available. Under Option B.1, this negative impact would only affect credit institutions and would also be more limited (only about 10-20% compared to the impact under Option B.2), since economies of scope with existing payment data access rights under the PSD2 could be expected. Under Option B.3, this impact would be higher compared to Option B.2 mainly due to the need to standardise and implement common standards for the additional customer data sets covered[155]. As regards level-playing field, the Digital Markets Act would ensure reciprocity in terms of data access between financial sector firms and large technology companies. To make it effective, the data access right under this initiative would not become operational before the corresponding data access right under the Digital Markets Act does.

The **social impact on consumers** of these policy options would vary. Compared to the other options, Option B.2, which consists of a targeted scope of data sets that have high added value for consumers and low financial exclusion risks, would serve as the first line of defence

[153] Commission's targeted consultation on open finance. 37% of respondents saw benefits for retail customers in all of the outlined open finance-based products. Furthermore, 34% of respondents have chosen an option of 'other' open finance-based products that may benefit retail customers – these responses indicated new ideas,

[154] Notably, with the retained option 2c in the PSD3 impact assessment.

[155] The specific costs are analysed under the specific objectives C and D below and in Annex 3, as they would mainly arise from developing common standards for customer data and the required technical interfaces (specific objective C) and implementation of these common standards to make such access operational and secure (specific objective D).

against privacy and financial exclusion risks. In other words, the most sensitive types of customer data would be excluded from the scope of this initiative outright. The policy measures described in Option A.3 would further guard against potential privacy and financial exclusion risks within the defined scope of this initiative. Simultaneously, the scope of this initiative would ensure a positive impact for consumers in the form of more competition, easier access to finance, and improved customer experience via automation (see Annex 5) due to the inclusion of data sets with high added value.

The social impact of Option B.1 and Option B.3 is uncertain, as an approach creating a general access right for all data in banking (B.1) or in finance (B.3) could lead to risks of financial exclusion in instances where financial products are individually priced according to a customer's risk profile (e.g. in case of financial products related to access to credit, or health or medical insurance). Whilst the broad scope of Option B.3 may allow for the development of more innovative products, it also carries the highest risk of financial exclusion or discrimination based on a consumer risk profile. Notably, it would cover datasets that present the highest risk to consumers, such as those used in life and health insurance, as well as credit risk assessment. As further detailed in Annex 5, the underlying risks for these data sets are higher than potential benefits. Safeguards under Option A.3, notably personal data use perimeters, would mitigate financial exclusion risks related to how data can be used to provide financial products and services under Options B.1 and B.3. Overall, however, the social impact on customers of Option B.2 would be more favourable than that of Option B.1 and B.3.

The **environmental impact** of these options would also vary. Only Options B.2 and B.3 would, as part of investment data also cover data on sustainability indicators (see also use case in Annex 7) which would allow customers to have simpler access to financial services aligned with their sustainability preferences, in line with the Commission's broader sustainable finance agenda. In terms of the environmental impact from more intensive use of data centres, Options B.1-B.3 are not expected to be very significant as this initiative is predominantly about opening up access to data that is already stored in a digital format. To the extent that making this data available via APIs will undoubtedly increase data traffic, the scope of these options will have a marginal impact on the level of data centre use. Thus, Option B.2 would involve a slightly higher intensity of use than Option B.1, whilst Option B.3 would involve the highest intensity of use.

There will be an impact of these policy options on the **fundamental rights of consumers**, notably Article 7 and 8 of the EU Charter on Fundamental Rights. The policy options B.1-B.3 establish access rights in the financial sector, which will contribute to increased sharing of data, including personal data, at customers' request. As a result, the GDPR will apply in full when personal data is processed. The impact to fundamental rights will be mitigated by only obliging data sharing subject to the request of the customer in line with the GDPR. In addition, consumers will be protected against possible data misuse and data breaches as the policy options introduce strong security safeguards in line with the requirements under the GDPR. Additional policy options assessed as part of the specific objective to enhance customer trust, including personal data use perimeters (Option A.3), will act as a further safeguard.

As described above, the broad scope of Option B.3 carries the risk of financial exclusion, unfair bias or discrimination based on a consumer's risk profile with regard to datasets that present the highest risk to consumers, such as those used in case of life and health insurance, as well as credit risk assessment. The same would apply to Option B.1, as the distinction by

subsector (banking data in scope – other financial data out of scope) would mean that some data which is potentially sensitive to financial exclusion risks (for example data relevant to personal creditworthiness assessments for loans or mortgages) would be covered. Contrary to that, Option B.2 would scope out the data sets which have a higher potential of financial exclusion, and would therefore create the least risks to negatively impact on fundamental rights (see Annex 5 for more detail).

The **impact of these options on SMEs** would reflect their high representation among the various stakeholder groups. SMEs would clearly benefit in their capacity as ***customers*** of financial service providers. One pertinent example with a positive impact on SME financing is presented in Box 1 in Annex 7, which would be covered and enabled under all three policy options B.1-B.3, as the necessary data would be in scope in each of these options. They would equally benefit in the role of ***data users*** since many fintech firms are SMEs, whereas they would benefit less in their capacity as ***data holders*** provided they do not simultaneously act as data users. Overall, the more these options would result in additional data being made available, the more competitiveness of SMEs in their role as customers would improve.

The comparison of policy options under this objective are summarised in Table 3 below. Overall option B.2 is the preferred option.

Table 3. Comparison of policy options to oblige data holders to share customer data with data users

Policy options	Effectiveness	Efficiency	Coherence
Mandate access for data users to all banking customer data sets (B.1)	+	-	+
Mandate access for data users to selected customer data sets across the financial sector (B.2)	++	- -	+++
Mandate access for data users to all customer data sets across the financial sector (B.3)	++	- - -	++

Note: Effectiveness is assessed in terms of the achievement of the corresponding specific objective (+ for low; ++ for medium; +++ for high). Efficiency is assessed in terms of the associated costs (- for low costs/high efficiency; -- for medium costs/efficiency; --- for high costs/low efficiency). Coherence is assessed with respect to the existing EU legislative framework on data sharing (+ for basic; ++ for advanced; +++ for strong).

5.4.3 PROMOTE STANDARDISATION OF CUSTOMER DATA AND INTERFACES (SPECIFIC OBJECTIVE C)

Option C.1 **requires market participants to adhere to a scheme with the aim of developing common data and interface standards** with respect to data sets subject to mandatory access under the specific objective B.

Standardisation of customer data and data access interfaces can lower the cost of data sharing, thereby facilitating direct connections between data holders and data users. In order to ensure advanced coherence with the existing regulatory framework, standardisation would take into account the work related to the European Data Innovation Board (EDIB) and the Data Spaces Support Centre (DSSC)[156]. When standards are developed as part of open schemes based on a multi-stakeholder approach, the positive impact is reinforced by consistent governance and a

[156] Data Spaces Support Centre, https://dssc.eu/

contractual framework for data sharing. A scheme would complement standardised data and interfaces by way of a framework governing the relations of the multitude of data holders and data users. The tool of schemes has already been tried and tested in the financial sector as a result of private initiative (see Annex 9) and it would complement the tool of standard contractual clauses which the Commission may establish under Article 34 of the Data Act proposal. Schemes would also play an important role in monitoring implementation of the common standards under the specific objective D. To ensure that they do not exhibit anticompetitive features, contractual schemes would be subject to Article 101 TFEU and would also need to comply with Chapters III and IV of the Data Act proposal, including the prohibition of unfair terms. To complement the Data Act, schemes would have the additional benefit of providing a full contractual framework for data access not requiring the conclusion of specific contracts between individual members of the scheme.

Option C.1 would affect all three stakeholder groups (data holders, data users, data subjects). The direct ***cost*** of standardisation schemes would be related to their management costs[157], whereas the benefits would stem from the promotion of data sharing and its coherence. The direct annual management cost of schemes is estimated at EUR 5 million. In view of the fact that schemes would involve ***both data holders and data users***, the management cost would be split accordingly among them[158]. The potential benefits for ***data users*** (and by extension – ***customers***) would be comparable to a share of potential profits from data intermediation activity. In other words, if the data interfaces (APIs) would be standardised, data users could set up individual connections to each data holder themselves. The ***economic impact*** of common data formats is going to be directly proportionate to the volume of customer data sharing, since the aggregate cost of standardisation will be fixed whilst the benefits will vary with the volume of data shared. ***Customers*** would be positively affected by data standardisation since it would enable new innovative and/or lower priced services. Option C.1 is likely to affect the market structure of data sharing and the ensuing value distribution. As argued above, in absence of standards, some value will be captured by intermediaries who will set up individual connections to data holders and provide single API access to data users, whereas in the opposite case more of it is likely to flow to the data users who may themselves prefer to set up individual connections to data holders and thereby avoid paying intermediaries for single API access.

Option C.2 would only **set in the legislation the basic principles** of common standards for customer data and interfaces with respect to data that are subject to mandatory access under the specific objective B, but **not require the development of standards**, in line with the approach used under PSD2. Compared to Option C.1 this option may be less effective: the evaluation of PSD2 shows that without a legal requirement to develop standards, market participants are still likely to do so over time. However, this process would be very long and uncoordinated, at least initially. The initial absence of standards may increase implementation costs, as market participants may need to adjust to emerging standards at a later stage. Efficiency may also be harmed by excessive proliferation of competing standards as a result of parallel activity. Although the impact of this inefficiency cannot be precisely quantified, it would inevitably lead to some cost duplication. At the same time, Option C.2 demonstrates

[157] The implementation costs of the developed standards are assessed in section 5.4.4 below.

[158] Estimating that 80% of all market participants would be pure data holders, these may have to bear EUR 4 million of the annual cost, whilst data users would bear the remaining EUR 1 million, under the assumption that no weighting is applied, for instance, based on the turnover of the respective scheme members. See Annex 3.

strong coherence with the existing regulatory frameworks, as PSD2 standards have been developed in exactly the same way, with no changes envisaged as part of the PSD3 initiative.

Empowering the European Supervisory Authorities to develop a single EU-wide standard for customer data and interfaces for the entire financial sector concerning data that are subject to mandatory access under the specific objective B (Option C.3) would have the advantage of ensuring a single standard applied by all data holders. However, the drawback of Option C.3 would be that technical developments for data and interfaces in the financial sector advance very quickly and a single standard imposed by public bodies may lag behind the latest technological achievements. It may also be challenging for public authorities to update standards in a timely manner. Furthermore, it is less likely that a single standard satisfies all of the rather diverse demands of data users in different parts of the financial sector. Lower ownership of these standards by the market participants could in turn complicate their implementation. Development of a single standard for the entire financial sector would also be more complex and, hence, more costly. As in the case of Option C.2, it is not possible to precisely quantify this standardisation approach. However, it could be argued that Option C.3 would be the costliest to implement compared to Options C.1 and C.2, since it would require much more substantial modifications to the data holders' existing IT systems. Finally, as regards coherence, such a centralised approach to standardisation of customer data and interfaces has not been taken in the past, resulting in only basic coherence with the current regulatory framework.

For these same reasons PSD2 and the PSD3 initiative also do not follow option C.3[159].

The **impact of these options on SMEs** would reflect their high representation in the three stakeholder groups. Given their substantial share in the ***customers and data users*** group, it can be expected that SMEs would rather benefit from these options. For example, innovative services would increase their efficiency whilst data standardisation would offer new business opportunities to SMEs in their capacity as data users.

Fundamental rights of consumers would be impacted, as data standardisation could lead to greater interoperability between market participants and, as a result, to increased data sharing within the financial sector. The GDPR would therefore apply in full when personal data is processed. The impact to fundamental rights will also be mitigated by only obliging data sharing subject to the request of the customer in line with the GDPR. The introduction of personal data use perimeters (Option A.3) and open finance permission dashboards (Options A.1-A.3) would act as further safeguards. Greater data standardisation would contribute to the fundamental right to conduct business in accordance with Article 16 of the Charter of Fundamental Rights.

The **social and environmental impacts** of these options are similar to the ones described in section 5.4.3. In particular options ensuring a higher degree of standardisation (Options C.1-C.3) would also cover sustainability related data and would therefore have a limited potentially positive social and environmental impact.

The comparison of policy options under this objective are summarised in Table 4 below. Overall Option C.1 is the preferred option.

[159] Option 2.b in the PSD3 impact assessment.

Table 4. Comparison of policy options to promote standardisation of customer data and interfaces

Policy options	Effectiveness	Efficiency	Coherence
Require market participants to develop common standards for customer data and interfaces subject to mandatory access as part of schemes (C.1)	++	-	++
Set the basic principles of common standards for customer data and interfaces subject to mandatory access, to be developed further by market participants (C.2)	+	- -	+++
Empower ESAs to develop a single EU-wide standard for customer data and interfaces subject to mandatory access (C.3)	+++	- - -	+

Note: Effectiveness is assessed in terms of the achievement of the corresponding specific objective (+ for low; ++ for medium; +++ for high). Efficiency is assessed in terms of the associated costs (- for low costs/high efficiency; -- for medium costs/efficiency; --- for high costs/low efficiency). Coherence is assessed with respect to the existing EU legislative framework on data sharing (+ for basic; ++ for advanced; +++ for strong).

5.4.4 PROMOTE IMPLEMENTATION OF HIGH-QUALITY INTERFACES FOR CUSTOMER DATA SHARING (SPECIFIC OBJECTIVE D)

The policy option to **require data holders to put in place free APIs which data users can access without a contractual relationship with data holders** implementing common standards on customer data and interfaces (Option D.1) would closely mirror the current one under PSD2 and would thus show advanced coherence with the existing regulatory framework, as well as full consistency with PSD3[160]. In terms of ***benefits***, Option D.1 would allow overcoming the coordination problem mentioned in section 5.2.4 and maximising the opportunities for customers and data users, including data holders themselves. In terms of ***costs***, implementation of the standards developed under the specific objective C concerning data sets that are subject to mandatory access under the specific objective B constitute the bulk of the costs associated with this initiative and would affect all data holders. The total one-off cost of putting in place APIs implementing the common standards for data and interfaces developed under the specific objective C is estimated for data sets in scope: under Option B.1 is estimated in the range of EUR 220 million to 440 million; under Option B.2 in the maximum[161] range of EUR 2.2 billion to EUR 2.4 billion; and under Option B.3, in the maximum range of EUR 2.3 billion to EUR 2.7 billion. In addition, running an API involves recurring monthly costs for API hosting, maintenance and management. This aggregate annual cost is estimated for data sets in scope: under Option B.1, at some EUR 50 million; under Option B.2 in the range of EUR 70 million to EUR 194 million; and under Option B.3 in the range of EUR 70 million to EUR 195 million, depending on the number of monthly

[160] For clarity purposes, this option would not include any requirement to maintain a fallback solution in case the customer facing interface does not work, which is consistent with the selected option 2a in the PSD3 impact assessment.

[161] The estimates of this cost factor are based on the PSD2 evaluation which provides recent and actual cost assessments of a comparable measure in the same sector. However, this evaluation also indicates that these costs assessments are likely overstated, since the figures collected lack representativeness and likely mix costs of setting up data access with other unrelated costs linked to the provision of online banking or related services, such as IT and security. A number of further factors distinguish the likely costs arising from this initiative compared to the PSD2, which it is not possible to quantify. Technological progress and experience gained with PSD2 implementation are both likely to lead to significantly lower costs with this initiative, which also provides for standardisation of interfaces prior to implementation, lowering the costs even further.

API calls (see Annex 3). Both the one-off cost and this recurring cost would have to be borne by the data holders under Option D.1.

The impact of Option D.1 on ***customers*** would depend on the extent to which they make use of products and services provided by data users. Customers who request services from data users would benefit from more innovative products based on high quality APIs. However, data holders may eventually pass on the associated costs to their own customers. As regards ***data users***, free access to data would make their services more competitive and would facilitate market entry of new companies than in a scenario with compensation. It should be noted once again though that data users may also include data holders, which introduces additional dynamic. Those ***data holders*** that are successful in their capacity as data users would be able to offset at least some part of the cost from putting in place APIs with the additional revenue from new services in their capacity as a data user. Ultimately, some may even manage to cancel out this cost entirely. In sum, the free access model would have the most pronounced negative impact on those data holders that are not active as data users[162].

As experience from the PSD2 shows, however, the effectiveness of Option D.1 would depend on ***effective enforcement by public authorities***[163], since there would be no contractual relationship between data holder and data user, and hardly any economic incentive for data holders to put in place high quality interfaces, also in absence of any compensation mechanism for putting in place such an infrastructure. Option D.1 would therefore require significant enforcement resources by public authorities, as confirmed by the experience from PSD2. While payments supervisors have already invested significant resources for implementation of PSD2[164], building an open finance framework based on these approaches would require banking, investment, insurance and pensions supervisors to set up fully new supervisory arrangements.

The policy option of **requiring data holders to put in place APIs implementing the common standards against compensation based on a contract between data holder and data user** (Option D.2) would create ***benefits***, in a similar way to Option D.1. While the ***cost*** of putting in place APIs would be the same as in Option D.1, in addition, Option D.2 would also have the effect of shifting this cost on the ***data users*** and, indirectly[165], on their customers who will also be the ultimate beneficiaries of innovative services provided based on these data. However, data users would not have to fully compensate these costs upfront on first access – that could indeed pose a threat to data sharing activity taking off – but costs would be allocated gradually to all data users over a specific reference period based on the applicable accounting rules[166]. There is an inherent trade-off here: data holders have no interest in

[162] It should be recalled from problem driver 2, however, that putting in place an API may also make economic sense for data holders irrespective of whether they act as data users or not, since having other data users access the customer data they hold via customer facing interfaces can be very costly to them and channelling this traffic through an API instead may save them money.
[163] See Options 3b and 3c of the PSD3 impact assessment.
[164] In that context, a further clarification and refinement of the existing approach Options 3.a and 3.b in the PSD3 impact assessment.
[165] Compensation for data access would be met directly by the data user, not the customer, in line with the Data Act proposal. The Data Act allows data holder to set reasonable compensation to be met by data user, but not by the customer (individual or firm), for any cost incurred in providing third-party access to data. See recital 31 of the Data Act proposal. EUR-Lex - 52022PC0068 - EN - EUR-Lex (europa.eu)
[166] Using the estimated number of open banking end-users of 54 million in 2024 as an assumption for open finance, total cost per end-user are estimated between EUR 40 and EUR 45 in case data users pass the cost fully

making an effort to develop high-quality APIs unless it is economically reasonable, whereas data users are not interested in using APIs that do not offer them the minimum level of functionalities required for the purposes of the business model they wish to pursue. Thus, both sides of the market need to meet halfway for it to work: as a minimum, data holders need to be compensated for the cost of putting in place APIs for them to have satisfactory quality in view of the needs of data users. At the same time, these costs will be outweighed by the benefits for data users and customers[167].

The risk that compensation may have a foreclosure effect would be mitigated by applying the principles of the Data Act proposal, which foresees that compensation must be *reasonable*[168] and, in cases where the data user is an SME, any compensation shall not exceed the costs directly attributable to the individual data request. Furthermore, the governance rules of schemes would aim to ensure that any anticompetitive behaviour is excluded *ex ante*. For example, data holders and data users would have equal rights and say in the decision-making process of schemes. Schemes would also have to remain open to any new members at any point in time based on the same rules that apply to existing members. Finally, competition authorities would retain full responsibility for enforcing EU competition law *ex post*. Overall, this initiative is expected to create pressure on firms to compete on innovation and costs to the benefit of consumers. Weak market offers would be pushed out of the market and competition would remain high due to the permanently open access to customer data and the resulting lower barriers to market entry.

As regards ***data holders***, compensation would relieve them of their costs, depending on data users' willingness to pay, and provide them with clear incentives to make the necessary investment to ensure the APIs they have to set up are in line with the developed standards and of sufficiently high quality, since only data users for whom the data is of sufficient quality would be willing to pay compensation. Implementation of Option D.2 may still pose challenges as regards the exact methodology for calculating *reasonable* compensation. Indeed, without further concrete rules and mechanisms, data holders and data users may need to litigate about what compensation level is reasonable, leading to a risk of delaying and foreclosing data access significantly. Option D.2 would however address this, by indicating specific criteria, in particular relating to the cost of making data available[169] and the framing of the reasonable compensation under the Data Act. This would provide data users with a genuine opportunity to set up a business case to provide their services. Moreover, specific

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to end-users, which is not a given. This would end up costing end-users some EUR 8-9 per year, if amortised over a 5-year period, or EUR 4-5 per year, if amortised over a 10-year period.

[167] For example, in the investment advice use case, the amount of working time needed for firms to pull together the information from different sources necessary to provide qualified advice could be reduced (see Annex 7).

[168] See also Commission Study for developing criteria for assessing "reasonable compensation" in the case of statutory data access right, https://op.europa.eu/en/publication-detail/-/publication/599678d8-79d2-11ed-9887-01aa75ed71a1/language-en/format-PDF/source-277469567

[169] This appears to be a key criterion for a fair distribution of costs among data holders and data users in the specific circumstances of the financial sector. It would ensure that there is a business case for the data user to provide services. This appears fair as many of the use cases in the financial sector are likely to be based on financial institutions themselves pulling together data held by different financial institutions (see e.g. the investment use case in Annex 7). Such use cases require a particular effort of the data user and related costs which implies that for a business case to be made, costs for accessing these data must be capped to the benefit of the data user. Moreover, in such cases financial institutions which hold some data themselves might act as users of data from other financial institutions, and would therefore benefit from making such business case created by the data use sustainable.

methodologies would be developed as part of the schemes, subject to applicable competition law.

Option D.2, which unlike Option D.1 is ***based on a contractual data sharing model*** based on the Data Act, would also ensure a ***resource efficient enforcement*** avoiding the need for significant additional enforcement resources from financial supervisors: contracts between data holders and data users would be enforced via dispute settlement mechanisms established by the Data Act. Contracts could be concluded based on standard contractual clauses established under the Data Act. If combined with Option C.1 above, collective contractual schemes would establish joint contractual frameworks and avoid the need to conclude multiple bilateral contracts.

In terms of ***coherence,*** Option D.2 differs from the PSD2 approach and from the preferred option under PSD3, which does not allow charging for access to data covered by it, and which proposes to strengthen public powers to ensure effective enforcement[170]. This divergence may however be justified due to the fact that APIs and public enforcement structures are already in place under PSD2, while under this initiative APIs will in many instances still have to be developed, entailing significant additional investment in order to achieve the need to ensure high quality data sharing. Furthermore, the principle of compensation to data holders for making data available is fully consistent with the Data Act proposal, ensuring strong coherence with the future regulatory framework.

Option D.3, which builds on Option D.2 above by **requiring that market participants agree on detailed arrangements for contractual liability for data breaches as part of schemes**, would contribute further to a supportive environment for implementing effective data sharing infrastructures, as such arrangements would provide clarity and predictability on liability risks for the specific use cases and circumstances of data sharing in the financial sector. These arrangements could be most appropriately implemented in the context of contractual scheme membership (scheme costs already quantified under Option C.1). Option D.3 would therefore be the most effective one in achieving the specific objective D while not entailing higher costs than Option D.2. In terms of coherence with the regulatory framework, Option D.3 would largely be similar to Option D.2, albeit showing marginally stronger coherence.

The **impact of these options on SMEs** per stakeholder group would be as follows. As ***data users***, SMEs may benefit in monetary terms under the free API option (Option D.1) in which the full cost is allocated to data holders. At the same time, they may not obtain access to high-quality APIs, limiting their business opportunities. While costs are allocated to data users under Option D.2 and D.3, proportionality for SMEs would be ensured, as data holders would be obliged to cap compensation at cost for SMEs acting as data users, in line with Article 9(2) of the Data Act proposal. In their capacity as ***customers***, the overall impact on SMEs would depend on the extent they request to make use of products and services provided by data users. Compared to Option D.1, customers would benefit from more innovative products based on higher quality APIs under Option D.2 and D.3. SMEs in a capacity of ***data holders*** would be affected by the costs relating to APIs under Option D.2 and D.3 and would primarily benefit if they also act as data users. However mitigating measures under Option D.2 and D.3 would ensure that SMEs acting as data holders are not disproportionately affected by implementation costs. Option D.2 and D.3 enable SMEs acting as data holders to

[170] Discarded Option 5.3.2 in the PSD3 impact assessment.

seek compensation for making data available. In specific cases, both options would also allow SMEs to rely on APIs developed by larger entities or to establish joint APIs in a pooled manner with other SMEs. Issues around proportionality and costs related to the preferred scope are elaborated on in Annex 8.

Fundamental rights of consumers will be affected, as the requirement to implement APIs for data sharing under Options D.1-D.3 would contribute to increased sharing of data at customers' request, including personal data. However, the GDPR will apply in full when personal data is processed. The introduction of personal data use perimeters (Option A.3) and open finance dashboards (Options A.1-A.3) will act as further safeguards. Compensation (Options D.2 and D.3) would not have a direct impact on fundamental rights, since it represents cost shifting between data holders and data users. Under both Options D.2 and D.3, compensation is strictly limited to the provision of infrastructure between data holders and data users and customer data per se, in particular personal data, would not be traded, since access to such data is subject to customer request. Clear liability and dispute resolution rules under Option D.3 would create a more predictable environment for consumers who agree to share their data, and liability rules under Article 82 GDPR would also apply to provisions on contractual liability (Option D.3).

The **social and environmental impacts** of these options are similar to the ones described in section 5.4.3. In particular, options ensuring more effective access rights (Options D.1-D.3) would also cover sustainability related data and would therefore have a limited potentially positive social and environmental impact.

The comparison of policy options under this objective are summarised in Table 5 below. Overall, Option D.3 is selected as the preferred option.

Table 5. Comparison of policy options to promote implementation of high-quality interfaces for customer data sharing

Policy options	Effectiveness	Efficiency	Coherence
Require data holders to put in place free APIs implementing common standards for customer data and interfaces (D.1)	++	- - -	++
Require data holders to put in place APIs implementing common standards for customer data and interfaces against compensation (D.2)	++	- - -	+++
Require data holders to put in place APIs implementing common standards against compensation and require market participants to agree on contractual liability (D.3)	+++	- -	+++

Note: Effectiveness is assessed in terms of the achievement of the corresponding specific objective (+ for low; ++ for medium; +++ for high). Efficiency is assessed in terms of the associated costs (- for low costs/high efficiency; -- for medium costs/efficiency; --- for high costs/low efficiency). Coherence is assessed with respect to the existing EU legislative framework on data sharing (+ for basic; ++ for advanced; +++ for strong).

6. PREFERRED OPTION

As a result of the above impact analysis of policy options, the preferred options under each specific objective are compiled into a preferred option bundle that is considered most effective, efficient and coherent in achieving the general objective of this initiative. The preferred option bundle is described and analysed below.

6.1 PREFERRED POLICY OPTION BUNDLE

Summarising the above analysis of policy options, the preferred option involves an EU Regulation that establishes an open finance framework with the following characteristics:

- Require market participants to provide customers with open finance permission dashboards, set eligibility rules on access to customer data and empower ESAs to issue guidelines on personal data use perimeters (Option A.3)
- Mandate access for data users to selected customer data sets across the financial sector (Option B.2)
- Require market participants to develop common standards for customer data and interfaces concerning data that are subject to mandatory access under the specific objective B, as part of schemes (Option C.1)
- Require data holders to put in place APIs against compensation, implementing the common standards for customer data and interfaces developed as part of schemes under the specific objective C and require scheme members to agree on contractual liability (Option D.3)

The preferred policy bundle builds upon and complements the 'open banking' provisions under PSD2 and is fully consistent with the PSD3 proposal[171].

6.2 OVERALL IMPACT OF THE PREFERRED OPTION BUNDLE

Given the limited data availability and the nature of the open finance initiative, it is inherently difficult to make quantitative predictions about its benefits at the whole economy level. Likewise, it is equally challenging to disentangle the effects of each policy measure from the potential aggregate impact. Whilst the costs of each policy option are already challenging to estimate, its isolated benefits are even more difficult to gauge. Though it may be possible to develop a theoretical model, too many assumptions which cannot be fully substantiated would have to be made, rendering the outcome in terms of quantification unreliable[172]. This is why a qualitative assessment of benefits for the individual measures was mainly used. An attempt

[171] See table in Annex 6, Comparison of preferred approach for Open Finance / Open Banking under PSD2 and PSD3.

[172] To illustrate this taking as example open finance permission dashboards, whilst it is relatively straight-forward to estimate the cost of open finance permission dashboards, it is close to impossible to quantify their benefits. One would assume that the introduction of dashboards would nudge a certain share of financial services end-users into using sharing their data to benefit from open finance. One would then need to make a judgment on what use cases these end-users would opt to use and in what proportion. Where the benefits of such use cases are quantified, which is a challenge of its own, these could be multiplied by the number of additional users. The problem is that in absence of sufficient input data too many assumptions need to be made along the way, casting doubts on the reliability of any outcome. At the same time, it is certain that permission dashboards would empower customers and make them feel more confident in managing their data sharing relationships. This would contribute to building trust in data sharing, which is the policy objective this measure aims to contribute to.

was made to provide a macroeconomic assessment of the potential benefits of the open finance initiative based on a macro-level study aimed at quantifying the benefits of enhanced data sharing in the EU financial sector. However, the aim of this study was not to quantify the benefits of the open finance initiative explicitly, as presented and discussed in this impact assessment. Thus, the range of figures presented below should be taken as an illustration of the potential benefits rather than a dedicated estimate. The proposed methodology for the quantitative assessment of the benefits of the open finance initiative is laid out in detail in Annex 4. Whilst this methodology could theoretically lead to an overestimation of benefits of this initiative, a backward-looking comparison of this macroeconomic assesment covering the entire financial sector (including banking, investments, insurance and pensions) with the estimated annual benefits of the PSD2 open banking provisions from increased market access for third-party providers of EUR 1.6 billion[173] (for payments alone and based on a different methodological approach) confirms its general relevance. **According to the macroeconomic assessment, the total annual impact on the EU economy produced by enhanced access to and sharing of data in the EU financial sector ranges between EUR 4.6 billion and EUR 12.4 billion, including the direct impact on the EU financial data economy in the range of EUR 663 million to EUR 2 billion per year[174].**

Furthermore, Annex 7 provides microeconomic assessments of the estimated benefits of three specific use cases which will be enabled by this initiative. Based on the estimates provided, the benefits of the SME financing use case could be as high as EUR 2 billion in annual SME funding, whilst the investment advice use case has the potential of delivering annual savings of EUR 160 million by halving the time needed for carrying out the suitability and appropriateness testing of new clients. As explained in Box 2 of Annex 7 though, in addition and beyond these savings it is expected that the investment advice use case would generate much higher benefits for customers in terms of improved investment outcomes which are however difficult to quantify. Faster suitability and appropriateness testing would also facilitate switching and lower frictional costs thus increasing competition. It should be stressed that these are only two illustrative use cases to complement the macroeconomic analysis, and a more important number of such use cases can expected to be built, and additional benefits to be reaped from them.

As a result of this initiative, customers would benefit from wider choice of innovative services. Data holders would be obliged to put in place APIs, but would upgrade their IT infrastructure as a result and also obtain access to customer data held by other financial service providers. Data users would obtain effective access to customer data held by financial

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[173] See *A study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002*.

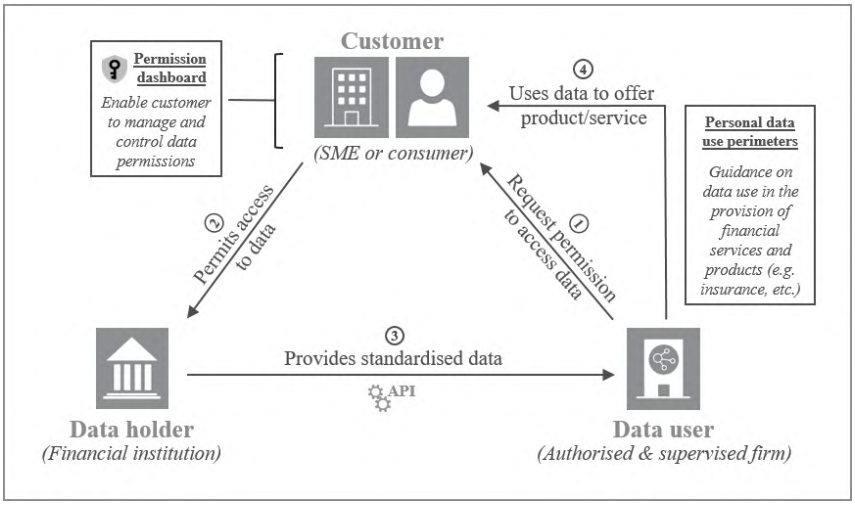
[174] DG JRC own calculations based on the European Data Market Study 2021-2023. These figures represent the additional cumulative value added in the economy during the full 5-year period due to enhanced data sharing. In addition to the direct impact on the EU financial sector, the cumulative impact includes indirect impact on the upstream and downstream suppliers of the financial industry, as well as the induced impact on the broader economy. The relatively wide estimation margin is largely due to the uncertainty regarding the precise implementation of the regulation and its effects on the data market. If the markets remain fragmented and data innovation remains at medium levels, we would see outcomes close to the lower bound of the range. If, however, the regulation manages to spark more competition, unify the currently fragmented infrastructure and provide benefits to a wide and socially diverse set of consumers, we should expect the actual benefits to be much closer to the upper bound. Finally, the scale of these benefits would continue to grow indefinitely beyond 2030. See Annex 4 for full methodology.

service providers where permitted by customers, enhancing business opportunities in innovative data-driven services.

The overall estimated cost of the preferred option bundle is in the maximum range of EUR 2.2 billion to EUR 2.4 billion in one-off costs and between EUR 147 million to EUR 465 million in recurring annual costs. These costs can be broken down by stakeholder group, as follows. The total annual cost of open finance permission dashboards and schemes for ***data holders*** is estimated in the range of EUR 57 million to EUR 217 million. In addition, they would have to pre-fund the one-off cost of putting in place APIs, which is estimated in the range of EUR 2.2 billion to EUR 2.4 billion, involving 17,745 data holders. This one-off cost would be amortised over time via the compensation mechanism from 3,838 ***data users*** envisaged under Option D.3. In addition to amortising this cost over time, data users would bear an annual recurring cost for API maintenance, permission dashboards, supervision, professional indemnity insurance and scheme membership in the range of EUR 90 million to EUR 248 million. A subset of data users, ***financial information service providers*** would also face a one-off licensing cost of EUR 22 million.

Figure 4 depicts the overall impact of the preferred option bundle on the customer data flow in the financial sector beyond payment accounts. This Figure should be compared to the current situation depicted in Figure 1 in section 2.1 on problem definition.

Figure 4. Customer data flow after implementation of the preferred option bundle



Source: DG FISMA

After implementation of the preferred option bundle, ***customers*** would enjoy more transparency and effective control over their data sharing relationships due to open finance permission dashboards, leading to more confidence in managing data users' access to their data and thereby to more data sharing transactions, which would in turn facilitate customer access to innovative and/or lower priced financial services whilst the risk of financial exclusion for consumers would be limited through respect of guidelines on personal data use perimeters. The eligibility rules would contribute to a high level of customer data protection when data is accessed, whilst the use of standardised APIs would further strengthen security.

The ultimate effect of compensation on individual customers would depend on the extent to which they use financial and information services provided by data holders and data users, since it has the effect of merely shifting the cost from data holders to data users. Data-driven services would also enhance financial literacy by helping consumers and firms make effective use of financial services that meet their specific needs (see use cases in Annex 7).

Obliging data holders to enable ***data users'*** access to key customer data sets with high innovative potential and low financial exclusion risks through standardised high-quality APIs would boost data-driven innovation, enabling new use cases and revenue streams for data users. Standardisation of customer data and interfaces would promote data sharing through greater interoperability, with more value likely flowing to the data users who may enjoy cheaper data intermediation services of single API access or may even prefer to set up individual connections to data holders themselves. The reasonable compensation to data holders and the cost of open finance dashboards would fall entirely on data users and would need to be integrated into their pricing strategy related to the new services enabled by their access to new customer data sets. Eligibility rules for access to customer data would ensure that all data users are licensed and supervised by financial supervisors. This would require them to have basic governance and customer protection structures in place, and to be subject to cyber and digital operational resilience requirements under DORA. Thus, eligibility rules would also indirectly safeguard the reputation of data holders.

Reasonable compensation would incentivise ***data holders*** to make the necessary investment to ensure the APIs they have to set up are in line with common standards and of sufficiently high quality to meet the specific needs of data users. As the cost of putting in place APIs would be shifted to data users over time, the positive impact on data holders would depend on the extent to which they would be ready to act also as data users themselves. Those data holders that would not also act as data users would have no benefits from implementing high-quality APIs. However, the ultimate impact on such pure data holders would still be neutral over time, as they would be able to recoup their investment costs through the reasonable compensation mechanism.

Mandatory adherence of ***market participants*** (data users and data holders) to standardisation schemes would promote data sharing in a consistent manner. Scheme membership would increase the chance of agreeing on standards that are well suited for both sides of the market whilst at the same time avoiding a disproportionate cost. It would also promote implementation by fostering agreement on rules and modalities for data sharing as part of the scheme, including as regards the compensation levels for customer data access, while limiting the need for enforcement resources by public authorities. Overall, this initiative would strengthen international competitiveness of EU firms by enabling them to build on the achievements in the area of open banking where the EU has been at the forefront of putting in place a dedicated regulatory framework for access to payment accounts data. Many jurisdictions have followed in the footsteps of EU regulators and are extending data sharing in the financial sector beyond payment accounts (see Section 2.3). This initiative will allow the EU to continue leading the way globally in terms of a balanced regulatory framework for data sharing in the financial sector.

The **impact on SMEs** would reflect their high representation in the three main stakeholder groups: customers, data users and data holders. In their capacity as data holders, SMEs would have to implement high-quality APIs at the average cost of EUR 7,000 per IORP (on the assumption of joint APIs covering many IORPs) and EUR 100,000 per investment firm. Furthermore, mitigating measures in the latter case would also allow investment firms to rely

on third-party APIs or to establish joint APIs in a pooled manner with other SMEs (see Annex 8). This cost would be amortised over time by data users through the compensation mechanism. In their capacity as data users, SMEs would face the total compensation cost for high-quality APIs of some EUR 600,000 per data user, which would most likely be collected on a "pay per API call" basis over an extended period of time. In addition, SMEs would face an annual API maintenance cost of EUR 34,400, which may add some EUR 0.021 to the cost of an API call. FISPs would also need to prepare their application and obtain a licence, which is altogether estimated at EUR 63,000. They would also be liable to spend some EUR 6,400 per year on a supervisory fee and professional indemnity insurance. As there are more SMEs among the customer group, however, it is expected that this initiative would have an overall positive effect on SMEs as a result of the new use cases enabled by the additional customer data that would become available, such as the SME financing use case presented in Box 1 in Annex 7. Furthermore, .

The expected overall **economic impact** of open finance policy is improved access to better-quality services, improving the overall price-quality relationship. Open finance would result in more user-centric services: personalised services could benefit consumers seeking investment advice, and automated creditworthiness assessment can be expected to help facilitate access to finance for SMEs (see Annex 5). For these positive impacts to materialise, however, it is important to ensure that data reuse does not lead to anti-competitive behaviour and collusion, especially given the requirement for mandatory adherence to contractual schemes, and that data holders, in particular, do not foreclose competitors through high fees for accessing data. The expected impact on the wider economy is positive due to more efficient service provision as a result of more effective competition.

The preferred option bundle will impact **fundamental rights**, notably Article 7 and 8 of the Charter of Fundamental Rights. The introduction of data access rights in specific areas of the financial sector - alongside greater interoperability due to data standardisation - will increase the sharing of data, including personal data, in the financial sector. Open finance will therefore be designed in full compliance with the GDPR when personal data is processed. Some specific elements of this initiative will reinforce and give additional practical effect to the GDPR: open finance dashboards and personal data use perimeters (see Section 5.4) will strengthen the means of data subjects to control and manage their data use in line with their rights under Articles 16-21 GDPR. To be effective, these customer tools will need to be operational from the start of the application of the open finance framework. In addition, scoping out high-risk data sets, such as data related to life and medical insurance, will act as a safeguard to limit the impact on fundamental rights (see Annex 5). The open finance framework would put the existing data sharing relationships into a secure and responsible framework that facilitates compliance with the GDPR with respect to personal data.

Given the above, the preferred policy bundle can be expected to have an overall positive **social impact** provided that the associated risks highlighted in the problem definition section are kept in check. Sharing of customer data would be controlled as it is subject to customer request - mandatory access would only be triggered once the customer has requested his or her data to be shared. More detailed data sharing can open up access to finance to previously excluded users. It can facilitate targeted savings and pensions by facilitating a comprehensive overview of private and occupational pension entitlements as well as other savings for retirement. On the other hand, more data use can, in specific cases, lead to a risk of higher cost or even further exclusion of customers with an unfavourable risk profile. Particular attention needs to be paid to services with inherent risk mutualisation, such as insurance. The

preferred option would however minimise any such impact since data sets which are directly relevant to essential financial services for citizens would be excluded from the scope (see Annex 5)[175]. This would be done as part of further work on specific use cases, also using ESA guidelines on the applicable personal data use perimeters. On the other hand, open finance can also lead to financial benefits by widening the use of data sets to other types of financial services.

Overall, open finance can be expected to have a neutral to positive indirect **impact on the environment**, as it would likely support the uptake of innovative investment services, including those that channel investments towards more sustainable activities. At the same time, there could also be potentially more direct negative implications from more intensive use of data centres that would go together with wider data reuse.

6.3 APPLICATION OF THE "ONE IN ONE OUT" APPROACH AND REFIT

While this initiative involves significant adjustment costs (subject to compensation), the direct administrative costs would be limited. There would be no administrative costs for consumers and the majority of data holders and users. Administrative costs to data holders would be limited to those firms that would, for the purpose of the implementation of the eligibility rules (Option A.3), be required to seek a licence to become eligible to access customer data in the financial sector. Regulated financial institutions that already have a licence would not be affected by the requirement, and there would be no additional regulatory reporting or other requirements. For the firms that would need to seek a licence, the total costs of seeking a licence is estimated to be about EUR 18.5 million, assuming that about 350 firms would apply to become financial services information providers (FISPS) to be able to access customer data (see Annex 3). These firms would also have to comply with the DORA requirements and put in place the required cyber-security standards.

Further detail is available in Annex 3. There are no administrative cost savings, as it is a new legislation not amending previous EU rules. For the same reason, this is also not a REFIT initiative.

[175] The use of open finance is strictly at the request of a consumer, and the decision of a consumer to share data in an open finance context is without prejudice to the right of EU citizens to access basic financial services enshrined in EU law, for example in the Payments Account Directive. See Annex V for an analysis of financial exclusion risks related to the scope of preferred policy option B.3.

7. HOW WILL ACTUAL IMPACTS BE MONITORED AND EVALUATED?

The impacts of the initiative will be monitored with respect to the specific objectives set out in section 4, notably as regards:

A. customer trust in data sharing
B. obliging data holders to share customer data with data users
C. standardisation of customer data and interfaces
D. implementation of high-quality interfaces for customer data sharing

Given the expectation that profit margins of third parties which merely access and analyse data will be low and given the absence of any significant financial stability or investor protection risks arising from these activities, the initiative does not foresee any additional mandatory supervisory reporting for these entities. This will minimise costs for market participants and customers and help to increase market efficiencies. All fully regulated institutions and investment firms are subject to supervisory reporting already under the respective framework regulating them (CRR, Sol2, MiFID/R etc.). In effect, all regulated activities (e.g. execution of orders on behalf of clients) will continue to be monitored effectively.

In absence of supervisory reporting requirements, monitoring the effects of open finance will have to rely on consumer surveys, studies and stakeholder consultations. For example, the European Data Market study assesses and quantifies the effects of the legal initiatives undertaken in the implementation of the EU data strategy. Its methodology would be adapted accordingly, including modification of interview questions. Thus, this European data market monitoring tool will continue to provide essential information to the European Commission on the size and trends of the EU data market and data economy, the number of data professionals, the number of data companies and the revenues created by them.

In view of the crucial role of the common European data spaces in the implementation of the EU data strategy, this initiative can also be monitored through insights collected by the Data Spaces Support Centre that will be funded under the Digital Europe Programme. While the development of data spaces itself will be difficult to dissociate from the effects of other initiatives under the Data Strategy, regular interaction between the Commission services, the Support Centre and the European Data Innovation Board should play a role in monitoring progress. Evidence could be gathered through the Support Centre from stakeholders on the efficiency and effectiveness of measures taken under this initiative, such as the extent to which the situation concerning customer data access in the financial sector has improved.

A progress indicator for objective A would be the number of end-users of open finance services offered by data users, including financial information service providers.

As regards progress indicators for objectives B, C and D, they would have to measure effective access to customer data for data users in the financial sector. One such indicator would be the number of new and/or upgraded APIs enabling direct connections between data holders and data users as a result of this initiative.

Another progress indicator would be the number of data users connecting to these APIs, including new market entrants, as well as the number of API calls executed. The latter may enable quantitative estimates about developments in the size of the financial customer data market and the distribution of its benefits between data users and financial sector customers.

In this context, the share of data holders acting as data users would also be monitored. In more qualitative terms, the emergence of new use cases and business models as a result of this initiative would also be monitored.

Any evaluation of the initiative should be undertaken no earlier than three years after its entry into force to make it meaningful, but no later than 2030. However, the monitoring process should start as of its entry into force. Monitoring will largely be done in the normal course of supervisory practice by the national competent authorities and the European Supervisory Authorities. To the extent possible, this will be complemented by relevant data from private sources. No dedicated reporting procedure for market participants is envisaged under this initiative for the purposes of monitoring and evaluation.

ANNEX 1: PROCEDURAL INFORMATION

1. LEAD DG, DECIDE PLANNING/CWP REFERENCES

DG FISMA is the lead DG of this initiative, which is labelled PLAN/2021/11368 in Decide planning. The Commission work programme for 2023 states that data access in financial services will be further improved with a legislative initiative for a framework on open finance as part of the priority "an economy that works for people" based on Article 114 TFEU in Q2 2023.

2. ORGANISATION AND TIMING

The first joint interservice group meeting on PSD2 review and open finance took place on 28 January 2022. The first draft of an incomplete impact assessment was discussed at the second interservice group meeting, which took place on 28 September 2022. Notably, the text covered the problem definition and outlined the potential policy options for analysis. The first full draft of the impact assessment was discussed at the fourth interservice group meeting on 6 December 2022. The modified final draft was discussed at the sixth interservice group meeting on 20 January 2023. The interservice group includes members of the following DGs: SG (chair), SJ, CNECT, JUST, COMP, TRADE, MOVE, ECFIN, GROW, TAXUD, ENER, ENV, HOME, EMPL and SANTE.

3. CONSULTATION OF THE RSB

The Regulatory Scrutiny Board reviewed the draft impact assessment and issued a positive opinion (with reservations) on 3 March 2023. The following summarises the main suggestions by the RSB and how they were addressed in this revised impact assessment.

Issue identified by the Board	Action taken
The report should better explain the origin and context of the initiative. The customer-centric approach which is at the core of the initiative should be made more explicit. The report should be more clear that the initiative is designed to promote the objective of data protection in line with the GDPR. It should further explain its different scope with regard to the ongoing revision of the PSD2. It should also elaborate on the importance of this initiative from an international competitiveness perspective by clarifying the EU's position in relation to third countries and explaining how the initiative will contribute to EU strategic autonomy.	Modifications have been done to the introductory section 1 (customer-centric approach mentioned up front) and sections 1.2 (as regards international competitiveness dimension) and 1.3 (as regards GDPR). Text on international competitiveness also added to section 6.2.
The current evidence base justifying new action is heavily reliant on stakeholder feedback. The report should further develop the evidence base by complementing it with findings from other sources, including from relevant experiences of similar initiatives in other jurisdictions. The report should	Further evidence and examples added in sections 2.2 and 2.3 from literature, notably from two recent OECD publications on data sharing: OECD (2019), *Enhancing Access to and Sharing of Data: Reconciling Risks*

better illustrate the evidence for customer demand for new financial services. It should also discuss to what extent open banking data on customer demand is representative for open finance and make the discussion on innovation more concrete by providing examples of expected innovative products from which customers would benefit.	*and Benefits for Data Re-use across Societies*, OECD Publishing, Paris, *https://doi.org/10.1787/276aaca8-en* and OECD (2023), *Shifting from Open Banking to Open Finance: Results from the 2022 OECD survey on data sharing frameworks,* OECD Business and Finance Policy Papers, OECD Publishing, Paris, https://doi.org/10.1787/9f881c0c-en. Text added on representativeness of open banking to Box 1 and a new Box 2 added with examples of potential benefits for customers.
The report should strengthen and give more prominence to the explanation of how the scope of the measures mitigate potential social risks to customers, in particular vulnerable customer groups. For instance, it should elaborate on whether there are risks (under the envisaged measures) that customers become pressured into sharing data, and explain how the measures proposed under the policy options address this risk. It should also clarify what the policy options are as regards setting data use parameters.	Text added to sections 5.2.1, 5.2.2 as well as 5.4.1 and 5.4.2, explaining in more detail the logic of data perimeters, providing more details on the scope of this initiative under Option B.2 and discussing the social risks.
The report should better describe the key aspects behind the intended compensation measures. It should discuss the intended governance model and the key parameters of the methodology for calculating a 'reasonable compensation' and how it will be ensured that compensation measures will not become an obstacle for innovative open finance services. The report should explain how the risk that data reuse may lead to anticompetitive effects will be mitigated.	Text added to sections 5.2.4 and 5.4.4, providing a more detailed discussion on the justification for 'reasonable compensation' and its effects, and assessing in more detail the risk of anticompetitive effects.
The report should provide a clearer assessment and comparison of costs and benefits of the measures identified per specific objective, including a clearer presentation of available quantitative estimates. It should better describe the uncertainties and limitations behind the estimated costs and benefits, and further explain the credibility of the ranges presented. It should be more explicit on the methodological choices, such as how the report used the analysis undertaken for the implementation of the European Data Strategy and clarify if the benefits presented are additional to the baseline and to what	Modifications implemented in section 6.2 and Annexes 3 and 4, setting out the uncertainties and limitations of the quantitative approach employed, clarifying that the European Data Market study is merely used as a proxy to assess the macroeconomic impact of this initiative, and restating benefit figures on an annual basis to facilitate comparison to the estimated cost figures.

extent they can be attributed to this initiative specifically. The report should also be more explicit on what direct and indirect benefits are.	

4. EVIDENCE, SOURCES AND QUALITY

The call for evidence was launched on 10 May 2022, including a joint public consultation on PSD2 review and open finance, ending on 2 August 2022. A targeted consultation on open finance was also launched on 10 May 2022, ending one month earlier – on 5 July 2022. The feedback received as a result of this fact-finding exercise has been used throughout this impact assessment.

In June 2021, DG FISMA established an expert group on European financial data space. This expert group includes a dedicated subgroup on open finance. The expert group delivered a report on open finance on 24 October 2022, which is also taken into account in this impact assessment.

In addition, the present impact assessment takes account of the relevant public and private studies and publications, including those relating to the PSD2 review and European data strategy. E.g. evidence from the PSD2 evaluation report and the study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002 has been extensively used in this impact assessment, as well as the EU data market study 2021-2023.

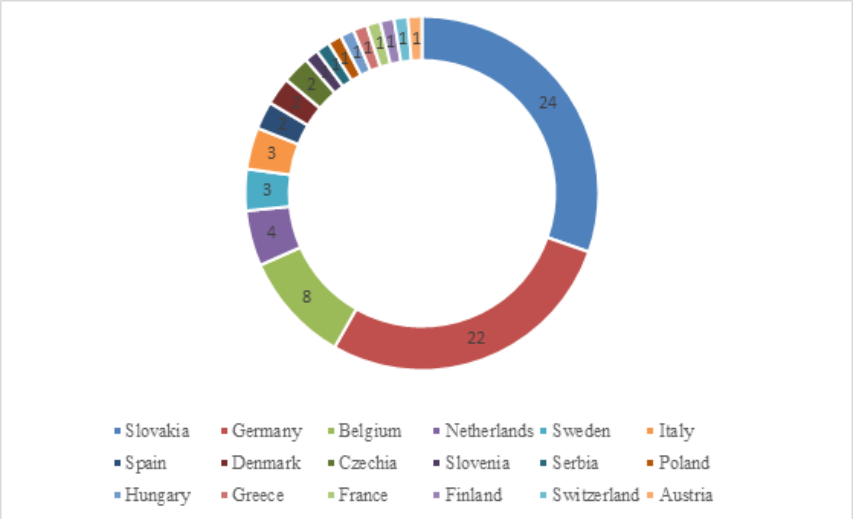
ANNEX 2: STAKEHOLDER CONSULTATION

1. EXPERT GROUP ON EUROPEAN FINANCIAL DATA SPACE

On 24 October, the Commission received a report on open finance from the Expert Group on the European Financial Data Space.[176] The Expert Group brings together experts from academia, consumers, and industry (including banking, insurance, pensions, investment, as well as third party providers and fintech firms).

2. RESULTS OF THE CALL FOR EVIDENCE

Figure 1: Respondents to the call for evidence on open finance by country



Source: DG FISMA

On 10 May 2022, the European Commission launched a call for evidence on open finance. The call for evidence closed on 2 August 2022, gathering 79 responses. Most were submitted by citizens (57), but also by trade associations (14), businesses (3), consumer organizations (1), unions (1) and others (3). The majority of the responses came from Slovakia (24), Germany (22) and Belgium (8), see Figure 1. The attitude of individual responses towards open finance was generally negative, whereas that of responses by firms was positive subject to safeguards. If designed in an appropriate way, open finance is seen to have the potential to have a positive impact. The attitude of individual responses was that the framework of this initiative should tackle issues by adopting clear safeguards, such as privacy dashboards, clear delineation of its scope and a level playing field among market participants.

[176] Expert Group on Financial Data Space (2022), Report on open finance (europa.eu)

3. RESULTS OF THE PUBLIC CONSULTATION

Introduction

On 10 May 2022, the European Commission launched a public consultation on the review of the revised payment services directive (PSD2) and open finance. The public consultation closed on 2 August 2022.

Section 3 of the public consultation focused on open finance, for which the results are presented in this Impact Assessment. The purpose of Section 3 of the public consultation was to gather views from the general public on open finance, thereby also complementing the Commission's targeted consultation on open finance. Section 3 of the public consultation was however also open to replies from professional stakeholders interested in open finance (corporate users, fintech firms, consumer organisations as well as relevant public authorities and national regulators).

Overview of respondents and responses

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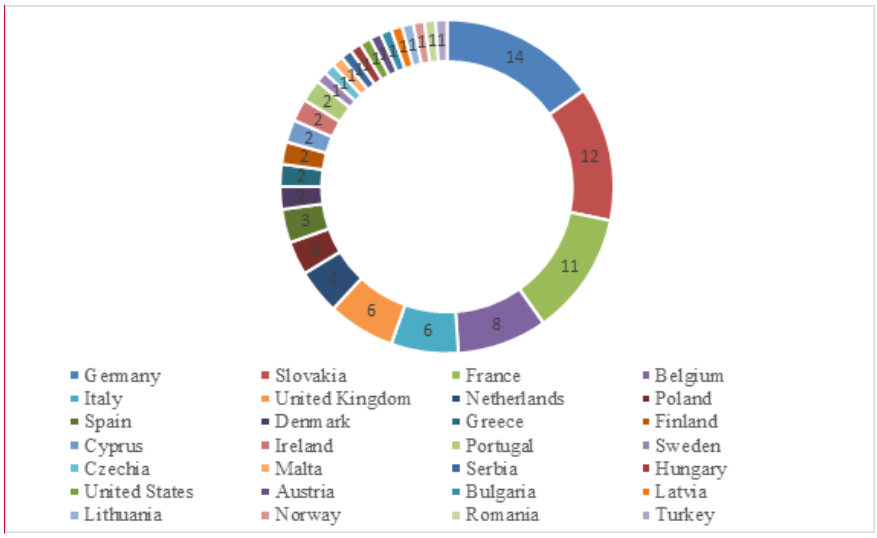

Figure 2: Respondents to the public consultation focused on open finance by country

Source: DG FISMA

Section 3 of the public consultation focused on open finance, for which the results are presented in this Impact Assessment. In this section there were 92 respondents from 28 countries (see Figure 2). 55 were citizens and 37 professional respondents. Most of the professional respondents were companies or business organisations (18 respondents), followed by business associations (8), public authorities (3), consumer organisations (2), trade unions (2), academics/research institutions (1) and others (3).

Summary of respondents' feedback

Respondents' feedback was mixed. While many **citizen respondents** would in principle want to share their data based on strong consumer consent/agreement, they are concerned to share

financial data due to a lack of trust which stems from concerns over privacy, data protection and digital security, and a generalised sense of not being able to control how their data is used.

Professional respondents were more favourable to data sharing and citied benefits to the customer journey in terms of increased competition and innovation for financial products and services. However, a significant minority of professional respondents also voiced concerns over competition, security and data misuse.

The most typical opinions voiced by respondents are listed below.

- **Sharing of data**

Asked whether they would be willing to share specific types of data held by their financial service provider (savings account data, consumer credit data, mortgage loan data, pension data, insurance data) with other financial or third-party service providers in return for access to new services, an average of two thirds of **citizen respondents** (an average of 33 out of 55 citizens) replied that they were unwilling to share their data. Citizen respondents against data sharing typically justified their replies as follows: (1) Financial data is too personal to be shared; (2) There is no trust in the system and the data could be misused; (3) There is no transparency and not enough supervision in the system; (4) Data could be passed on indefinitely to third parties, as a data subject's consent is usually not informed or understandable.

Professional respondents, on the other hand, were more split on the issue, although the abstention rate was high (around 61%, 23 out of 37 respondents). While companies/business organisations and business associations tended to support data sharing (about a quarter of all respondents were in favour of sharing different types of data, about a tenth against), other respondents were rather opposed to it (from a quarter up to half of the respondents opposed sharing different types of data). Common arguments used by professional respondents in favour of data sharing were as follows: (1) Data sharing could help with creating new services and increase competition; (2) Data sharing will help payment institutions offer smart and fast solutions to SMEs; (3) Data sharing will increase consumers' decision-making power.

Professional respondents against data sharing typically justified their replies as follows: (1) Non-personal data is likely to be commercially sensitive information; (2) Sharing sensitive data is particularly significant and risky in certain financials sectors (i.e. the insurance sector); (3) Making the sharing of data mandatory could lead to distortions in competition if there are enforced disclosures for large companies and if data sharing is not reciprocal.

- **Security and privacy risks**

The overwhelming majority of respondents cited concerns over security and/or privacy risks in giving other service providers data access. 84% of **citizen respondents** (46 out of 55 respondents) and 68% of **professional respondents** (25 out of 37 respondents) agree that data sharing increases those risks.[177]

[177] For companies/business organisations and business associations, 62% agreed that data sharing increases those risks; for the remaining professional respondents, the proportion was 82%.

Citizen respondents concerned over security and/or privacy risks typically justified their replies as follows: (1) The more often data is stored by different service providers, the greater the risk that the data will be misused or hacked; (2) It is unclear with whom data is shared and what standards apply (e.g. the data may be outdated); (3) There has to be clear information before consent/agreement is given and it has to be assured that data is only used for specific purposes; (4) There is no trust in the system and data could be misused (e.g. data shared could be used for unsolicited advertising); (5) There is the danger that the consumers are coerced into giving consent/agreement (e.g. via pricing mechanisms).

Some **professional respondents** concerned over security and/or privacy risks argued that sharing of data could generate "negative externalities" (e.g. risk of reconstruction of "strategic" information, risk of undermining the principle of mutualisation, risk of auctioning policy holders' data, risk of significant price increases)

- **Lack of trust in the processing of personal data**

The majority of **citizen respondents** do not believe that financial service providers that hold their data always ask for consent/agreement before sharing those data with other financial or third-party service providers (57%, 26 out of 46 respondents). Of the professional respondents who replied, however, the majority believe that financial service providers do ask for consent/agreement (61%, 14 out of 23 respondents).

Moreover, the majority of active citizen respondents believe that financial or third-party service providers do not use the shared data exclusively for the purposes to which they have agreed (71%, 32 out of 45 respondents).

- **Consumer consent/agreement**

A majority of **citizen respondents** say that financial service providers holding data should be obliged to share them with other financial or third-party service providers, if customers have given consent or agreement (55%, 30 out of 55 respondents).

To ensure trust and data subject-supported data usage, **citizen respondents** suggested a range of solutions strengthen consumer consent/agreement. Solutions typically cited included: (1) The introduction of privacy dashboards such as consent management tools that builds trust, transparency and user ownership of all data concerning them; (2) There should be a high-level system in which all data brokers are intensely monitored and supervised; (3) There should be a technical mechanism that prevents data from being repurposed; (4) There has to be strict compliance with the GDPR at all times.

Professional respondents suggested a range of solutions to strengthen consumer consent/agreement. (1) All players in data sharing ecosystem should be subjected to the same rules. (2) There has to be a strong permission management system that also includes the recipient of shared data.

- **Compensation**

Regarding the question of compensation, there is an inconclusive result among the surveyed **citizen respondents**. While in about a quarter seemed to be undecided (24%, 13 out of 55 respondents chose the "don't know" option), 42% (23 respondents) of citizen respondents oppose the idea of service providers charging a fee to other service providers who access data

using infrastructure they put in place.[178] The rest spoke in favour of a compensation (35%, 19 respondents).

Citizen respondents against charging typically argued that: (1) If the consumer wants the data to be shared, charging a fee is an obstacle; (2) If fees are charged, they may end up with the customer. Citizen respondents in favour of charging were also clear that charging should come with conditions. Conditions cited typically included: (1) Services should be remunerated according to market conditions. But there should be a way for the customer to transfer his/her input data to another provider for free; (2) The fee should benefit the consumer, not the service provider; (3) Money should not be made by selling private data.

A large number of **professional respondents** also seemed undecided on the issue of compensation (43%, 16 out of 37 respondents did not answer the question or chose the "don't know" option). However, among the remaining professional respondents, a slight majority of active professional respondents believed that they should be able to charge a fee (11 out of 21 respondents).[179] The professional respondents in favour of charging typically argued (1) A fair commercial model should be established to provide a financial incentive to develop well-functioning solutions that meet market demands; (2) As long as there is competition in the infrastructural space, there should be a fee.

4. RESULTS OF THE TARGETED CONSULTATION

Introduction

On 10 May 2022, the European Commission launched a targeted consultation on open finance and data sharing in the financial sector. The targeted consultation closed on 5 July 2022.

The purpose of the targeted consultation was to gather input from professional stakeholders that have in-depth knowledge and/or working experience in the field of data sharing in finance. Professional stakeholders targeted included financial institutions, data vendors, fintechs, corporate users, consumer protection associations as well as relevant public authorities and national regulators).

Overview of respondents and responses

A total of 94 **professional stakeholders** from 19 European countries replied to the targeted consultation. The stakeholders responded to be active in many different financial sectors, payments (51 respondents), insurance (42 respondents), banking (38 respondents), as well as pensions (35 respondents), asset management (33 respondents), data information services (31 respondents), securities trading (30 respondents) or brokerage (30 respondents). Professional respondents who identified as 'other' namely consisted of industry associations/organisations (4 respondents), government authorities (2 respondents) supervisory authorities (2 respondents), consumer protection organisations (1 respondent), leasing/real estate mortgages firms (5 respondents). Other professional respondents included qualified trust services, digital accounting, risk management, investment platform, and actuarial services, and business

[178] 55% of the substantive responses (23 out of 42 who replied).
[179] 6 out of these 11 professional respondents belong to companies/business organisations and business associations.

information services. Moreover, 23 respondents indicated that they would wish to provide responses on anonymous basis.[180]

Summary of respondents' feedback

Overall, responses to the targeted consultation highlight that most professional respondents see the potential benefits of an open finance framework and accordingly express support for regulatory intervention in some areas. However, views diverge substantially and support comes with conditions. The following is a summary of views:

- **Data access**

Overall, most respondents believe that there is today no adequate framework for data access rights in the financial sector (62%, 58 out of 93 respondents). Also, within the group of **data holders**, the majority support this view (53%, 25 out of 47 respondents). Just over half of the respondents thought that the Commission should consider proposing new data access rights in open finance (55%, 48 out of 87 respondents). Nevertheless, most **incumbent financial institutions** do not support legislation granting new mandatory access.[181] On the contrary, many **customers and third-party providers** argue in favour of such access rights, with the latter pointing towards experienced difficulties in gaining access in the absence of legislation.[182] Still, a majority of those arguing in favour of mandatory access acknowledge the cost of building the infrastructure for granting such access and expressed support for compensating data holders for such costs.

- **Customer concerns**

Many **customers** would in principle want to share their data to get access to better financial products, nevertheless, some customers still hesitate to share financial data due to a lack of trust which stems from concerns over privacy, data protection and digital security, and a generalised sense of not being able to control how their data is used. A large majority of respondents — also among **data holders** — expressed support for digital identity solutions (78%, 68 out of 87 respondents) and privacy dashboards like consent management tools (71%, 62 out of 87 respondents) as potential tools to address these concerns that strengthen the ability of customers to grant track and withdraw consent/agreement.

Asked which risks related to customer data sharing they would consider a key concern, the majority (64%, 56 out of 87 respondents) answered the misuse of data, followed by 60% (52 out of 87 respondents) for privacy breaches and 29% (25 respondents) for financial exclusion. Other risks mentioned were: identity theft, cyber and information risks, and competition issues (unlevel playing field or creation of monopolies). In particular, **insurance companies** warned that sharing of insurance data could generate negative externalities (e.g. risk of

[180] The feedback from the confidential responses was aggregated and anonymised to a level that prevents identification of individual entities/authorities.
[181] Among data holders, the majority of them is not in the favour (52%)
[182] All data users who replied were in favour of the introduction of new access rights. Moreover, when asked if they had experienced difficulties in accessing the data held by financial firms, the overwhelming majority of active respondents (89%) acknowledged they encountered difficulties in accessing data, although this needs to be seen in context of a high abstention rate to the question (62% either did not reply or answered 'don't know').

standardization, impoverishment of the market, lower levels of consumer protection, reverse engineering, undermining of the principle of mutualisation).

- **Limited current portability of data**

Customers have problems in ensuring that the firms holding their data make it available to third-party providers – which strongly suggests that the existing data portability right of Article 20 GDPR is not operational in the financial sector. Of the respondents who answered, the majority either never made use of Article 20 GDPR (21%, 18 out of 87 respondents) or rarely made use of Article 20 GDPR (32%, 28 out of 87 respondents) to grant data access in the financial sector. Considering only the **data users**, 65% stated that they rarely or never applied Article 20 GDPR (30 out of 46 respondents). Only a small fraction of respondents replied that they use Article 20 GDPR regularly (5%, 4 out of 87 respondents).

- **Lack of standardisation**

A majority of respondents – in particular among **data holders (65%)**, **data users (69%)** and **data intermediaries (73%)** – believe that standardisation of data could usefully be complemented by contractual schemes between data holders and users (55% overall, 48 out of 87 respondents), less than a tenth (9 %, 8 respondents) explicitly opposed this. Most also stressed that such schemes could cover liability rules that clarify the attribution of liability for the quality of customer data that is shared (55%, 48 out of 87 respondents). A large majority of respondents (64%, 56 out of 87 respondents) also said that an open finance framework would need a dispute settlement mechanism, i.e. an ability to settle disputes without having to resort to judicial proceedings (e.g. for who should be liable for e.g. erroneous data sharing).

Data holders appear to lack incentives to develop high-quality technical access points for data sharing (APIs). Most firms using customer data held by financial firms have had difficulties to access data. Most had concluded ad hoc contracts to access data (67%, 20 out of 30 respondents), which they argued were very costly. Responses suggest that the key reasons for lack of data sharing is that (1) there is lack of a standardised ways for sharing data (40%, 35 out of 87 respondents); (2) the absence of standardized APIs (38%, 33 respondents); (3) the absence of clarity as to which types of data are within scope (36%, 31 respondents); (4) The absence of clear rules on liability in case of data misuse (32%, 28 respondents); (4) the absence of an obligation to provide the data on a continuous/real time bases (30%, 26 respondents).

- **Compensation**

In the public consultation, a small majority of the professional respondents had already spoken out in favour of compensation rights.[183] In the targeted consultation the response is even more pronounced. A large majority of respondents believe that financial firms holding customer data should be entitled to compensation by third parties for making data available in an appropriate quality, frequency and format (75%, 70 out of 93 respondents). While the level of support is even higher looking only at **data holders** (83%, 39 out of 47 respondents), the

[183] Commission's public consultation on PSD2 and open finance. Among the substantive responses (yes or no), a slight majority of **professional respondents** believed that they should be able to charge a fee (52%, 11 out of 21 respondents). However, among the **citizens**, a slight majority opposed compensation rights (55%). In both groups, a large part of the population seemed undecided. See Annex 2.

majority of **data users** and **data intermediaries** are also in favour of such compensation (77%, 43 out of 56 respondents). References were made to the PSD2, with some respondents suggesting that free of charge data access by third parties did not foster the best outcome as the implementation investments have been disproportionate to benefits and return on investment for data providers.

Looking in more detail at **data users** and **data intermediaries** who are not data holders, it becomes apparent that an appropriate quality of the data is decisive for the acceptance of compensation fees. While the vast majority of them support in principle the general right to data access without compensation (80%, 8 out of 9 active respondents), a majority consider compensation payments to be reasonable when making the data available in appropriate quality, frequency and format (56%). On the level of compensation, some respondents believe that compensation should allow for a reasonable return on investment (19%, 18 out of 93 respondents). Only a minority argued compensation should be limited to the cost of putting in place the required data infrastructure (9%, 8 out of 93 respondents). The majority of respondents argued that compensation should be set in another way (46%, 43 out of 93 respondents): certain stakeholders favoured a market-value compensation (e.g. not defined by a legislation) for data sharing as it would provide necessary incentives, avoid dis-incentivizing market pioneers and would be adjustable depending on specific use cases. However, it was noted that even where compensation is regulated by the market, the market itself could establish principles for what is considered as a reasonable compensation. Criteria for fairness, reasonableness and non-discrimination should nonetheless be followed.

Some respondents suggested that compensation based models would negatively impact smaller players and competition as a whole. References were also made to existing portability under the GDPR and avoidance of commercializing it.

- **Aggregated data for research and innovation**

Only a minority of the professional respondents see legal obstacles today to obtain and use fully anonymised and aggregated supervisory data for research and innovation purposes (12%, 9 out of 74 respondents), while most of the stakeholders had no opinion (34 respondents) or did not answer the question at all (9 respondents). The main obstacles concern data protection and confidentiality requirements. However, the respondents came up with various areas, in which anonymized and aggregated supervisory data could hold research and innovation potential, e.g. fraud prevention (including AML), AI, data analytics, or the areas of ESG data, financial inclusion and financial literacy.

A clear majority stated that they would find it useful to provide an enabling clause comparable to the *Commission's proposal for a Digital Operational Resilience Act in the financial sector*[184] for different types of information exchange among financial institutions (58%, 46 out of 74 respondents). Among **data holders,** the approval rate is even higher (73%, 30 out of 41 respondents). Such a clause aim to ensure legal certainty about the possibility of exchange of such information and data. A large number mentioned the fight against financial crime and fraud, which they considered could become more (cost) effective with increased

[184] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014 and (EU) No 909/2014 COM/2020/595 final.

data sharing. Also risk monitoring, compliance and due diligence were seen as fields where enabling clauses for information exchange could play a positive role.

ANNEX 3: WHO IS AFFECTED AND HOW?

1. PRACTICAL IMPLICATIONS OF THE INITIATIVE

As explained in sections 5 and 6, the initiative will have an impact on the main stakeholder groups, including business and retail customers of financial service providers, financial data holders, financial data users and public authorities. As regards the relative number of each stakeholder group, data holders include: 4,000 credit institutions (already subject to PSD2)[185], 2,585 insurance firms[186], 6,120 institutions for occupational retirement provision (IORPs)[187] and 5,040 investment firms[188] that receive and transmit orders. Thus, the total number of data holders is 17,745.

As for data users, their number is estimated at 3,838, based on the following considerations. First, based on the PSD2 experience we estimate that about 30% of financial institutions would also act as data users[189]. Applying the same proportion to the other categories of data holders, except for occupational pension providers[190], would yield 3,488 entities in total, including 1,200 banks, 776 insurance firms and 1,512 investment firms. Second, 324 payment institutions were providing account information services in the EU under PSD2 in January 2023, of which 91 are licensed solely as account information service providers (AISPs)[191]. In view of the fact that payment accounts command the highest number of clients, compared to other types of financial services, as well as the highest transaction frequency (with the notable exception of high-frequency trading), the future number of financial information service providers (FISPs) is estimated at 350. Thus, the total number of data users is equal to 3,838, of which 1,200 banks are already active under PSD2.

The methodology for quantifying the benefits and costs of this initiative is laid out below.

Benefits

Given the limited data availability and the nature of the open finance initiative, it is inherently difficult to make quantitative predictions about its benefits at the whole economy level. Likewise, it is equally challenging to disentangle the effects of each policy measure from the potential aggregate impact. Whilst the costs of each policy option are already challenging to estimate, its isolated benefits are even more difficult to gauge. Though it may be possible to develop a theoretical model, too many assumptions which cannot be substantiated would have to be made, rendering the outcome in terms of quantification unreliable. This is why a qualitative assessment of benefits for the individual measures was mainly used. In addition, an attempt was made to provide a macroeconomic assessment of the potential benefits of the open finance initiative based on a macro-level study aimed at quantifying the benefits of enhanced data sharing in the EU financial sector, as laid out in detail in Annex 4. However, the aim of this study was not to quantify explicitly the benefits of the open finance initiative,

[185] EBA Register of Credit Institutions data as at 3 February 2023, includes EU credit institutions and non-EEA branches in the EU.
[186] EIOPA Register of Insurance Undertakings data as at 3 February 2023.
[187] EIOPA Register of Institutions for Occupational Retirement Provision data, .
[188] ESMA data as at 13 December 2022 .
[189] According to Konsentus data, some 1200 banks are currently acting as TPPs under PSD2.
[190] It seems reasonable to assume that no occupational pension provider would act in the capacity of a data user.
[191] EBA Payment Institutions Register data

as presented and discussed in this impact assessment. Thus, the range of figures presented below should be taken as an illustration of the potential benefits rather than a dedicated estimate. These figures are relevant and useful to gain a general idea about the magnitude of potential benefits and to provide a range of potential estimates.

Based on the methodology and strong assumptions set out in Annex 4, the total annual impact on the EU economy produced by enhanced access to and sharing of data in the EU financial sector is estimated in the range of EUR 4.6 billion to EUR 12.4 billion. This figure includes: the direct annual impact on the European financial data economy in the range of EUR 663 million to EUR 2 billion; the indirect annual impact on the European financial data economy in the range of EUR 1.4 billion and EUR 5.4 billion; as well as the induced annual impact on the EU GDP in the range of EUR 2.5 billion to EUR 5 billion. Based on one estimate the number of end users could reach 54 million in 2024[192], implying EUR 80 to EUR 226 annual benefit per end user. The relatively wide estimation margin in the macroeconomic study is largely due to the uncertainty regarding the three scenarios used in the study and their effects on the data market. It is not possible to accurately predict which types of new services would be offered and how they would impact competition in respective sub-sectors. If the markets remain fragmented and data innovation remains at medium levels, we would see outcomes close to the lower bound of the range. If, however, open finance manages to spark more competition, unify the currently fragmented infrastructure and provide benefits to a wide and socially diverse set of consumers, we should expect the actual benefits to be much closer to the upper bound. The order of magnitude of these figures which cover the entire financial sector including banking, investments and insurance and pensions appear to be consistent with the assessment of the estimated annual benefits of EUR 1.6 billion from increased market access for third-party providers as a result of PSD2 implementation[193], for payments alone and based on a different methodological approach.

In order to complement the macroeconomic estimates above and to illustrate such benefits at microeconomic level, reference is made to three specific use cases presented in Boxes 1, 2 and 3 in Annex 7, which are illustrative of the potentially manifold use cases of innovative services that can be expected to be built based on this initiative. It is estimated that the SME financing use case would result in additional **EUR 2 billion in annual SME funding**, whilst the investment advice use case has the potential of delivering **annual savings of EUR 160 million** by halving the time needed for carrying out the suitability and appropriateness testing of new clients. As explained in Box 2 of Annex 7 though, in addition and beyond these savings it is expected that the investment advice use case would generate much higher benefits for customers in terms of **improved investment outcomes** which are however difficult to quantify. Faster suitability and appropriateness testing would also facilitate switching and lower frictional costs thus increasing competition. By providing a holistic overview of consumers' insurance policies, the use case described in Box 3 of Annex

[192] Estimation based on public data from Statista citing Juniper Research and from Konsentus.

[193] This estimate is based on additional income (as exhibited by earnings before interest and taxes) realised by third-party providers already in existence prior to PSD2. Although it covers all effects of PSD2, not only those of its data sharing provisions, it represents a relevant benchmark, because it is based on data from less than 60% of the third-party providers concerned. Furthermore, revenues as such are a fair indicator in the absence of a more precise one, as they arise as a result of customer demand for whom the corresponding services clearly represent a value-added service. See *A study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002*. Going forward an industry study (Juniper Research) assume a further significant growth of the open banking market worth USD 4 bn in 2021 (globally, of which 75% in Europe) and forecast them to be worth USD 116 bn in 2026.

7 on the **insurance dashboard** can help consumers make effective use of insurance services by increasing their knowledge of their insurance situation. Insurance dashboard information can also make the advisory process for insurance providers more seamless and cost-effective by allowing the customer to compare different products based on their needs and overall insurance situation. It should be stressed that **these are only three illustrative use cases** to complement the macroeconomic analysis, and a considerable number of such use cases can be expected to be built with additional benefits.

Costs

The costs of this initiative have been estimated to a large extent based on the experience of PSD2 as reported by the industry, which provides estimates on costs of similar policy measures in a closely related sector. However, the dedicated situation of open finance compared to open banking has been taken into account where relevant. Obtaining specific evidence from stakeholders on the possible cost of open finance or validation of these figures by stakeholders has not been possible in spite of attempts via the public consultation and the European Data Space expert group, as stakeholders have been reluctant to share any specific views. The most important cost factors have already been presented as part of the options assessment in the main text. This Annex provides slightly more details on those figures.

The **first cost factor** is related to the requirement that market participants (data holders and data users) provide **open finance permission dashboards**. Industry cost estimates for such dashboards fall in a range of EUR 3,000 to EUR 12,000 per year[194]. Multiplying this cost by 17,745 data holders yields an annual cost range of some EUR 53 million to EUR 213 million whilst the cost for 3,838 data users would be in the range of EUR 12 million to EUR 46 million, including from EUR 1 million to EUR 4.2 million per year for 350 FISPs. Thus, **the total annual cost of permission dashboards would fall in the range of EUR 65 million to EUR 259 million.** A cheaper alternative could be to implement permission dashboards in a centralised manner, e.g. via an e-IDAS wallet that is held by the customer, largely because it would allow to avoid a proliferation of such dashboards.

The **second cost factor** for firms that are not already regulated entities in the financial sector is related to **the eligibility rules** to access customer data. Multiplying the estimated cost to prepare the application of some EUR 53,000[195] by the estimated number of 350 FISPs across the EU yields EUR 18.5 million. In view of the rather simple business nature of FISPs, it would be reasonable to assume registration fees for this license at EUR 10,000[196], which adds up to EUR 3.5 million for 350 FISPs. The annual cost of professional indemnity insurance for one FISP is estimated at EUR 5,000[197] and yields a total of EUR 1.75 million in recurrent expenses. The competent authorities would need to set up an IT system and corresponding supervisory process. This is estimated at EUR 200,000 per each of the 27 Member States,

[194] Publicly available quotations for conceptually similar consent management dashboards range from EUR 250 to EUR 1000 per month (see e.g. https://www.dataguard.de/blog/consent-manager)

[195] See the Study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002

[196] Average direct authorisation costs in Member States under bespoke regimes vary between EUR 5,000 and EUR 10,000 based on a ECENTRCOLLAB survey, whereas MiFID authorisation costs for 'moderately complex firms' are estimated in the range of EUR 5,500 - 15,000. See the Impact Assessment accompanying the proposal for a Regulation on European Crowdfunding Service Providers (ECSP) for Business SWD(2018) 56 final.

[197] See https://www.eba.europa.eu/guidelines-on-the-criteria-on-how-to-stipulate-the-minimum-monetary-amount-of-the-professional-indemnity-insurance-under-ps-2

yielding a one-off cost of EUR 5.4 million. A similar amount is assumed per Member State to hire additional 2 members of staff, yielding another EUR 5.4 million in recurrent annual expenses. Assuming that supervisory fees would be calibrated to cover the associated expenses, **each of the 3,838 data users would face an annual supervisory fee of some EUR 1,400.** Collectively, all except FISPs would also need to amortise the **additional EUR 1.9 million from the one-off cost** of putting in place the supervisory process not covered by the FISP licensing revenues of EUR 3.5 million. In aggregate, **FISPs would face a EUR 22 million cost to obtain a license and EUR 3.2 million to EUR 6.4 million in annual costs** for permission dashboards, professional indemnity insurance and supervision.

The **third cost factor** is linked to the adherence of market participants (data holders and data users) to data sharing schemes. The direct annual **management cost of schemes is estimated at EUR 5 million**, which would be split accordingly among schemes members. Estimating that 80% of all market participants would be pure data holders[198], these may have to bear EUR 4 million of the annual cost, whilst data users would bear the remaining EUR 1 million, under the assumption that no weighting is applied[199].

The **fourth and most significant cost factor** is that of putting in place APIs implementing common standards for customer data and interfaces developed under the specific objective C for data sets in scope under the specific objective B. API development costs are estimated for each category of data holders separately. The estimates of this cost factor presented below are based on the PSD2 evaluation which provides recent and actual cost assessments of a comparable measure in the same sector (although the evaluation indicates that the evaluated cost are likely overstated as the figures collected lack representativeness and they likely mix costs of setting up access with other unrelated costs linked to the provision of online banking or related services: IT, security), and are adjusted for the structural differences of firms in payments and other parts of the financial sector, as outlined in more detail below. A number of further factors distinguish the likely costs arising from this initiative compared to the PSD2, which it is not possible to quantify:

- Technological development between the implementation date of PSD2 and this initiative and experience gained with PSD2 interfaces are likely to lead to significantly lower costs.
- This initiative provides for standardisation of interfaces prior to implementation, lowering the costs for each interface further.
- Both initiatives cover financial data, but the exact data sets and use cases will have slightly different features, leading to divergences in detailed costs.

Credit institutions are already subject to PSD2 and have an interface in the context of payment accounts data. Thus, they would only be required to adjust their existing APIs so that the additional data sets subject to mandatory access under the open finance initiative are made available[200]. According to an industry study[201], the existing APIs put in place under PSD2 cost

[198] This estimate is derived as follows: 3,488 data holders out of 17,745 are also data users (see footnote on the total number of data users above), the remaining 14,257 being pure data holders, which account for 79% in the total pool of 18,095 market participants (17,745 data holders + 350 FISPs).
[199] For instance, based on the turnover of the respective scheme members.
[200] Although under PSD2 banks had a choice between establishing dedicated APIs or letting data users continuously rely on their customer interfaces, there is evidence that almost all banks have by now established APIs. For example, this is reportedly the case for all members of the ESBG and EACB bank associations, and almost all EBF members.

them on average close to EUR 2 million per organisational entity. This initial cost estimate is likely to be overestimated though, since only two credit institutions provided specific figures for this purpose[202]. Furthermore, application of dedicated industry methodology suggests that initial development of an API may cost as little as EUR 25,000[203]. Thus, the substantial chunk of the costs estimated in this study must clearly relate to revamping the legacy IT infrastructure of banks that was needed to ensure appropriate functioning of the new APIs or also possibly for other purposes than PSD2 implementation. Bearing this in mind, the fractional costs for adjusting the existing APIs are assumed at some 10-20% of the initial cost of putting in place APIs under PSD2, which is between EUR 200,000 and EUR 390,000 per organisational entity. Multiplying this by 1125 organisational entities[204] yields a **total cost range of EUR 220 million to EUR 440 million**. Once again, this estimate does not consider the specificities of the entities considered, including in terms of IT resources and economies of scale and scope resulting from APIs being already in place.

Extending the scope of mandatory access to data sets outside banking, it seems reasonable to assume that the average cost of putting in place APIs for ***insurance companies*** would be similar to the one borne by banks under PSD2, as the market has certain similarities with a few large and many smaller players. First, when it comes to the number of APIs to be put in place, taking the PSD2 experience as a guide, it is assumed that the number of APIs to be put in place by insurance firms would reflect a similar percentage of total population as in the case of banks under PSD2. Indeed, in both cases several individual entities belong to the same group allowing them to put in place a single API as part of a centralised group ICT infrastructure. Applying this percentage to the total population of insurance firms yields about 727 organisational entities in the insurance sector. Secondly, when it comes to the cost of each APIs, again a similar average cost as in the PSD2 study is assumed, which took into account a mix of larger more complex group APIs and smaller APIs. Applying these assumptions to the 727 organisational entities in the insurance sector estimated see above yields **roughly EUR 1.4 billion in total cost**. Clearly, the same caveats apply to this estimate as in the case of banks.

The calculation for ***occupational pension providers*** takes into account that these are mostly small firms with a couple of employees only and a relatively straightforward nature of the data they hold as regards individual pension entitlements of persons. In this context, and given the general efforts of the pensions industry to put in place more generalised pension dashboards at national level, it is assumed that these providers would cooperate on a country-wide basis and put in place a centralised API through which data from all national

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[201] Study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002.

[202] See footnote 11 of the Annex to the Study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002. See also the PSD3 impact assessment and the PSD2 Evaluation Report.

[203] See Charboneau, T., *Calculating the Total Cost of Running an API Product*, in *API as a Product, Tips for Running and API-centric SaaS Business*, Nordic APIs, 2021-2022.

[204] The study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002 uses cost projections for a total of 1125 organisational entities: 133 banking groups and networks, each involving several banks and/or subsidiaries, as well as 992 individual smaller and medium credit institutions. Combining data from the EBA register of credit institutions and the ORBIS database, banks were grouped with their subsidiaries into banking groups under the assumption that subsidiaries do not have to incur full API development and implementation costs, since they are distributed across the group. As a result, these 133 banking groups and networks correspond to some 3000 credit institutions in the EBA register, with the remaining 992 institutions accounted for separately.

occupational pension providers would be accessible[205]. In view of the fact that 5 Member States have no occupational pension providers, the overall cost of putting in place APIs implementing the common standards for data and interfaces by occupational pension providers is estimated at 22 times the average cost of about EUR 2 million as reported by the banking industry, **yielding a total cost of EUR 43 million**. As for ***investment firms***, each entity is assumed to put in place a separate API, but the cost of putting in place an API is also estimated to cost EUR 100,000 in view of the highly standardised nature of data in the field of securities trading[206] and the relatively advanced IT infrastructure of these firms. Against this background, the total cost for investment firms is estimated at EUR 504 million.

Adding up all categories of stakeholders yields **a total cost range of EUR 220 million to 440 million for data sets in scope under Option B.1 (banking only), in the range of EUR 2.2 billion to EUR 2.4 billion under Option B.2 (selected data sets across the financial sector), and in the range of EUR 2.3 billion to EUR 2.7 billion under Option B.3[207] (all data sets across the financial sector)**. Over time, this one-off cost for putting in place standardised high-quality APIs for data sets covered under the preferred Option B.2 would result in EUR 570,000 to EUR 630,000 of aggregate costs for each of the 3,838 data users as a result of the compensation mechanism envisaged under the preferred Option D.3.

The **fifth and final cost factor** is that of running these APIs**,** which involves recurring monthly costs for API hosting, maintenance and management. At the end of 2021, the number of open banking API calls in the EEA was estimated at 1 billion per month[208] involving 1,550 TPPs. The same number of API calls is assumed for data sets covered **under Option B.1 (banking only), yielding an annual API maintenance cost of some EUR 50 million.** The maximum number of API calls in the open finance environment is estimated based on the total number of data users and the number of new APIs in the EU. This yields a range from 2.5 billion (based on 3,838 data users) to 6.2 billion (based on the assumption of 6,914 APIs[209])[210] API calls per month. Based on this range of API calls and using industry methodology[211], the aggregate annual cost **under Option B.2 (selected data sets across the financial sector) is estimated in the range of EUR 70 million to EUR 194 million.** In view of the fact that the additional data sets **under Option B.3 (all data sets across the financial sector)** would be mainly limited to the insurance sector, it is assumed that this would have only a marginal effect on the API maintenance costs. Hence, these annual costs are **estimated**

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[205] This assumption is supported by the ongoing efforts at EU Member State level to put in place so-called national pension dashboards.

[206] E.g. asset managers are engaged in electronic trading across multilateral networks and many securities have International Securities Identification Numbers (ISINs). Thus, asset managers are also unlikely to require any substantial adjustments of their IT infrastructure to put in place an API.

[207] The estimates under Option B.3 are assumed to exceed the respective costs under the preferred Option B.2 by some 10-20% only, as Option B.3 would merely involve standardisation of additional customer data sets, mainly in the insurance sector, as opposed to putting in place more APIs. See Annex 5.

[208] Konsentus data https://www.konsentus.com/insights/articles/open-banking-in-review-trends-and-progress/

[209] Some 1125 APIs of banks, 727 APIs of insurance firms, 22 APIs of occupational pension providers and 5040 APIs of asset managers.

[210] This estimate corresponds well to a rule of thumb of some 900,000 monthly calls per API. E.g. Fidor estimates its number of daily API calls at 30,000, which yields 900,000 per calendar month. See *API Strategy for Open Banking: Insights and case studies from leading open banking experts and API strategists*, Nordic APIs, 2018 – 2022. This estimate is a theoretical maximum as banks have the widest possible customer base compared to other types of financial services. Furthermore, the frequency of payment account transactions also by far exceeds that of any other type of financial service (with the notable exception of high-frequency trading).

[211] See *API Strategy for Open Banking: Insights and case studies from leading open banking experts and API strategists*, Nordic APIs, 2018 – 2022.

in the range of EUR 70 million to EUR 195 million. The estimated recurring cost under the preferred Option B.2 translates into the total annual cost of about EUR 10,000 to EUR 28,000 per API, with a resulting average cost per API call of EUR 0.021, which coincidentally matches the assumed maintenance cost per API call of EUR 0.021 used in the *Study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2)* FISMA/2021/OP/0002. Under the preferred Option D.3, the annual API maintenance cost would be integrated into the compensation mechanism to data holders for putting in place APIs and would result in some EUR 34,400 per data user for the data sets covered under the preferred Option B.2. In case these costs are eventually passed on to the end users, this would result in a yearly cost per end user of some EUR 2.45 based on about 54 million of expected end users[212].

The requirement for market participants to agree on contractual liability, including appropriate dispute resolution mechanisms would need be achieved in the context of scheme membership. As such, it would give no rise to additional costs beyond those already quantified above.

2. SUMMARY OF COSTS AND BENEFITS

I. Overview of Benefits (total for all provisions) – Preferred Option		
Description	***Amount***	***Comments***
Annual increase of the EU GDP	In the range of EUR 4.6 billion to 12.4 billion	This aggregate estimate measures the overall impacts of the financial data market on the EU economy as a whole based on the assumptions and methodology laid out in Annex 4, adding up the figures of entries A, B and C below. It quantifies the total expected benefit from enhanced access to and sharing of data in the EU financial sector, including both direct and indirect impacts. Calculations based on D2.1 First Report on Facts and Figures, European Data Market Study 2021-2023, February 2022.
Direct benefits		
(A) Direct annual impact on the EU financial data economy	In the range of EUR 663 million to 2 billion	This estimate measures the European financial data companies' revenues from data products and services sold. Calculations based on D2.1 First Report on Facts and Figures, European Data Market Study 2021-2023, February 2022.
Indirect benefits		
(B) Indirect annual impact on the EU financial data economy	In the range of EUR 1.5 billion to 5.4 billion	This estimate represents the economic activity generated along the supply chain by the data supplier companies. Calculations based on D2.1 First Report on Facts and Figures, European Data Market Study 2021-2023, February 2022.
(C) Induced annual impact on the EU GDP	In the range of EUR 2.5 billion to 5 billion	This estimate measures the economic activity generated in the EU economy as a

[212] Estimation based on public data from Statista citing Juniper Research and from Konsentus.

		secondary effect. Calculations based on D2.1 First Report on Facts and Figures, European Data Market Study 2021-2023, February 2022.
Investment use case	Potential annual savings of EUR 160 million from halving the time needed for suitability and appropriateness assessments	Estimates based on the final report of the Study on Disclosure, inducements, and suitability rules for retail investors, May 2022.
SME referral scheme	Additional EUR 2 billion of funding provided to SMEs annually	Estimates based on the ECB SAFE survey of H2 2021.
Administrative cost savings related to the 'one in, one out' approach*		
None		

*(1) Estimates are gross values relative to the baseline for the preferred option as a whole (i.e. the impact of individual actions/obligations of the preferred option are aggregated together); (2) Please indicate which stakeholder group is the main recipient of the benefit in the comment section;(3) For reductions in regulatory costs, please describe details as to how the saving arises (e.g. reductions in adjustment costs, administrative costs, regulatory charges, enforcement costs, etc.;); (4) Cost savings related to the 'one in, one out' approach are detailed in Tool #58 and #59 of the 'better regulation' toolbox. * if relevant*

II. Overview of costs – Preferred option							
		Data holders		**Data users**		**Administrations (27)**	
		One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**
Require market participants to provide open finance dashboards, set eligibility rules and set personal data use perimeters (Option A.3)	Direct adjustment costs		Open finance dashboards at EUR 53 million to EUR 213 million annually		Open finance dashboards at EUR 12 million to EUR 46 million annually; personal indemnity insurance at EUR 1.75 million annually		
	Direct administrative costs			135 man-days per FISP to prepare the application yields EUR 18.5 million for 350 FISPs.		Set up IT system and supervisory process for EUR 200000 x 27 NCAs = EUR 5.4 million	
	Direct regulatory fees and charges			EUR 10,000 registration fee x 350 FISPs = EUR 3.5 million to cover partly the one-off direct administrative cost	EUR 1,400 annual fee x 3,838 data users = EUR 5.4 million annually to cover the annual direct enforcement costs		

	Direct enforcement costs						EUR 5.4 million annuallyfor 2 staff members per NCA
	Indirect costs						
Mandate access to selected customer data sets across the financial sector (Option B.2)	Direct adjustment costs						
	Direct administrative costs						
	Direct regulatory fees and charges						
	Direct enforcement costs						
	Indirect costs						
Require market participants to develop common standards for customer data and interfaces as part of schemes (Option C.1)	Direct adjustment costs		EUR 4 million annually		EUR 1 million annually		
	Direct administrative costs						
	Direct regulatory fees and charges						
	Direct enforcement costs						
	Indirect costs						
Require data holders to put in place APIs against reasonable compensation, and require scheme members to agree on contractual liability and dispute resolution (Option D.3)	Direct adjustment costs	Costs for putting in place APIs estimated in the maximum range of EUR 2.2 billion to EUR 2.4 billion, including the adjustment necessary to implement the agreed common	The aggregate annual costs for API maintenance are estimated in the range of EUR 70 million to EUR 194 million. This translates into an average annual cost of EUR 19,000 per API, which would, however, be immediately shifted to data		Over time, the total cost to the data users would cumulate to the maximum range of EUR 2.2 billion to EUR 2.4 billion as presented in the respective column to the left, which is spent by data holders to put in place APIs, plus the annual API		

		standards. Over time, the costs would be shifted to data users as reflected in the respective column on the right.	users.		maintenance costs between EUR 70 million to EUR 194 million. The latter yields an average annual cost of EUR 34,400 per data user.		
	Direct administrative costs						
	Direct regulatory fees and charges						
	Direct enforcement costs						
	Indirect costs						
Costs related to the 'one in, one out' approach							
Total	Direct adjustment costs	Costs for putting in place APIs estimated in the maximum range of EUR 2.2 billion to EUR 2.4 billion, including the adjustment necessary to implement the agreed common standards. Over time, the costs would be shifted to data users as reflected in the respective column on the right.	Open finance dashboards at EUR 53 million to EUR 213 million annually; scheme membership at EUR 4 million annually; annual costs for API maintenance in the range of EUR 70 million to EUR 194 million, which would however, be immediately shifted to data users.		Open finance dashboards at EUR 12 million to EUR 46 million annually; personal indemnity insurance at EUR 1.75 million annually; scheme membership at EUR 1 million annually; cumulative cost to data users in the maximum range of EUR 2.2 billion to EUR 2.4 billion as presented in the respective column to the left, which is spent by data holders to put in place APIs, plus the annual API maintenance costs between		

					70 million to EUR 194 million.		
	Indirect adjustment costs						
	Administrative costs (for offsetting)			EUR 18.5 million to prepare the application.			

(1) Estimates (gross values) to be provided with respect to the baseline; (2) costs are provided for each identifiable action/obligation of the preferred option otherwise for all retained options when no preferred option is specified; (3) If relevant and available, please present information on costs according to the standard typology of costs (adjustment costs, administrative costs, regulatory charges, enforcement costs, indirect costs;). (4) Administrative costs for offsetting as explained in Tool #58 and #59 of the 'better regulation' toolbox. The total adjustment costs should equal the sum of the adjustment costs presented in the upper part of the table (whenever they are quantifiable and/or can be monetised). Measures taken with a view to compensate adjustment costs to the greatest extent possible are presented in the section of the impact assessment report presenting the preferred option.

3. RELEVANT SUSTAINABLE DEVELOPMENT GOALS

Digital finance has many aspects that can improve the workings of economies and further the cause of sustainable development. Access to finance is one of the major challenges of sustainable development. While not the direct aim of the initiative, open finance will indirectly help advance inclusive and sustainable economic growth, employment and decent work for all (SDG 8) and reduce inequality (SDG 10) by supporting inclusive growth. It can help socially excluded individuals (those engaged in informal employment or affected by income inequality) gain better access to finance. Technology that works for people (responsible AI – investment in connectivity – skills – data protection / consumer protection) is another relevant priority.

Open finance is in line with building resilient infrastructure, sustainable industrialisation, and innovation (SDG 9). It can unleash competitive economic forces that improve connectivity in the area of finance. A fair and competitive economy (data strategy – industrial strategy – Digital Services/markets act – digital taxation) is also a directly relevant EU priority.

Open finance will help promote access to affordable, reliable, sustainable and modern energy (SDG 7) and take action to address climate change (SDG 13) through more informed and targeted investment advice. This is being achieved, as open finance can help investors make more informed decisions which can help to channel of capital flows towards sustainable investments.

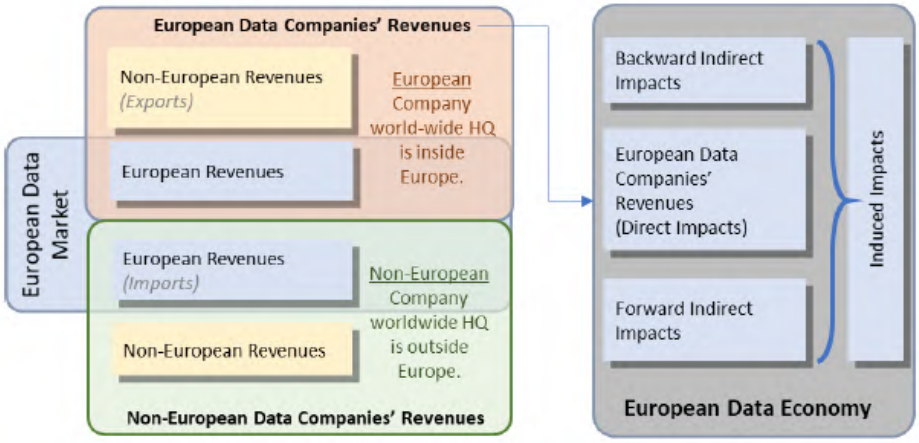
ANNEX 4: ANALYTICAL METHODS

Given the limited data availability and the nature of the open finance initiative as enabling future innovation, it is inherently difficult to make quantitative predictions regarding its benefits at the whole economy level.

The proposed methodology for the quantitative assessment of the benefits of the open finance initiative relies on estimates from the European Data Market Study 2021-2023. Despite the fact that the purpose of this study was not to quantify the benefits of the open finance initiative as presented and discussed in this impact assessment, the Commission's JRC confirmed that the proposed methodology is relevant and useful to gain a general idea about the magnitude of potential benefits and to provide rough estimates. However, the resulting figures should be interpreted with the relevant assumptions in mind, as laid out below, and compared to the backward-looking assessments of benefits of the PSD2 open banking provisions as set out in the PSD2 evaluation. They should also be complemented with microeconomic assessments of the potential benefits of two specific use cases out of the larger number of use cases which will be enabled by the initiative, as set out in Annex 7.

The European Data Market Study 2021-2023 contains several reports that focus on the size and trends of the EU data market and data economy, including the number of data professionals, data companies and their associated revenues. It includes multiple indicators such as the skill gaps of data professionals, or the effect of the data economy on the GDP divided into different categories of impacts. Figure 6 shows the relationship between the Data Suppliers Companies' Revenues, the European Data Market, and the European Data Economy.

Figure 1. Relationship of Data Market, Data Revenues and Data Economy



Source: European Data Market Study

Data companies are organisations that are directly involved in the production, delivery, and/or usage of data in the form of digital products, services, and technologies. They can be both data suppliers' and data users' organisations.

Data companies' revenues correspond to the aggregated value of all the data-related products and services generated by Europe-based data suppliers, including exports outside the EU.

The data market is the marketplace where digital data is exchanged as "products" or "services" as a result of the elaboration of raw data. The data market captures the aggregate value of the demand of digital data without measuring the direct, indirect, or induced impacts of data in the economy as a whole. The value of the data market is not exactly equal to the aggregated revenues of European data companies because it includes imports (data products and services bought on the global digital market from suppliers not based in Europe) and excludes the exports of the European data companies.

The data economy measures the overall impacts of the data market on the economy as a whole. It involves the generation, collection, storage, processing, distribution, analysis elaboration, delivery, and exploitation of data enabled by digital technologies. The data economy captures a wider concept than the data market only, as it considers the value and wealth generated in the economy as a whole (not just across businesses) by the exploitation of data.

The data economy includes three sets of impacts in the economy: the data companies revenues in the form of direct impacts on the economy, the indirect impacts (as backward and forward) and the induced impacts effects of the data market on the economy, as follows:

- The **direct impacts** are the initial and immediate effects generated by the data supplier companies; they represent the activity potentially engendered by all businesses active in the data production. The quantitative direct impacts will then be measured as the revenues from data products and services sold, i.e. the value of the data market. We consider the data market value as a good proxy of the direct impacts. Therefore, for the sake of simplicity, direct impacts will coincide with the value of the data market.
- The **indirect impacts** are the economic activities generated along the company's supply chain by the data supplier companies, considering input providers and customers of data supplier companies.
- The **induced impacts** include the economic activity generated in the whole economy as a secondary effect. Induced additional spending is generated both by new workers, who receive a new wage, and by the increased wage of existing jobs. This spending induces new revenues creation in nearly all sectors of the economy. The additional consumption will support economic activity in various industries such as retail, consumer goods, banks, entertainment, etc.

The European Data Strategy presented in 2020 describes Europe's vision to become a global leader in the data-agile economy and a leading role model for a society empowered by data to make better decisions in industry and government. The EU Data Market Study 2021-2023 introduces three possible scenarios until 2030, which are driven by a number of different conditions, with a particular emphasis on the role of policies. These 2030 scenarios outline different pathways of the evolution of the European data market and the data economy in the next three to eight years, exploring a different mix of factors and policy choices which may lead to achieving the EU's ambitious objectives or, on the contrary lead to a setback. The scenarios are structured as follows:

- **Baseline scenario**: due to 2022 disruptive events (Ukraine war, COVID-19 resurgence in China, macroeconomic risks of stagflation), the current growth trends and framework conditions are substantially worsened, and their extrapolation leads to weaker 2025 indicators with consequent lower potential growth in 2030. Therefore, this scenario is characterised by a slower than previously foreseen growth of data innovation to 2025 followed by acceleration after 2025, a modest concentration of power in the hands of dominant data owners, a data governance mechanism that protects individual data rights, and unequal but relatively broad distribution of data innovation benefits across society.
- **High growth scenario**: a faster than expected resolution of international conflicts leads to improved economic conditions already by 2024-25 with faster growth than the Baseline from 2025 onwards. This scenario remains characterised by advanced data innovation and digital transformation across Europe and a globally recognised data framework. This is also characterised by global supply chains more integrated than before between Europe, neighbours such as Ukraine, the US, South Korea and Japan and a reduced dependency from China manufacturing by 2030.
- **Challenge scenario**, characterised by continuing geopolitical crisis (long Ukraine war followed by weak cease-fires rather than lasting peace) hard economic conditions (stagflation) up to 2025, with uncertain economic growth perspectives to 2030. This context results in strong disparities between countries with solid economies (US, Germany and France) continuing to invest in digital technologies with a moderate innovation level and development of the data market-data economy, and a growing gap with weaker economies and countries. This scenario is also characterised by fragmented data flows and low level of digital innovation by SMEs.

Notably, the factor that links these scenarios to the current initiative are their policy assumptions with respect to the implementation of the European strategy for data, including the European financial data space, of which open finance is a constitutive element.

For example, the **challenge scenario** assumes that the EU market for data remains fragmented with uneven data sharing, barriers and stakeholder's reluctance to data sharing remain high, with only high performing enterprises and regions making progress. This unfavourable scenario envisages slower adoption of digital transformation and data-driven business models due to lower private investments, lower expectation of take-up of innovative services, as well as lack of trust and confidence in data sharing. The **baseline scenario** assumes that progress in the development of the new regulatory framework enhances data access and sharing in time, but the main effects are deployed at the end of the forecast period as the single market for data gradually emerges. The **high growth scenario** envisages fast progress with implementation of the European strategy for data, enhancing data access, sharing and re-use, achieving a level playing field and contributing to the effective single market for data.

For each of the three scenarios, the study mentions multiple categories of impacts through which the data landscape influences the economy: direct impacts, indirect impacts and induced impacts.

Table 1. The estimated value of the EU data economy in 2030 across 3 scenarios (EUR, billion)

summarises the estimated value of the EU data economy in 2030 in the 3 different scenarios (challenge, baseline, high growth). The total value is estimated in billions of euros and broken down by the type of impact described above[213].

Table 1. The estimated value of the EU data economy in 2030 across 3 scenarios (EUR, billion)

	Challenge	Baseline	High growth
Direct Impacts	109	123.3	152.4
Indirect Impacts	332	363.3	448.5
Induced Impacts	246.5	300.2	353.8
Total Value	**687.5**	**786.8**	**954.7**

Source: European Data Market Study, First Report on Facts and Figures, European Commission, 2022

The proposed methodology uses the impact of the data economy to compute the expected benefits of enhanced access to and sharing of data in the EU financial sector, under a set of assumptions.

First, it is assumed that there is no substantial change in the relative EU industry sizes and the share of financial sector over the total economy remains the same until 2030[214]. This allows us to estimate the relevant impacts specifically for the financial sector in **Error! Reference s ource not found.**.

Table 2. The estimated value of the EU financial data economy in 2030 across 3 scenarios (EUR, billion)

	Challenge	Baseline	High growth
Direct Impacts	25.2	28.5	35.2
Indirect Impacts	76.8	84	103.7
Induced Impacts	57	69.4	81.8
Total Value	**159**	**182**	**220.8**

Source: European Data Market Study, DG JRC calculations

Second, it is assumed that if the open finance regulation were to be implemented, either the high growth scenario or the baseline scenario would materialize, depending on the specific implementation. Otherwise, under a situation where the Commission takes no action, the

[213] Effects that are located backwards and forwards on the data companies' supply chains are referred to collectively as indirect effects.

[214] In 2021, the EU financial data economy was estimated at EUR 102.4 billion, while the overall EU data economy had a size of EUR 442.6 billion. I.e. the financial sector accounts for roughly 23.14% in the overall data economy.

challenge scenario would take place. Indeed, among the current regulatory and policy initiatives in the financial sector, open finance is the main key additional initiative aimed to promote additional data sharing (PSD3 consists of a finetuning of already existing access rights). To quantify the benefits, we look at the differences of corresponding impacts between the relevant scenarios. In order to get the lower bound for the expected benefits, we look at the difference between the challenge and the baseline scenarios, while in order to obtain the upper bound for the expected benefits, we evaluate the difference between the challenge and the high growth scenarios. Estimates are summarised in **Error! Reference source not found.**.

Table 3: The estimated annual benefits from enhanced access to and sharing of data in the EU financial sector (EUR, billion)

	Lower bound	Upper bound
Direct benefits	0.6	2
Indirect benefits	1.5	5.4
Induced benefits	2.5	5
Total benefits	**4.6**	**12.4**

Source: data from European Data Market Study, DG JRC own calculations

Third, impact on the economy per industry is calculated according to the industry-relative ICT spending. The model applies a top-down approach where the output variables are estimated for the whole EU economy and consequently downscaled based on the sectoral ICT expenses. In finance, this might result in an underestimation of the actual value that the sector will extract.

According to these assumptions, the total estimated annual benefits for the EU economy produced by enhanced access to and sharing of data in the EU financial sector range between EUR 4.6 billion and EUR 12.4 billion. The relatively wide estimation margin is largely due to the uncertainty regarding the three scenarios used in the study and their effects on the data market. If the markets remain fragmented and data innovation remains at medium levels, we would see outcomes close to the lower bound of the range. If, however, the regulation manages to spark more competition, unify the currently fragmented infrastructure and provide benefits to a wide and socially diverse set of consumers, we should expect the actual benefits to be much closer to the upper bound.

The order of magnitude of these figures which cover the entire financial sector including banking, investments and insurance and pensions **appear to be consistent with the assessment of the estimated annual benefits of EUR 1.6 billion from increased market access for third-party providers as a result of PSD2 implementation**[215], for payments alone and based on a different methodological approach.

[215] See *A study on the application and impact of Directive (EU) 2015/2366 on Payment Services (PSD2) FISMA/2021/OP/0002*. Going forward an industry study (Juniper Research) assume a further significant growth of the open banking market, worth USD 4 bn in 2021 (globally, of which 75% in Europe) and forecast them to be worth USD 116 bn in 2026.

As a result of this initiative, customers would benefit from wider choice of innovative services. Data holders would be obliged to put in place APIs, but would upgrade their IT infrastructure as a result and also obtain access to customer data held by other financial service providers. Data users would obtain effective access to customer data held by financial service providers where permitted by customers, enhancing business opportunities in innovative, data-driven services. **In order to complement the macroeconomic estimates above and to illustrate such benefits at microeconomic level, reference is made to three specific use cases** in Boxes 1, 2 and 3 presented in Annex 7, which are illustrative of the potentially manifold use cases of innovative services that can be expected to be built based on this initiative. It is estimated that the SME financing use case would result in additional **EUR 2 billion in annual SME funding**, whilst the investment advice use case has the potential of delivering **annual savings of EUR 160 million** by halving the time needed for carrying out the suitability and appropriateness testing of new clients. As explained in Box 2 of Annex 7 though, in addition and beyond these savings it is expected that the investment advice use case would generate much higher benefits for customers in terms of **improved investment outcomes** which are however difficult to quantify. Faster suitability and appropriateness testing would also facilitate switching and lower frictional costs thus increasing competition. It should be stressed that **these are only three illustrative use cases** to complement the macroeconomic analysis, and a more important number of such use cases can expected to be built, and additional benefits to be reaped from them.

ANNEX 5: SCOPE OF CONSUMER DATA UNDER POLICY OPTION B.2 (ACCESS TO SELECTED DATA SETS)

This Annex sets out in greater detail how the scope of the option 'selected data sets' as described in Policy Option B.2 has been determined with respect to consumer data. Policy Option B.2 introduces data access rights for a selected set of data based on a clear benefit of customers (consumers and firms). The criteria for inclusion into the scope of the open finance framework is based on the objective of enhancing customer trust in data sharing (Specific Objective A) and the objective to oblige data holders to share customer data with data users (Specific Objective B). To fulfil these objectives, financial data sets that are in scope must demonstrate: **(1) high value added and innovative potential** and **(2) low financial exclusion risk** for customers.

The objective of the assessment in this Annex is to ensure that categories of personal data included in the scope of Option B.2 allow for innovative products to the benefit of consumers to be developed, while being least intrusive for data subjects in terms of limiting fundamental rights, notably the right to privacy and the protection of personal data[216]. In this respect the assessment leads to the reduction of the scope of data processing under this option, in areas deemed to unjustly limit fundamental rights to privacy and the protection of personal data in line with the proportionality and necessity principles[217]. Notably, a negative impact on fundamental rights is used as an exclusion criterion.

The financial data sets analysed in this annex were identified based on the results of the targeted consultation on open finance. The analysis also draws on the outcomes of the use case work conducted by the Expert Group on Financial Data Space[218]. Where relevant, additional sources are also used[219]. This Annex consists of two sections:

- Section 1 provides an overview of the preferred scope of consumer data based on the above-mentioned criteria.
- Section 2 provides a detailed analysis of the consumer data sets outlined in Section 1.

The purpose of this annex is to assess for key consumer datasets available in the financial sector (1) whether, based on stakeholder feedback, data sharing has the potential for innovative financial products to develop which would provide real benefits for consumers as data subjects, and (2) whether there are sector-specific exclusion risks arising from the use certain data sets. Other risks related to data access are cross-cutting and are therefore directly

[216] Processing of personal data - be it collection, storage, use or disclosure - constitutes a limitation on the fundamental right to the protection of personal data and must comply with EU law.
[217] Article 35 GDPR, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679
[218] The Expert Group report presents a selection of customer journeys and related business requirements in relation to a set of priority use cases on data sharing and reuse. See Part C of the report. Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu).
[219] This includes for example the findings of EIOPA's open insurance consultation, Feedback Statement on Open Insurance: accessing and sharing insurance-related data | Eiopa (europa.eu)

assessed in the wider strategic approach of Section 5 of this impact assessment. Data security and ICT/cyber risk, for example, are crosscutting issues. Safeguards against these risks are assessed in the policy options.

Section 1: Overview of the preferred scope of consumer data

Financial data	**Value added & innovative potential**	**Low exclusion risk**	**Recommendation to include in option B.2 "selected data sets"[220]**
Banking-related			
Credit and savings account data of a consumer	+	+	In scope
Mortgages-related data of a consumer	+ / -	+ / -	In scope
Data concerning loans and related creditworthiness assessments (CWAs)			
CWA-related data of a consumer	+	-	Out of scope
Investments-related			
Securities account data of a consumer	+	+	In scope
Insurance-based investment products (IBIPs) of a consumer	+	+	In scope
Investor profile data of a consumer	+	+	In scope
Insurance and pensions-related			
Life insurance data[221]	+/-	-	Out of scope
Nonlife insurance data of a consumer	+	+ / -	In scope
Nonlife insurance data related to medical and health status of a consumer	+/-	-	Out of scope
Public pensions of a consumer	+ / -	+ / -	Out of scope
Occupational pension schemes of a consumer	+	+	In scope
Personal saving plans of a consumer	+	+	In scope

In line with the overview provided by the table above, the financial data sets in the preferred scope of open finance include data on consumers' holdings of savings accounts, securities accounts, investment-related insurance products, occupational pensions and personal saving plans that are all necessary to develop innovative financial services and products such as improved investment advice and investment management tools.

[220] The scope would be subject to a review clause.
[221] With the notable exception of Insurance-based investment products (IBIPs) which are simpler versions of life contracts. See Section 2 of this Annex.

Section 2: Detailed analysis of consumer data in scope

1. **Banking-related data**

Banking-related consumer data consists of information on client accounts of consumers held by financial service providers (credit and savings account data, mortgages-related data). This includes data relevant to the risk and sustainability profile of such products, and data related to consumer mortgage account balances and payment history.

a) Value added & innovative potential for consumers

55% of respondents to the targeted consultation were in favour of introducing new data access rights[222] and 49% of respondents recommended covering banking-related data, including saving accounts, lending and mortgage products, with less than half of that (23%) opposing. These respondents are predominantly business representatives, as 86% of respondents to the targeted consultation represent either a company or business association.

When asked about the innovative potential of the sharing and reuse of data related to credit, savings, and mortgages, stakeholders – data users, data holders and consumer protection authorities - cited several key benefits for customers[223]:

- Better financial advice based on personal financial management dashboards, which could give a 'holistic view' of a customer's financial situation.
- Personalised credit offers that fit a consumer's needs and circumstances, in line with the sustainability of a consumer's debt profile.
- Improved customer journey to access credit based on automated processing. Mortgages can be complex and time consuming: access rights would allow for automated processing that could reduce the burden for consumers to collect the information when choosing or comparing credit offers (mortgage amount, applicable fees and interest, required guarantee, etc).

b) Financial exclusion risk & necessary safeguards

The results of the targeted consultation on open finance indicates some scepticism about access rights to risk assessment data, i.e. credit risk (13%), although a large majority of respondents were also in favour of such access rights (71%).

Mortgages are highly regulated products[224]. However, not every consumer segment faces the same issues related to access to qualitative mortgage credit and therefore exclusion risks vary:

[222] Commission's targeted consultation on open finance.
[223] These benefits were listed in the results of the Commission's targeted consultation on open finance and the report on open finance published by the Expert Group on European Financial Data Space.
[224] The level and amount of information to be provided by the consumers pursuant to the Mortgage Credit Directive (MCD) and EBA Guidelines on loan origination and monitoring.

- introducing access rights to mortgage-related data may promote financial inclusion by creating a better overview of the financial profile of a customer which may increase access to finance for consumers, including those with 'thin credit' files[225].
- introducing access rights to mortgage-related data may increase risks for financially vulnerable consumers[226]. The problem of loan arrears is common among vulnerable consumers,[227]and it is unclear if new services could allow access to cheaper credit at the expense of the ability of consumers to reimburse the credit. There may be situations where the underlying risks are higher to consumers due to possible over-indebtedness[228].

Moreover, mortgages as a particular type of credit market for consumers is particularly sensitive – as outlined by EDPS in its opinion on the consumer credit directive[229]. Some stakeholders caution that the combination of mortgage credit with other financial services (insurance products, payment accounts) also increases complexity and can lead to unfair discrimination[230]. Standard mortgage credits for a consumer may contain sensitive personal data. Given the significant consequences for consumers, it is appropriate that necessary safeguards are in place[231].

c) Result of assessment:

Credit and savings account data: in scope. Introducing access rights related to savings and credit account data (e.g. balance and transaction information) could bring benefits to the consumer. However, a consumer's data related to creditworthiness assessments should be out of scope, given financial exclusion risks (see subsection on CWA-related data).

Mortgages-related data: in scope. Introducing access rights related to mortgage account balances could bring benefits to the consumer. Clear safeguards, such as personal data use perimeters that specify when mortgage-related data should be used for the different types of use cases, would delineate appropriate use of data.

2. Data required for creditworthiness assessments

CWA-related data consists of information collected and held by credit institutions during a loan application process for consumers.

a) Value added & innovative potential for customers

[225] Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu) and McKinsey Global Institute (2021) Financial data unbound: The value of open data for individuals and institutions | McKinsey
[226] Some stakeholders have argued that in the area of mortgages, open finance services may help consumers with a thin credit profile obtain a loan which they would, under traditional credit practices, not be able to receive.
[227] Evaluation of Directive 2008/48/EC on credit agreement for consumers (2020): https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0254
[228] Recital 3, MCD EUR-Lex - 32014L0017 - EN - EUR-Lex (europa.eu)
[229] Microsoft Word - Opinion_consumer credit-final.docx (europa.eu)
[230] BEUC reply to Commission's targeted consultation on open finance. See also Expert Group on European Financial Data Space (2022), Report on open finance (europa.eu)
[231] Recilta 27, MCD EUR-Lex - 32014L0017 - EN - EUR-Lex (europa.eu)

Introducing access rights to CWA-related data related to consumers could promote financial inclusion by opening up access to finance to customers that lack extensive financial history[232].

b) Possible financial exclusion risks

CWA-related data of a consumer are out of scope. Use of such data may create risks for consumers to be targeted with unfair or discriminatory credit offers (e.g. high cost payday loans). As noted in the Consumer Credit Directive, and as stated in the EDPS opinion on the review of the Consumer Credit Directive, unfair practices can misuse personal data in the field of consumer credit, which may have a detrimental impact on the ability of consumers to obtain fair access to credit[233].

c) Conclusion

CWA-related data of a consumer. Out of scope. This data would fall out of scope of the open finance framework to in order to safeguard consumers from being targeted with unfair or discriminatory credit offers.

3. Investment-related data

Investment-related data consists of securities account data of consumers; investor profile data of an individual consumer for the purposes of a suitability and appropriateness assessment, and insurance-based investment products.

a) Value added & innovative potential for customers

Open finance could enable a portfolio-centric approach to investment advice. Enabling data to be shared between financial intermediaries with the customer's permission could prove to be an important element of the customer-centric and portfolio focused approach to investing. 49% of respondents to the targeted consultation were in favour of new data access rights to securities accounts and financial instruments holdings, whereas less than half of that (23%) spoke out against. The majority of respondents (55%) from those who replied and had an opinion[234] believe that access should be granted to all data on all investments. More specifically, the majority of respondents (64%) from those who answered and had an opinion[235] believe that financial intermediaries and other third-party service providers should be able to access data on customers' current investments. These respondents are predominantly business representatives, as 86% of respondents to the targeted consultation represent either a company or business association.

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[232] McKinsey Global Institute (2021) Financial data unbound: The value of open data for individuals and institutions | McKinsey

[233] EDPS Opinion on the Proposal for a Directive on consumer credits, August 2021. EDPS Opinion on the Proposal for a Directive on consumer credits | European Data Protection Supervisor (europa.eu)

[234] 22% did not reply to this question and further 40% had no opinion. 21% of all respondents were in favour of access to all data on all investments.

[235] 17% did not reply to this question and further 18% had no opinion. 41% of all respondents were in favour of access to data on current investments.

When asked about the innovative potential of the sharing and reuse of investment-related data – data users, data holders and consumer protection authorities - cited several key benefits for customers:

- Better investment advice and improved investment outcomes based on a clear understanding of customer's knowledge and experience, financial situation and needs and objectives when investing.[236]
- Improved customer journey to access credit based on automated processing, which can significantly reduce the time required for a consumer to collect information required to complete sustainability and appropriateness assessments.
- Better investment management tools, which would provide an overview of all the assets of a consumer, including information needed for risk profiling. Personal finance management tools are already being developed in the market today but could develop more effectively in the context of greater access to investment-related data.

a) Possible financial exclusion risks

As with other sectors, there is a risk of misuse due to increased data sharing. Insurance-based investment products are a simple version of life contracts that contain personal data. Investor profile data also contains personal data. Clear information tools would also be needed to ensure enable customers to control the use of their data and keep track of whom they have granted access to more effectively. Markets participants would need to adhere to existing guidelines[237].

b) Conclusion

Securities account data and investment profile data of a consumer: in scope, given the benefits in terms of better investment advice and investment management tools.

Insurance-based investment products of a consumer: in scope. However, a consumer's data related to other insurance products on medical and health insurance should be out of scope, given financial exclusion risks (see subsection on insurance).

4. Insurance-related data

Insurance is a key part of a consumer's personal finances and cashflow, and a significant part of retail costs for households. Insurance-related data consist of data on consumers' investment-related insurance products, life insurance, and nonlife insurance products that could be used to develop innovative financial services and products such as improved investment advice and investment management tools.

a) Value added & innovative potential for customers

[236] As per Article 54 (assessment of suitability) and Article 55 (provisions common to the assessment of suitability or appropriateness) of the Commission Delegated Regulation (EU) 2017/565 -: EUR-Lex - 32017R0565 - EN - EUR-Lex (europa.eu).
[237] ESMA guidelines ESMA publishes final guidelines on MiFID II suitability requirements (europa.eu)

49% of respondents to the targeted consultation were in favour of introducing new data access rights[238] related to insurance and pension products should be covered by new data access rights, while only half of that (25%) opposed. These respondents are predominantly business representatives, as 86% of respondents to the targeted consultation represent either a company or business association.

When asked about the innovative potential of the sharing and reuse of data related to insurance, stakeholders – data users and data holders - cited several key benefits for customers:

- Easier onboarding evaluation
- The development of personalised tools for consumers, such as insurance and financial management dashboards. This could help consumers better manage their risks, get better prices and assist in the avoidance of double insurance or underinsurance.
- Easier switching
- Greater transparency
- Better comparative services that match a consumer with more appropriate insurance products that can decrease risks in personal finance.

From EIOPA's perspective, useful use cases could include pricing and underwriting, claims management, product comparison, or new forms of advisory services.[239] This would benefit consumers through increased transparency and efficiency, better-tailored products and giving consumers a better understanding of risks, which could allow them to select more appropriate insurance products. The majority of respondents to the EIOPA consultation (consumers and insurance-related stakeholders) confirmed these benefits[240].

b) Possible financial exclusion risks

Open finance products and insurance could also help to reach new consumers and work against financial exclusion, e.g. by offering new/increased coverage[241]. However, more data use can, in some cases, also lead to a risk of higher cost or even further exclusion of customers with an unfavourable risk profile. Particular attention needs to be paid to services with inherent risk mutualisation of insurance, and how the personalisation of products may affect this model. Given the nature of sensitive personal data, overall risks around health data, for example, would be more severe[242]. Access to most forms of life insurance as well as

[238] Commission's targeted consultation on open finance.
[239] EIOPA open insurance discussion paper (2021), European Insurance and Occupational Pensions Authority (2021), Open Insurance.
[240] Response to the public consultation on open insurance (2021), European Insurance and Occupational Pensions Authority (2021), Open Insurance.
[241] EIOPA open insurance discussion paper (2021), p. 25 European Insurance and Occupational Pensions Authority (2021), Open Insurance.
[242] According to EIOPA, overall risks regarding open insurance might be much more severe than regarding open banking, e.g. regarding health data. EIOPA open insurance discussion paper (2021), p. 26 European Insurance and Occupational Pensions Authority (2021), Open Insurance.

health and medical data may make it difficult to protect clients who do not get insurance or have to pay unreasonably high insurance premiums due to their 'unfit' risk profile[243].

c) Conclusion

Data on health and medical insurance products related to accident and sickness as outlined in Annex I (non-life insurance) and Annex II (life insurance) to Directive 2009/138/EC: out of scope. Scoping out high-risk data sets, such as data related to life and medical insurance, will act as a safeguard to limit the impact on fundamental rights.

Data relating to other insurance products listed in Annex II to Directive 2009/138/EC: in scope. Strong potential for innovative products.

5. Pensions-related data

Pensions is a key part both of social protection and a consumer's personal finances. Public pensions are not a financial product and are therefore not covered by this initiative. Beyond public pensions, pensions-related data consists of data on customer savings and products related to occupational and personal pensions that could be used to develop innovative financial services and products such as improved investment and savings advice and, in case of personal pensions, investment management tools. This includes savings in pension funds, insurance-based pension products or other financial vehicles with the primary purpose of retirement saving.

Data on insurance and pension products related to consumers held by financial service providers, including:

- For occupational pensions: institutions for occupational retirement provision (IORPs)[244]
- For personal pensions: financial undertakings authorised to manufacture and distribute Pan European Pension Products (PEPP providers);
- For occupational and personal pensions, life and non-life insurance undertakings activity in scope of Solvency II[245];
- Other financial undertakings involved in occupational or personal pension products regulated at national level.

a) Value added & innovative potential for customers

49% of respondents to the targeted consultation were in favour of introducing new data access rights[246] related to insurance and pension products should be covered by new data access

[243] EIOPA open insurance discussion paper (2021), p. 33 European Insurance and Occupational Pensions Authority (2021), Open Insurance.
[244] Directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs) (recast) EUR-Lex - 32016L2341 - EN - EUR-Lex (europa.eu)
[245] Regulation (EU) 2019/1238 of the European Parliament and of the Council of 20 June 2019 on a pan-European Personal Pension Product (PEPP) EUR-Lex - 32019R1238 - EN - EUR-Lex (europa.eu)

rights, while only half of that (25%) opposed. These respondents are predominantly business representatives, as 86% of respondents to the targeted consultation represent either a company or business association.

In terms of value added and innovative potential for customers related to increased access to pensions data, stakeholder feedback from pension providers from the targeted consultation[247] and the analysis of the Expert Group on European Financial Data Space, cited several key benefits for customers:

- Personal finance management tools and investment advice: data related to retirement income and pension entitlement is an important part of a customer's financial profile, and asset managers could include these to provide consumers with a holistic overview of assets. Having access to pension-related data could provide more holistic overview of an individual's saving situation and thus enable improved investment advice and investment management tools.
- Pension tracking: open finance can help develop pension tracking tools that provide savers with a comprehensive overview of entitlements and retirement income both within specific Member States and cross-border in the Union in terms of occupational and personal pension savings. Pension tracking tools play an important role for consumers in projecting retirement income and stimulating financial awareness and planning.[248] The majority of all professional respondents to the targeted consultation indicated that pension tracking tools that provide a comprehensive overview of entitlements would be beneficial for retail customers (54%).[249]
- Improved user friendliness of pension services that require data from several pension providers; by reducing the manual collection of information. This also includes pension investment tracking on behalf of pension participants and enhanced communication with pension participants regarding the ESG impact of these investments.

In line with the above, individual stakeholders argue that websites comparing personal pension products and pension tracking services could 'provide transparency on pension entitlements' and could 'support people's retirement planning process' by providing a consolidated overview of an individuals' retirement assets.[250]

b) Possible financial exclusion risks

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[246] Commission's targeted consultation on open finance.
[247] Notably the response of the Federation of the Dutch Pension Funds (Pensioenfederatie) to the Commission's targeted consultation on open finance.
[248] CMU initiative on pension tracking / autoenrollment. Several Member States have already developed pension tracking tools that enable clients to get a comprehensive overview. In Denmark, the public pensions platform is used by 1.6 million Danes who got 20.5 million personal pension data deliveries, SOURCE pensionsinfo.dk. The Commission supports the development of a European Pension Tracking System (ETS). As argued by the Pensioenfederatie, 'an Open Finance Framework 'could help eliminate legal and practical obstacles that currently block the establishment of an ETS by stimulating fair data access, data security, data portability and privacy.'
[249] Commission's targeted consultation on open finance.
[250] Commission's targeted consultation on open finance.

Appropriate action is needed to further improve complementary retirement savings without, however, calling into question the major importance of social security pension systems in terms of secure, durable and effective social protection, which should guarantee a decent standard of living in old age and should therefore be at the centre of the objective of strengthening the European social models.[251]

The impact of introducing access rights depends on the type of pension data. Notably any opening of data must respect collective agreements and social rights.

- Public pensions form part of social security and are administrative data. Member States should retain full responsibility for the organisation of their pension systems as well as for the decision on the role of institutions providing occupational pensions.[252] The assessment of the benefits of sharing data on public pensions therefore rest with the Member States, as public pensions are beyond the scope of this initiative which targets financial intermediaries.
- Occupational pensions are distinct financial market products, as they are embedded in social and labour law of Member States and often based on collective bargaining. Any opening of data should take into account the outcomes of collective bargaining agreements. Occupational pensions are not contracted individually by consumers and therefore the use of data does not involve financial exclusion risks.
- Personal pension products: Such products are financial products which supplement public and occupational pensions and have the objective to ensure retirement income beyond basic pension needs. In the cases of complex products (e.g. pension), switching between products and/or services could on one hand help consumers make effective use of these services and make responsible choices that meet their expectations. On the other hand, it could also give rise to potential risks, such as misleading/wrong financial advice and in worst case misselling of products to the customer/consumer. Pension products are not always directly comparable with products offered by another financial institution. Some stakeholders in the pensions sector argue that switching can potentially have negative consequences for the customer /consumer.[253] Data about consumers' actual pension holdings based on existing contracts on the other hand would involve little financial exclusion risks.

Pensions data can contain sensitive personal data of consumers. The type of consent required for processing of this information may need to rely on Article 9 GDPR.

c) Conclusion

- Data related to a consumer's public pensions: out of scope. Public pensions fall under exclusive national competence as recognised by the Treaties.

[251] Recital 8 IORP II Directive, EUR-Lex - 32016L2341 - EN - EUR-Lex (europa.eu)
[252] Recital 19 IORP II Directive, EUR-Lex - 32016L2341 - EN - EUR-Lex (europa.eu)
[253] They indicate that risks related to switching can be intensified if enriched/inferred data is shared with other market actors and/or third parties, without insight into the data models. Insurance and Pension Denmark's response to the Commission's targeted consultation on open finance.

- Data related to a consumer's occupational pensions: in scope. Occupational pensions plays a significant role in the wealth profile of a consumer. Knowing this data could provide more holistic overview of an individual's saving situation and thus enable improved investment advice and investment management tools. Introducing access rights to data related to occupational pensions is without prejudice to national social and labour law on the organisation of pension systems, including membership of schemes and the outcomes of collective bargaining agreements.[254] With regard to costs, mitigating measures will support SMEs as data holders (see Annex 8).
- Pension risk assessment and other enriched data in relation to personal pensions related to a consumer: out of scope, as these data may involve financial exclusion risks.
- Other data in relation to personal pensions related to a consumer, in particular data about consumers' actual pension holdings based on existing contracts: in scope, as these data are unlikely to lead to an exclusion, and have a high potential for pension tracking and investment advice products.

Section 2.2: Examples of use cases based on selected data in scope

Based on the assessment of Section 2.1, Section 2.2 illustrates how the selected data sets determined to be in scope of Policy Option B.2 could be used in open finance use cases, notably for providing personal finance management and investment advice, and developing insurance dashboards.

Table 1: Personal finance management and investment advice[255]

Data related to client's knowledge and experience and investment objectives	
Data type	**Detail**
Client's knowledge and experience	Data sets collected for appropriateness assessments[256]:
Suitability/demands and needs	Investor profile data collected when performing suitability assessment/demands and needs test (i.e. investment objectives, time horizon, risk preferences, including sustainability preferences, ability to bear loss)
Data related to a person's financial assets (securities accounts and savings accounts data)	Aggregate information on funds and total holdings as well as individual information on each asset held, specifying asset type, value, number of shares, costs and charges, dividend payments.
Data related to personal savings plans	Detailing the fund identifier and name, value of holdings, pay-ins (and outs if any), return, fund structure, costs, underlying assets (or fund exposure). Data on the conditions applicable to contribution to such funds (enrolment) and redemption. For Pan-European Pension Products (PEPP), data on acquired rights per Pension Benefit Statement.

[254] Recital 35 IORP II Directive, EUR-Lex - 32016L2341 - EN - EUR-Lex (europa.eu)
[255] As per sustainability and appropriateness assessments, data sets would be required on (i) client's knowledge and experience, (ii) financial situation and (iii) investment objectives. See Article 54 (assessment of suitability) and Article 55 (provisions common to the assessment of suitability or appropriateness) of the Commission Delegated Regulation (EU) 2017/565 -: EUR-Lex - 32017R0565 - EN - EUR-Lex (europa.eu)
[256] Article 55(1) of the Commission Delegated Regulation (EU) 2017/565 -: EUR-Lex - 32017R0565 - EN - EUR-Lex (europa.eu)

Data related to occupational pensions	Key data that feeds into the Pension Benefit Statement (PBS) or equivalent, i.e. pension plan number, name/identifier, value of holdings, pay- ins by the individual/ employer and pay outs if any), returns, costs, types of assets held (or fund type).
Insurance based investment products (IBIPs)	Data on the contract/product of the insurance contract in terms of premium, guarantees, risk return profile, value of holding, pay-ins and outs, return, underlying assets (profit participation, united linked or hybrid), duration, expected redemption value, cost.
Deposits in bank accounts	Data on funds deposited with the bank

Table 2: Insurance dashboards for consumers

Data type	**Detail**
Data on insured assets	Data collected for the purposes of the demands and need test.
Non-life insurance contract/products	Data on aspects of the insurance contract in terms of terms of underwriter, contract term, renewal, premium (frequency), franchise, risk coverage (with itemization of the main parameters), exclusion clauses.
Insurance based investment products (IBIPs)	Data on the contract/product of the insurance contract in terms of premium, guarantees, risk return profile, value of holding, pay-ins and outs, return, underlying assets (profit participation, united linked or hybrid), duration, expected redemption value, cost.

ANNEX 6: COHERENCE OF PREFERRED OPTION BUNDLE WITH OTHER RELEVANT LEGAL FRAMEWORKS AND INITIATIVES

This Annex provides an analysis on coherence with relevant legal frameworks and initiatives, notably on how these legal frameworks apply to the preferred policy bundle of the open finance framework as described in Section 6 of the impact assessment.

- Data Act proposal

The Data Act proposal introduces an obligation on data holders to make available to the user, or to third parties at the request of the user, Internet of Things (IoT) data generated by the use of products or related services (Article 3, 4 and 5 of the Data Act proposal). While such data are typically outside the scope of the open finance framework, financial institutions may be potential beneficiaries of this access right, e.g. financial institutions that are active in aftermarket data-driven services related to IoT products. In view of promoting a level playing field, DMA gatekeeper undertakings cannot be eligible beneficiaries of the IoT data access rights established by the Data Act.

To enable greater **business-to-business data sharing across the economy**, the Data Act proposal introduces a judicial control against unfair data sharing contractual terms unilaterally imposed on SMEs (Article 13 of the Data Act proposal). This control will fully apply in the financial sector. The open finance framework does not introduce any additional measures to deal with unfair contractual terms. Any contractual terms dealing with data sharing in the scope of the open finance framework scope, including collective contractual schemes, would have to abide by such control mechanism.

Article 34 of the Data Act proposal may also be used by the Commission to develop **model contractual terms** on data access and use to assist parties in drafting and negotiating contracts. As the challenges related to contractual negotiations have shown to be a significant obstacle to data sharing in the financial sector, the open finance framework complements this with a requirement for financial institutions to be part of collective contractual schemes on data access (preferred Option C.1), which may be built upon these model contractual terms.

The Data Act proposal establishes horizontal obligations (Chapter III, Articles 8 to 12) where, in business-to-business relations, data holders are legally obliged to make data available under Union law or national legislation implementing Union law. As currently no such obligations exist in the financial sector beyond payment accounts data, the open finance framework will introduce sector-specific access rights that **activates these key provisions** of the Data Act proposal. These Data Act provisions are activated by the introduction of a new **legal obligation** on financial institutions acting as data holders to share defined categories of customer data in scope (preferred Option B.2).[257] In particular, Article 9 of the Data Act proposal which introduces reasonable **compensation** for data access would apply (preferred

[257] Provisions in Chapters III and IV of the Data Act proposal apply where a data holder is obliged to make data available under Union law or national legislation implementing Union law. See Article 8(1) and Art 12 (1) of the Data Act proposal, EUR-Lex - 52022PC0068 - EN - EUR-Lex (europa.eu)

Option D.3). SMEs acting as data users would be able to access customer data at cost, in line with Article 9(2) of the Data Act proposal. Article 8 on conditions under which data holders make data available to data recipients, Article 10 on dispute settlement, Article 11 on technical protection measures and provisions on authorised use or disclosure of data and Article 12 would also fully apply.

- General Data Protection Regulation

The GDPR provides for general rules regarding the processing of personal data related to a data subject to ensure the protection of personal data, as well as the free movement of personal data. The GDPR includes obligations for controllers (entity determining purpose and means of the processing) and establishes rights of a data subject, including the right to data portability[258] and the requirement to ensure the security of processing. The preferred policy bundle for the open finance framework will designed in full compliance with the GDPR.

The open finance framework introduces a new **legal obligation** on financial institutions acting as data holders/controller to share defined categories of data **at request of the customer** (preferred Option B.2). The legal obligation on data holders is triggered once the consumer as a data subject has requested his or her data to be shared with the third-party service provider. A data subject's relationship with the third-party service provider is based on agreement of the data subject on the use of personal data for the service provided/requested.[259] The processing of personal data in open finance is limited where there is a valid ground for processing under Article 6(1) GDPR[260] and, when applicable, where the conditions of Article 9 GDPR on the process of special categories of data are fulfilled.

The **scope** of the open finance framework (preferred Option B.2) has been selected in a manner which is least intrusive for data subjects in terms of limiting their fundamental rights, notably the right to privacy and the protection of personal data (Annex 5).[261] In this respect the assessment of the preferred scope leads to the reduction of the scope of data processing under the preferred option, in areas deemed to unjustly limit fundamental rights to privacy and the protection of personal data in line with the **proportionality** and **necessity principles**.[262]

In line with the Data Act proposal, the introduction of a **legal obligation** on data holders to share defined categories of data at the request of the customer (preferred Option B.2) complements the data subject's **right to data portability** under Article 20 GDPR.[263] Unlike

[258] Under Article 20 of the GDPR, the data subject has the right to receive their personal data held by a controller and transmit it to another controller, or to have the data transmitted directly from one controller to another where technically feasible.
[259] This is also in line with Article 5 of the Data Act proposal.
[260] In particular when personal data is processed based on consent as per as per Article 6(1)(a) GDPR or for the performance of a contract as per Article 6(1)(b) GDPR.
[261] Processing of personal data - be it collection, storage, use or disclosure - constitutes a limitation on the fundamental right to the protection of personal data and must comply with EU law.
[262] Article 35 of the GDPR.
[263] See Recital 31 of the Data Act proposal.

the requirements of technical feasibility provided for in Article 20(2) GDPR[264], the preferred option for the open finance framework mandates and ensures the technical feasibility of third-party access for all types of data coming within its scope (preferred Option D.3), whether personal or non-personal. On **compensation**, open finance framework requires data holders to put in place APIs to access all types of data in scope against compensation for making data available (preferred Option D.3). In line with Article 9 of the Data Act proposal, the data holder may set reasonable compensation to be met by third parties, but not by the user, for any cost incurred in providing direct access to customer data.[265] Compensation is strictly limited to the cost of infrastructure: the data holder shall always make available free of charge to the user. Such approach is comparable with Article 12(5) GDPR, when data subject is exercising his or her rights under the GDPR.

The preferred option bundle requires market participants to develop common standards for customer data as part of schemes (preferred Option C.1). Common standards under open finance will respect the **requirements on processing for personal data** under the GDPR where personal data is concerned**.** The GDPR mandates data protection by design and default (Article 25 GDPR) in particular to ensure data minimisation and requirements on the security of processing (Article 32 GDPR) related to the sharing of personal data[266]. These requirements will apply to the processing of personal data in an open finance framework.

The introduction of **data processing control tools** in the preferred option bundle, notably open finance permissions dashboards and personal data use perimeters (preferred Option A.3), will strengthen the framework of sharing and use of personal data that fall in the preferred scope of the open finance framework. These control tools will strengthen the means of data subjects to control and manage the use of their data as envisaged by the GDPR.[267] The aim of personal data use perimeters would be to detail how categories of personal data in scope of the open finance framework can be used, in line with the data protection principles of **data minimisation** Article 5(1)(c) GDPR and **purpose limitation** in Article 5(1)(b) GDPR.[268] Personal data use perimeters would also contribute to the obligation of data controllers to demonstrate compliance with the GDPR in line with the principle of **accountability** under Article 5(2) GDPR.

Clarity on the **attribution of liability and dispute resolution** in the open finance framework (preferred Option D.3) would focus on addressing B2B liability between the data holder and the data user. Article 82 GDPR, which provides for the right of a data subject to seek

[264] Article 20(2) GDPR states that the data subject shall have the right to have the personal data transmitted directly from one controller to another 'where technically feasible'.
[265] See Recital 31 Data Act proposal
[266] Article 32-24 GDPR establishes security measures which the controller and processer must adhere to when processes personal data.
[267] As per recital 7 GDPR, giving natural persons as data subjects control over their own data is one of the main objectives of the GDPR.
[268] Moreover, in the context of open banking under PSD2, the EDPB has clarified what appropriate technical safeguards and lawful grounds under GDPR Article 6(1) may be used when processing so-called 'silent party data'. These guidelines may also be important if silent party data is processed by controllers in an open finance context. See EDPB Guidelines 06/2020 on the interplay of the Second Payment Services Directive and the GDPR (2020), https://edpb.europa.eu/our-work-tools/our-documents/guidelines/guidelines-062020-interplay-second-payment-services_en

compensation for infringements made by a data controller or processer, such as personal data breaches, would not be affected by and would apply to the open finance framework.

- Digital Markets Act

The Digital Markets Act (DMA, entered into force on 1 November 2022) establishes new data-sharing requirements to tackle the market power of gatekeeper platforms and level the playing field in digital markets. Article 6 of the DMA requires gatekeeper platforms to ensure real time access to data provided or generated on the platform by business users and consumers. This gives financial incumbents and new entrants greater reciprocity in data sharing including the possibility to offer, at the request of the customer, value added services based on relevant customer data generated in the context of the customer's use of core platform services.

- Data Governance Act

The Data Governance Act (DGA, entered into force on 23 June 2022) is focused on increasing trust in voluntary data sharing. It establishes a harmonized framework to overcome legal and technical barriers to data sharing, including by setting up appropriate mechanisms for control by data subjects and data holders over data that relates to them. It also improves interoperability between sectors and common European data spaces.

The DGA creates a framework for providers of data intermediation services, as defined by Article 2(11). The exercise of data access and use rights, including those established by the Data Act proposal and the open finance framework, are complementary to the DGA framework, and can be facilitated by such providers of data intermediation services. In this context, data intermediation services providers could provide open finance dashboards (preferred Option A.4).

Where applicable, and in full compliance with the GDPR so far as the processing of personal data is concerned, the standardisation promoted by the open finance framework will be based on and be consistent with the cross-sectoral standardisation rules and initiatives introduced by the Data Governance Act, such as the European Data Innovation Board.

- Revised Payment Services Directive (PSD2)

A review of PSD2 on the application and impact of EU rules on payment services, which is accompanied by a legislative proposal to adjust the PSD2 ("PSD3") is being proposed in parallel to this initiative (see dedicated impact assessment).

Open finance and PSD2/PSD3 are separate initiatives because the types of data concerned are substantially different, and the policy measures required to improve an already existing system of data sharing under PSD2 are different from those needed to build a new regulatory system for other parts of the financial sector, and the PSD3 proposal includes other payment related issues beyond open banking. Moreover. the review of PSD2 also evaluates the larger regulatory EU framework on electronic payments. This includes for example the effectiveness of rules to prevent payment fraud and a level playing field between banks and non-banks regarding access to payment systems.

The preferred policy bundle builds upon and complements the already existing 'open banking' provisions under PSD2 that regulate access to and processing of customer data held by account servicing payment service providers (ASPSPs). It builds on the lessons learned on 'open banking' as identified in the review of PSD2 (as set out in problem definition in Section 2 and the analysis of the policy options in Section 5). It is also fully consistent with the legislative proposal to adjust the PSD2 ("PSD3").

The table below provides a comparative overview of the approach taken by the preferred policy option for the open finance framework and for open banking (PSD2 and PSD3). It assesses the coherence of the preferred policy bundle of both frameworks based on the four policy objectives of open finance and justifies areas where additional measures are necessary.

Table 1: Comparison of preferred approach for Open Finance / Open Banking under PSD2 and PSD3

OF Objectives	Open Finance (OF) preferred option	Open Banking		Coherence OF / PSD
		PSD 2	PSD 3 preferred option	
Enhance customer trust in data sharing. (A)	Permission dashboards.	-	Permission dashboards.	Same approach OF v. PSD 3
	authorization as a financial information service provider required.	Authorization as a payment institution required.	Authorization as a payment institution required.	Same approach OF v. PSD 2/PSD 3
	Personal data use perimeters	Financial inclusion on payment accounts is ensured by dedicated legislation (Payment account directive).	-	Additional measure necessary in OF as there is no legislation guaranteeing financial inclusion across financial sector
Oblige data holders to share customer data with data users. (B)	Legal obligation to grant direct access to selected customer data sets across the financial sector.	Legal obligation to grant direct access to payments account data.	Legal obligation to grant direct access to payments account data. Specification of the prescribed data, which must be made available to data users.	Same approach OF v. PSD 3
Promote standardisation of customer data and interfaces. (C)	Requirement for market participants to develop common standards for customer data and interfaces as part of schemes.	No requirement for common standards	No requirement for comment standards	OF aims to ensure the market develops standards from the start. This was not the case under PSD2 initially, but standards have in the meantime been developed by the market, hence no need for a requirement under PSD2.
Promote implementation of high-quality interfaces for customer data sharing. (D)	Requirement for data holders to put in place interfaces.	Data holders can either provide dedicated interface or rely on the fallback option of allowing customer interface use.	Requirement for data holders to provide data users with a dedicated open banking interface for data access.	Same approach OF v. PSD 3.

	Access to interfaces is based on a contract, as part of the contract data holder can ask data user for compensation for making data available.	-	Data covered by PSD2 will continue to be available without a contract and hence without any compensation	OF is based on the Data Act which provides for contractual access, and as significant new investments are required to put in place interfaces compensation will be a strong incentive for data holders to ensure development of high-quality interfaces.. PSD3 will remain based on its current model, as the costs of changing existing system, including moving to a contract based model would be significant, and the justification for compensation is less strong since investments have already been made and interfaces are already in place,.

- Digital Operational Resilience Act (DORA)

The preferred option bundle indicates that data users authorised as Financial Information Service Providers (FISPs) would become subject to DORA to ensure they have high operational resilience standards in place (preferred Option A.3).

FISPs would be subject to the proportionality rules set out in DORA and have in place an internal governance and control framework that ensures an effective and prudent management of ICT risk, in accordance with requirements on ICT risk management framework in Chapter II of DORA.[269] This includes having comprehensive capabilities to enable a strong and effective ICT risk management, as well as specific mechanisms and policies for handling all ICT-related incidents and for reporting major ICT-related incidents.

Moreover, the digital operational resilience testing programme referred to DORA shall provide FISPs, in accordance with the criteria set out in Article 4(2) of DORA, for the execution of appropriate tests, such as vulnerability assessments and scans, open-source analyses, network security assessments, gap analyses, physical security reviews,

By becoming subject to DORA, FISPs will ensure that their regulation covering their governance and organisation would be robust in order to carry out their data use activity in the financial sector.

- Coherence with other legal frameworks and initiatives

As outlined in Section 1.3 of the Impact Assessment, the preferred policy bundle of open finance ensures compliance with the following legislation:

[269] Article 5 – Article 16 of DORA. EUR-Lex - 32022R2554 - EN - EUR-Lex (europa.eu)

- Capital Markets Union, including the objective of the SME referral scheme and the development of pension dashboards and national pension tracking systems[270]
- Proposed Retail Investment Strategy, which aims at increased retail investment participation across EU capital markets
- Proposal for a Regulation laying down harmonised rules on artificial intelligence (Artificial Intelligence Act)
- eIDAS Regulation, and the Proposal for a Regulation establishing a framework European Digital Identity
- Proposal for a Regulation establishing a European Single Access Point (ESAP)
- Strategy on supervisory data in EU financial services
- Relevant non-financial legislation, which includes common the development of data spaces as defined in the European strategy for data (see examples below)

Energy: the EU **Electricity Regulation** requires transmission system operators to provide data to regulators and for resource adequacy planning, while the EU **Electricity Directive** foresees transparent and non-discriminatory procedures for access to consumption data based on interoperability requirements for data exchange developed by the Commission. The proposed revisions of the Renewables Energy Directive[271] and of the Energy Performance of Buildings Directive[272] include provisions on accessing data needed for smart-charging electric vehicles and data originating from (smart) buildings[273]. More generally, the proposed Data Act[274] establishes general principles on data access and clarifies the users' right to access and use the data generated by their products, including the right to share it with third parties. Links will also be made between open finance and the common European Energy Data Space[275], set to be established by 2025.

Transport: the repair and maintenance information from motor vehicles is subject to specific data access/ sharing obligations under type approval legislation. In the framework of the **Intelligent Transport Systems Directive**[276], delegated regulations specify the range of data and the related procedures for the provision of road safety-related minimum universal traffic information as well as data for EU-wide real-time traffic information services. In air traffic management, non-operational data is important to improve inter-modality and connectivity: such data would fall under the Data Act framework. However, operational data still come under the specific regime defined in the framework of the **Single European Sky**[277]. In vessel traffic monitoring, tracking and tracing data such as estimated/actual time of arrival/departure of vessels is important to improve inter-modality and connectivity (port call optimisation): such data would fall under the specific regime defined in the **Vessel Traffic Monitoring and**

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[270] Commission Communication on the Capital Markets Union, 'delivering one year after the Action Plan' (2021) EUR-Lex - 52021DC0720 - EN - EUR-Lex (europa.eu)
[271] COM(2021) 557 final
[272] COM(2021) 802 final
[273] Data regarding the building energy performance, data from the building automation and control systems, meters and charging points for e-mobility.
[274] COM(2022) 68 final.
[275] Commission Staff Working Document on common European data spaces (SWD(2022) 45 final)
[276] 2010/40/EU
[277] EC N° 549/2004, 550/2004 and 551/2004

Information System Directive[278] and the High-level Steering Group for Governance of the Digital Maritime System and Services[279].

[278] 2002/59/EC
[279] Commission Decision (EU) 2016/566 of 11 April 2016 on establishing the high-level steering group for governance of the digital maritime system and services.

ANNEX 7: EXAMPLES OF USE CASES

Box 1: Use case on SME financing

SMEs frequently face challenges accessing credit and are exposed to higher transaction costs and risk premiums than larger enterprises. On the supply side, lenders often lack sufficient information to adequately assess SME creditworthiness, price credit risk and tailor financial products. Indeed the majority of active respondents (80.6%) to the targeted consultation believe that there is insufficient SME data accessible today, and that contractual access to data is required for SME creditworthiness assessments.

Currently, primary data collection from SMEs during a loan application process is costly and may not deliver all the relevant data. Only a small minority of respondents (28.6%) to the targeted consultation believe that data required for SME creditworthiness assessment is readily available from a technical perspective. Indeed, the majority of active respondents (68.6%) believe that the required data for SME creditworthiness assessments are not sufficiently standardised either by market operators, or via existing regulation.

Open finance can help address the SME funding gap by making SME data available and accessible. It can enable digitally-focused SME lenders such as credit institutions and alternative providers to put SME data to use and offer faster, easier and better-tailored financing solutions that SMEs seek. The majority of active respondents to the targeted consultation (71.4%) see the benefits of having a referral scheme for SMEs through an API-based infrastructure based on standardised data, giving a financial intermediary access to data held by another financial intermediary, could be effective in helping them secure alternative funding.

The ECB survey on access to finance of enterprises (SAFE) shows a rejection rate for SME bank loans of 4.5%, which translates into some 437,000 rejected loan applications in the euro area per year. Multiplying this figure by the average SME loan request of EUR 83,676 yields the absolute value of the rejected SME loans in the euro area, which is some EUR 36 billion annually. The UK bank referral scheme achieves a conversion rate of 5.7%, i.e. more than 5 SMEs in a hundred referred to other banks received funding in the end. Applying a similar conversation rate would imply that a **European Bank Referral Scheme could help about 25,000 European SMEs obtain additional funding totalling EUR 2 billion each year**.

Lastly, this use case can complement the proposal for a European Single Access Point (ESAP). While the ESAP proposal enables non-listed entities, including SMEs, to make available information on the single access point on a voluntary basis to become more visible to potential investors, not all SMEs may wish to do so. For SMEs who choose not to upload information on the ESAP, open finance can be a complementary route to become more visible and increase access to funding opportunities.

Box 2: Use case on investment advice

Open finance could enable a portfolio-centric approach to investment advice. Enabling data to be shared between financial intermediaries with the customer's permission could prove to be an important element of the customer-centric and portfolio focused approach to investing. The vast majority of active respondents to the targeted consultation (70.8%) representing market participants, agree that enabling customers to share their data on their current investments across financial intermediaries could encourage greater competition and innovation in the provision of investment services.[1] The majority of active respondents (54.5%) also believe that access should be granted to all data on all investments.[1] More specifically, the majority of respondents (64.3%) who answered believe that financial intermediaries and other third party service providers should be able to access data on customers' current investments.[1]

Financial intermediaries would benefit from access to an up-to-date overview of the customer's investments. Applications can range from wealth portfolio management to investment advice – enabling a user to 'shop around' for the most appropriate service from different offerors. According to the final report of the study on *Disclosure, inducements, and suitability rules for retail investors of May 2022*, some EUR 320 million are spent on carrying out interviews with retail investors, recording their replies and discussing their investor profiles as part of the suitability and appropriateness assessments, constituting the most significant cost factor for distributors and advisors of investment, pension and insurance-based products. The interviews take about 15 minutes, with another 5 minutes spent on documenting the agreed investor profile. Provided automatic data sourcing due to open finance would cut the interview process by at least 5 minutes, this would yield annual savings of some EUR 80 million. **Should the effect be cutting the time spent on suitability and appropriateness testing by 10 minutes, this would equal to annual savings of EUR 160 million.**

However, the estimate above only includes direct cost savings. An even more important objective of the investment advice use case would be to make such advice more efficient, thereby contributing to **improved investment outcomes**. Although it is not straight forward to estimate these benefits, they **could be expected to reach a much higher order of magnitude than direct savings**.

Box 3: Insurance dashboard use case

An insurance dashboard, facilitated through open finance, can offer consumers a holistic overview of their insurance underwritings and policies. The use case would be based on consumer agreeing to grant access to their insurance-related data held by financial institutions and insurance providers. Data users would in turn provide the dashboard by aggregating all relevant insurance data on a single consumer interface: ranging from insurable assets (e.g. household insurance, motor insurance) to relevant product information (e.g. personal insurance contract details, risks covered, price, duration of contract). The dashboard is a key use case of open finance, as most of the data that is needed for the use case is not publicly accessible.

An insurance dashboard could improve consumer experience by helping to overcome contractual complexity and presenting information to a consumer in a meaningful way. The overall complexity of the insurance products makes it difficult for consumers to compare and understand the differences between products, their features, risks covered, exclusions, and consequently to choose adequately optimal insurance coverage considering their needs and overall insurance situation (e.g. what is already covered and where they might have personal protection gap). According to EIOPA's recent *Consumer Trends Reports* (2021), consumers are not always adequately informed about the many exclusions and obligations mentioned in their contracts. This includes a lack of clarity in terms and conditions which has raised particular challenges in terms of claims rejections in recent years, e.g. an increase in total claims reject from fire or other damage to property lines of business.

An insurance dashboard could:

- Address complexity by providing a personalised overview to consumers about their insurance underwritings and policies in a simple and understandable manner.
- Increase consumer knowledge and help consumers make effective use of insurance services and responsible choices that meet their expectations.
- Act as a comparison tool that enables the consumer to compare their current insurances to other relevant offerings based on their existing insurance coverage.
- Help work against financial exclusion, e.g. by offering new, more appropriate or increased coverage.

This use case may also be the base for more complex use cases with more functionalities within the dashboard. For example SMEs could also benefit from the dashboard, which could connect directly with the internal systems of the corporation and provide up-to date information on the insurance covers situation and eventually alert when additional cover is needed.

EIOPA's *Discussion paper on open insurance: accessing and sharing insurance-related data* (2021) explored, amongst other open insurance use cases, the merits of an insurance dashboard. This example box draws extensively on the report and EIOPA's work around the insurance dashboard.

ANNEX 8: ASSESSMENT OF HOW SMES ARE LIKELY TO BE AFFECTED

This Annex outlines the impact of the preferred option bundle outlined in Section 6. It further explains the need of SME specific measures to ensure a level playing field and the respect of the proportionality principle (see Subsection IV of this Annex detailed alternative options and mitigating measures). This is in line with the 'SME test' assessment as well as the principles of proportionality embedded in the Commission's SME strategy[280].

The open finance framework is highly relevant for SMEs, who will act as **customers**, **data holders** and **data users** in an open finance framework[281]. As outlined in Section 5 (analysis of the impacts) and Section 6 (overall impact of the preferred option bundle) the impact of these options on SMEs depends on their share in these three stakeholder groups, which is generally very high. SME representation among business customers is extremely high as over 99% of all firms in the EU are SMEs, the number of which reached some 22.5 million in 2020[282]. In view of the average balance sheet size of financial institutions, notably as regards credit institutions, insurance firms and asset managers, their share among **data holders** is estimated at some 40% or 7,000, which is mainly made up of IORPs and about 1,000 investment firms[283]. The number of SMEs among data users is estimated at 650, including 350 FISPs and applying a 20% share to the total investment firm population in the data user sample[284].

Overall, SMEs benefit in the role as **data users** since a significant number of data-driven fintech firms are SMEs. Data is a critical resource for start-ups and SMEs, in particular, with low initial capital.[285] Innovative B2B solutions can contribute to enhancing access to credit or more broadly access to finance for SMEs. This was a potential highlighted by many respondents to the targeted consultation.[286] The innovation gains will help offset the associated costs for SMEs, which are as follows. In their capacity as data holders, SMEs

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[280] Commission Communication, An SME Strategy for a sustainable and digital Europe, COM(2020) 103.

[281] To note that SME stakeholders were consulted in the development of the open finance proposal. SME representatives actively participated in the Expert Group on Financial Data Space which published the report on open finance in October 2022. SME representatives also took part in the targeted and public consultation on open finance.

[282] Eurostat, Annual enterprise statistics by size class for special aggregates of activities. https://ec.europa.eu/eurostat/databrowser/view/SBS_SC_SCA_R2__custom_4687926/default/table?lang=en

[283] According to ESMA data, some 4,000 investment firms are licensed portfolio managers, which are all likely to exceed the EUR 43 million balance sheet threshold of the EU SME definition. The figure of 1,000 firms is approximated by deducting these 4,000 firms from the total 5,040 investment firms that are authorised to receive and transmit orders, representing about 20% of all investment firms in the data holder sample.

[284] This share is equal to the SME share in the data holder sample, and it is applied to the 1,512 investment firms included in the data user sample (see Annex 3). It is also assumed that IORPs would not act as data users and that there are no SMEs among credit institutions and insurance firms.

[285] European Commission (2020). Final Study Report of the Updated European Data Market Study

[286] Only 19.4% of active respondents indicate that SME data is already accessible via regulatory requirements, 71.4% state that data required for SME creditworthiness assessment is not readily accessible from a technical perspective. However, the majority of active respondents (71.4%) think that a referral scheme for SMEs through an API-based infrastructure based on standardised data that gives a financial intermediary access to another financial intermediary's data could be beneficial in sourcing alternative financing options.

would need to put in implement high-quality APIs at the average cost of EUR 7,000 per IORP (on the assumption of joint APIs covering many IORPs) and EUR 100,000 per investment firm. Furthermore, mitigating measures in the latter case would also allow investment firms to rely on third-party APIs or to establish joint APIs in a pooled manner with other SMEs. This cost would be amortised over time by data users through the compensation mechanism. In their capacity as data users, SMEs would thus face the total compensation cost for high-quality APIs implemented by the data holders of some EUR 600,000 per data user, which would however be spread out over a longer period of time and most likely collected on a "pay per API call" basis. In addition, SMEs would face an annual API maintenance cost of EUR 34,400 per data user, which may add some EUR 0.021 to the cost of an API call. Financial Information Service Providers (FISPs) would also need to prepare their application for obtaining a licence, which is altogether estimated at EUR 63,000. They would also be liable to spend some EUR 6,400 per year on a supervisory fee and professional indemnity insurance. As **customers**, SMEs would benefit from the empowerment implied by these options detailed in Section 6, contributing to the trust and readiness of small businesses to share data. The initiative should enable SMEs to access more innovative services at a lower cost, contributing to their competitiveness. One pertinent example with a positive impact on SME financing is presented in Box 1 in Annex 7. On the other hand, mitigating measures may be required when SMEs act as data holders (see Subsection IV of this Annex).

I. Measurement of the impact on SMEs

The overall distribution of the potential costs and of the benefits of the proposal is analysed in Annex 3. It is not possible to estimate the exact impact on SMEs quantitatively with a reasonable degree of accuracy given (i) lack of figures to determine the sample size (ii) asymmetric effects and uncertainty as to data standardisation needs which will vary across both entities and sub-sectors, and (iii) uncertainty as to direct and indirect benefits that would arise for SMEs.

Overall, it is expected that the initiative will benefit SMEs as they will often act as data user or customers. These groups will strongly benefit from the increased efficiency in data transmission. In particular, it will lower barriers to market entry enabling new players to enter the market at lower costs. However, SMEs acting as data holders will be negatively impacted given the costs of API provision and data standardisation. Data standardisation costs are expected to be comparatively lower for new entrants and young SMEs which do not have complex internal IT systems and/or legacy data infrastructure and data formats. The direct costs of API provision however are expected to be in a similar range to larger companies (somewhat lower given decreased complexity of systems but the API still needs to provide the same data).

The analysis below presents an overview of additional elements that may impact SMEs based on data types in scope of preferred option bundle outlined in Section 6 and considers the use of SME specific measures to ensure a level playing field and the respect of the proportionality principle.

1. **Impact on SMEs – data related to creditworthiness assessments**

SMEs as customers: access to SME credit data is **very relevant for SMEs** as customers. The impact would be **strongly positive**, as it may enable small and medium-sized firms to access new sources of finance more easily based on process innovation and service innovation (new service products) (see Box 1 on SME financing in Annex 7).

SMEs as data holders: **Low impact SMEs.** SMEs are not typically data holders, as SME credit data is held by credit institutions.

SMEs as data users: **Relevant for SMEs.** The impact would be **positive**, as innovative services would increase their efficiency whilst data standardisation would offer new business opportunities to SMEs and new market entrants in their capacity as data users. The preferred policy option (Option D.3) would cap compensation for data access at cost for SMEs acting as data users, in line with Article 9(2) of the Data Act proposal.

2. **Impact on SMEs - investment-related data**

Investment-related data consists of securities account data of consumers and firms; investor profile data of an individual consumer for the purposes of a suitability and appropriateness assessment, and insurance-based investment products.

SMEs as customers: Access to investment advice is **very relevant for SMEs** as customers. The impact would be **positive**, as access to investment advice may help in credit provision and improve transparency on investment, which could improve returns on investments (see analysis of CWA-related data in Annex 5).

SMEs as data holders: **Low impact for SMEs,** as SMEs are not typically data holders. Investment-related data consists of securities account data of consumers and firms typically held by larger credit institutions.

SMEs as data users: **Relevant for SMEs.** The impact would be **positive**, as innovative services would increase their efficiency whilst data standardisation would offer new business opportunities to SMEs in their capacity as data users. The preferred policy option (Option D.3) would cap compensation for data access at cost for SMEs acting as data users, in line with Article 9(2) of the Data Act proposal. This measure will increase proportionality and reduce barriers to market entry.

3. **Impact on SMEs - insurance-related data**

Insurance-related data consist of data on consumers' investment-related insurance products and nonlife insurance products that could be used to develop innovative financial services and products such as improved investment advice and investment management tools.

SMEs as customers: Access to insurance-related data is **very relevant** for small and medium sized firms as potential customers of open finance. SMEs as customers stand to benefit from the sharing of insurance-related data, as it can help small firms who seek alternative types of business insurance.

SMEs as data holders: Access to insurance-related data is **very relevant** for small and medium sized insurance distributors as data holders in open finance. Without (see Subsection

IV of this Annex The implementation of infrastructure related to open finance may have a **negative impact** on SMEs distributors, as they would be perceived as burdensome for small insurance and reinsurance distributors in terms of costs and impact on operations.[287] There is a need for proportionality for smaller intermediaries, notably small insurance and reinsurance distributors.[288]

SMEs as data users: Access to insurance-related data is **very relevant** for smaller and medium-sized insurance distributors acting as data users in open finance. With regards to smaller and medium-sized insurance distributors that act as data users, open finance could lead to improve the quality of the data accessible to smaller insurance distributors. The impact would be **positive**, as innovative services would increase their efficiency whilst data standardisation would offer new business opportunities to SMEs in their capacity as data users. The preferred policy option (Option D.3) would cap compensation for data access at cost for SMEs acting as data users, in line with Article 9(2) of the Data Act proposal.

4. **Impact on SMEs - pensions-related data**

SMEs as customers: Access to SME credit data is **very relevant for SMEs** as customers. The impact would be **strongly positive**, as it may enable small and medium-sized firms to access new sources of finance (see use case on SME financing in Annex 7).

SMEs as data holders: Access to pensions-related data is **very relevant** for smaller and medium-sized IORPs acting as data holders in open finance. The implementation of infrastructure related to open finance may be perceived as burdensome for smaller IORPs in terms of costs and impact on operations. Several mitigating measures could ensure proportionality. In particular, IORPs would be allowed to implement APIs at industry level within or across Member States, for example in the context of broader pension dashboards. Moreover, introducing compensation for data access (Option D.3) would allow smaller IORPs to cover remaining costs borne by the IORPs.

SMEs as data users: Access to pensions-related data is **very relevant** for smaller and medium-sized IORPs acting as data users in open finance. Open finance could lead to improve the quality of the data accessible to smaller insurance distributors. The preferred policy option (Option D.3) would cap compensation for data access at cost for SMEs, in line with Article 9(2) of the Data Act proposal.

II. Consultation with SMEs representatives

Representatives of SMEs were consulted as part of this initiative. SMEs participated both in the public and the targeted consultation on open finance: respondents to the targeted consultation of open finance consisted of 85% business associations and firms, of which 57%

[287] Smaller insurance providers and distributors make up a significant section of the EU market. See EIOPA's analysis of small insurance providers in the context of the Insurance Distribution Directive. Report on the application of the Insurance Distribution Directive (IDD) (europa.eu)

[288] This would be in line the proportionality principle in recital 72 of IDD which aims to ensure that the Directive is not too burdensome for small and medium-sized insurance and reinsurance distributors. EUR-Lex - 32016L0097 - EN - EUR-Lex (europa.eu)

identified themselves as SMEs (see Annex 2). In terms of direct engagement, SME representatives in the financial sector are involved as members of the Expert Group on European Financial Data Space. Expert Group published a report on open finance in October 2022 which included as a particular focus on the role of SMEs in open finance, notably SME access to credit, including by developing a use case on 'enhancing SME creditworthiness assessments to improve SMEs financing'.[289] The use case developed by the Expert Group aimed to improve SME CWA to offer them better access to financing based on their online commercial activity and other cross-sectoral data.

III. Alternative options and mitigating measures

One alternative option to mitigate the impact on SME as data holders would be to exclude them from the scope of the obligations to make data available (Options D.2 to D.3). However, this option would have several disadvantages:

- Exclusion would considerably reduce the positive impact of the initiative, as a number of use cases rely on data from all data holders to be pulled together. For example, the investment advice use case or personal financial management tools would only work efficiently if all relevant data on a customer's assets and investments (whether they are held with smaller or larger firms) are comprehensively available for access.
- Exclusion would, from an open finance context, not be consistent in ensuring that all market participants abide by key rules to ensure a level playing field.

Other mitigating measures are available, and an exclusion of SMEs from the scope would therefore not appear necessary:

- First, the preferred policy option of this initiative allows data holders to request compensation from data users for making data available (Option D.3), allowing SMEs to recoup costs.
- Secondly, to further reduce costs for making data available, SMEs acting as data holders could avail themselves to external technology providers which run APIs in a pooled manner for financial institutions and may charge them only a low fixed usage fee and work largely on a pay-per-call basis[290]. This type of service is already operational in the framework of PSD2 and is expected to also be used to comply with the obligations under this initiative. Alternatively, SME data holders to create joint groups of data holders and set up an API jointly, reducing the costs for each of them.
- Thirdly, Options D.2 to D.3 would allow financial institutions to discharge their obligation of making an API available and allow them to rely on an API provided by another institution. For example, an institution acting only as intermediaries for financial products manufactured by other financial institutions such as insurance or investment intermediaries could rely on the interface provided by the financial product manufacturer. As a significant part of SME financial institutions are providing only

[289] Expert Group on European Financial Data Space (2022), Section 11 (p. 57-70). Report on open finance (europa.eu)
[290] VVA, A study on the application and impact Directive (EU) 2015/2366 on Payment Services (PSD2)

such intermediary activity, this would in practice exempt a considerable number of SMEs from the obligation to set up an API.

- Lastly, in line with the EBA opinion on the PSD2 review, Option D.3 would also foresee an exemption from the requirement to provide an API for specialised data holders with niche business models and which do not service retail or SME customers.[291] The European Supervisory Authorities would further specify the criteria for this exemption.

In addition, mitigating measures in Option D.3 related to compensation would ensure proportionality for SMEs as data users. Upon the request of the customer, SMEs acting as data users who would be able to access customer data at cost, in line with Article 9(2) of the Data Act proposal.

[291] "Exemptions from the requirement to provide a dedicated interface/API could be considered for cases where it may be disproportionate to require all ASPSPs to offer a dedicated interface, in particular those that are specialised in niche activities that do not service retail customers. In this respect, the EC could consider mandating the EBA to develop a set of criteria for granting such exemptions." See EBA reply to European Commission's call for advice on review of PSD2 (2022), https://www.eba.europa.eu/eba-replies-european-commission%E2%80%99s-call-advice-%C2%A0-review-payment-services-directive

ANNEX 9: MARKET-DRIVEN OPEN FINANCE INITIATIVES

This Annex provides an overview of the different existing market-driven schemes and initiatives on open banking and open finance. The market-driven initiatives currently in place are at different stages of development and focus on different geographic and thematic areas. The following is a brief overview of some of the initiatives.

API frameworks: Berlin Group and STET

Since 2004, the initiative "Berlin Group" deals with payments interoperability standards and harmonisation. The participants of the Berlin Group belong to the financial sector and their main goal is "to help foster the development of an integrated, innovative and competitive market for retail payments".[292] The implementation of proposed solutions and frameworks of the Berlin group is left to the individual participants. With the NextGenPSD2 API Framework, the Berlin Group has developed an open financial API framework that gives third-party providers the ability to access payment accounts in accordance with PSD2. The same approach is taken by the STET, which has also developed an API standard (STET PSD2 API) that can be implemented by European Account Servicing Payment Providers.[293] Both frameworks are adopted by different financial data holders. Data users are not represented in these schemes, however.

SEPA Payment Account Access (SPAA) scheme

In 2019, the Euro Retail Payments Board (ERPB) established a working group on a SEPA API Access Scheme. The working group focused mainly on payment related services and defined general requirements for such a scheme. On this basis, a SEPA Payment Account Access (SPAA) scheme rulebook was developed and published at the end of 2022. The rulebook includes rules, practices and standards to enable the exchange of payment related data and to facilitate the initiation of payment transactions in the context of premium API-based services provided by data holders to data users.[294] All services are currently classified as optional, while a SPAA Multi-Stakeholder Group (SPAA MSG), including data users, is working on defining a set of mandatory services to be supported by the asset holders. A complete version of the rulebook, including the mandatory services and default business conditions is expected in 2023 .

ISO 20022

ISO 20022 is an international approach to information exchange in the financial services that creates a common language for payments worldwide.[295] ISO 20022 includes more than 400 message types, whereby the messages are grouped into different areas of business. The migration of the messaging standard to SWIFT will take place in March 2023.

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[292] See The Berlin Group - A European Standards Initiative.
[293] See STET - PSD2 API.
[294] See European Payments Council, SEPA Payment Account Access (SPAA) scheme rulebook version 1.0.
[295] See ISO 20022 – Universal financial industry message scheme

National approaches

In addition, there are some initiatives at the national level that are predominantly limited to specific sectors, companies, and use cases. For example, in Germany, Frida is an open insurance initiative that promotes open standards in the area of digital insurance.[296] Several industry initiatives have also formed in the Netherlands. The Data Sharing Coalition consists of participants from a variety of industries, including insurance, and aims to create a cross-sectoral architectural scheme.[297] SBR Nexus is a cooperative that works with the financial sector and the government to develop and publish various data standards for business use.[298] Furthermore, a Dutch pension tracking tool was established in 2011 to make pension data available to pension participants in an integral manner.[299] In addition, Dutch pension providers APG and PGGM are among the driving forces behind the European Tracking Service on Pensions.[300] Similar to the Dutch approach, the industry-wide initiative PensionsInfo in Denmark provides a comprehensive overview of users' pensions and insurances, allowing them, among other things, to calculate their own state pension and certain banking products.[301] In France, the economic interest group Infogreffe facilitate the dissemination of legal and economic information on companies on behalf of all the registries of all French commercial courts.[302]

The broad diversity of initiatives and approaches reflects the demand for greater interoperability. Some of the presented standardization approaches are partly similar (e.g. Berlin Group and STET), but nevertheless all are different. In addition, the initiatives and schemes provide recommendations and frameworks which, unlike binding rules, leave a great degree of freedom for their implementation. Therefore, while the current initiatives are a first step, they are not sufficient to decisively advance a cross-sectoral open finance approach.

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[296] See FRIDA - Die Open Insurance Initiative in Deutschland.
[297] See Data Sharing Coalition.
[298] See SBR Nexus.
[299] See Mijnpensioenoverzicht.
[300] See European Tracking Service.
[301] See PensionsInfo.
[302] See Infogreffe.