Key Considerations for Open Finance

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Acronyms

2FA	two-factor authentication
AML	anti-money laundering
APIs	application programming interface
CFT	countering the financing of terrorism
G2P	government-to-person
MFA	multi-factor authentication
M&E	monitoring and evaluation
MSMEs	micro, small, and medium enterprises
PFM	personal financial management
TPP	third-party provider

Executive Summary

A GROWING NUMBER OF COUNTRIES are considering, designing, or implementing open finance frameworks. Open finance frameworks have the potential to enhance customer empowerment and experience, impact competition in the financial sector, spur data-driven innovation, and improve financial inclusion. Yet open finance can also pose new or enhanced risks, especially as more data is exchanged between financial sector providers. Therefore, public authorities have a critical role to play in carefully designing their open finance framework and ensuring adequate safeguards.

While considerable progress has been made to increase access to financial accounts, there are still significant opportunities to expand the use and benefits of financial services for those who already have accounts. Through open finance, providers can leverage customer data to expand and improve their services, offering personalized savings, credit, insurance, or investment products.

As the development and adoption of open finance becomes a central element of digital financial ecosystems in a growing number of countries, there is a unique opportunity to design open finance frameworks in a way that supports responsible financial inclusion and benefits all parties involved, especially those traditionally excluded and underserved. This document aims to provide high-level considerations for financial sector authorities implementing or looking to implement or improve open finance frameworks. The considerations, listed below, are structured around 10 key elements of an effective open finance framework. While these are presented as distinct elements, it is important to note that the design choices made under one element will impact other elements, and authorities should consider the interplay between different choices as well as the possible trade-offs between different policy objectives.

1. **Objectives – Define the desirable policy objectives and how open finance will contribute to them.** Before starting design and implementation of an open finance framework, it is important to identify which market barriers open finance aims to address, define which policy objectives open finance seeks, outline how open finance will help achieve these, and assess whether the key enabling elements are in place.
2. **Process leadership – Recognize the key role of public authorities as well as the need for collaboration.** Public authorities have a crucial role to play in the design and implementation of open finance, and both collaboration across different public authorities and private-public collaboration are needed.
3. **Governance – Set up effective, transparent, and inclusive governance arrangements.** Governance arrangements should support the objectives sought through open finance, ensure adequate representation of all relevant stakeholders, and help organize and support the ecosystem's operations.
4. **Regulation – Implement risk-based and proportionate regulation that clearly determines the rules for customer-permissioned data access.** The regulatory framework for open finance should determine the rules and conditions for (permissioned) access to customer data, including

ensuring all participants are subject to regulation. If data sharing is mandated, the regulatory framework needs to clarify what data needs to be made accessible and by whom. Guidance may be needed to clarify how relevant existing laws and regulations should be applied in the context of open finance.

5. **Oversight and supervision – Guarantee provision of the necessary enforcement powers and resources for oversight of the ecosystem, as well as proportionate supervision of all participants.** Authorities should have the necessary enforcement powers, mandate, capacity, and resources to articulate and implement an oversight policy to adequately monitor the open finance framework and to subject all relevant entities to proportionate and risk-based supervision.

6. **Consumer protection and data protection – Ensure a robust consumer protection and data protection framework is in place.** A robust consumer protection, data protection, and privacy framework needs to be in place or set up as part of the open finance implementation to build consumer trust, generate positive customer experiences and outcomes, and foster adoption while minimizing potential harm. Obtaining valid consent from data subjects before data is shared, including effectively authenticating the customer, is a defining element of open finance.

7. **Consumer information and awareness – Facilitate consumers' awareness and understanding of open finance opportunities and risks.** Ensuring the public is well-informed about open finance is important in order to support customer adoption and enhance consumer protection. Fostering consumers' financial capabilities and awareness is particularly important for reaching traditionally excluded and underserved segments.

8. **Participation – Enable broad participation of financial services providers.** Broad participation of financial services providers is needed to ensure that as many customers as possible can adopt and benefit from open finance. Reciprocity can offer an incentive to participate. Authorities may also consider mandating participation of large data holders.

9. **Technical infrastructure and architecture – Encourage the use of standardized application programming interfaces (APIs) and a common architecture.** APIs should be standardized to support broad participation, allow for interoperability, reduce costs, and ensure data security standards are met. Centralized and decentralized architectures can be considered, depending on priorities and market conditions.

10. **Pricing – Monitor and influence pricing to support policy objectives.** Pricing can impact development and adoption of open finance products and services. The impact on policy objectives should be considered. Establishing principles for compensation can reduce complexity and support fairness. Certain circumstances or policy objectives may warrant delaying cost recovery or justify free access for data users.

Introduction

OPEN FINANCE[1] IS A FINANCIAL innovation that facilitates customer-permissioned access to and use of customer data held by financial institutions in order to provide new and enhanced services and develop innovative business models. Open finance has increasingly become a topic of interest as countries have realized its value and have focused on developing sector-wide[2] data-sharing frameworks. As a result, a growing number of countries are considering, committing to, or implementing an open finance framework. While higher-income countries were early implementers of data-sharing frameworks, many countries at all income levels and from all regions are now in the process of implementing open finance.

The key policy objectives of countries that have implemented open finance frameworks include spurring innovation, increasing competition, enhancing customer empowerment and experience, and improving financial inclusion. Open finance has the potential to promote innovation by enabling new products, new services, and new business models. Open finance can facilitate data-driven product innovation by increasing the customer data available to a broader group of financial services providers and reducing the cost of accessing that data. It can potentially support competition in the financial sector by enabling more equal access to data for different providers, breaking data silos, reducing information asymmetries, and making it easier for financial services users to compare offers and choose providers. Open finance can empower customers, giving them greater visibility and control over their financial data by enabling them to manage consent to use their data. Moreover, when designed in a user-friendly way, the new products and services powered by open finance can simplify the use of financial services, making them more accessible and better tailored to customer needs. It is important to note that in order to fully reap the benefits of open finance, the risks that come with it will need to be adequately managed. For example, open finance can create opportunities for small players, but it may also enable large players from other sectors to participate. Thus, it is important to monitor the impact on competition.

Open finance should be seen as part of the overall digital finance development journey of a jurisdiction, following key reforms and the development of key financial infrastructure. Jurisdictions ready for open finance typically have a robust financial services provider landscape, with new providers of digital financial services (e.g., mobile money providers, fintechs) as well as banks and other incumbent financial services providers with robust digital

1 Open banking refers to the sharing of customer-permissioned account data by banks with other banks or third parties for the purpose of building and offering applications and services. Open finance goes beyond open banking to cover a broader suite of financial products, such as investments, insurance, and pensions. The main services facilitated through open finance are account information services and payment initiation services.

2 Sector-wide or market-wide arrangements refer to the coordinated frameworks, agreements, and structures established across the financial sector to facilitate the secure, efficient, and standardized sharing of financial data.

capabilities. Building upon this enabling environment, open finance has the potential to support financial inclusion and growth of the financial sector, thereby contributing to expanding the breadth,[3] depth,[4] and utility[5] of financial services. In the last decade, considerable progress has been made to increase access to financial accounts. However, there are still significant opportunities to expand the use and benefits of financial services for those who already have accounts by spurring digital payments and supporting access to and responsible use of credit and other relevant financial services. Open finance can support these opportunities by enabling providers to offer personalized savings, credit, insurance, or investment products. These developments hold promise to support financial health outcomes. They are also relevant to addressing the gender gap in finance.[6]

Open finance allows the use of transaction data for credit decisions, overcoming common limitations of traditional credit reporting systems that rely on formal credit history. Open finance also goes beyond data portability, which provides customers access to their own data and/or the possibility to move their relationship from one provider to another, but it does not always allow for direct transfer between providers, which would ensure the integrity of the data. By having more information about customers' financial lives and the operations of micro, small, and medium enterprises (MSMEs), providers are able to better assess income/cashflow and credit risk and expand credit in line with their risk appetite. Some providers also report reduced loan processing costs due to easier and more reliable access to financial data. This is promising for financial inclusion because limited access to formal credit remains a key challenge for many low-income customers and small businesses.

Open finance may also improve personal (or business) financial management (PFM). Use cases have emerged that look to improve the user experience, consolidate financial information, and offer recommendations. Increased awareness of one's financial situation through account information services can help reduce costs and inefficiencies from overdrafts and idle balances while also facilitating financial planning and budgeting. This, too, may contribute to increasing the financial health of customers. In the case of MSMEs, consolidated information can help in better cash flow and financial management. In some jurisdictions, open finance constructs have been extended to include government records (e.g., value added tax and e-invoices), which are particularly relevant for MSME financing.

Third-party payment initiation, enabled by open finance, can create new propositions that increase the usage of transaction accounts, such as through seamless integration of payment services into e-commerce transactions and social interactions that improve the user experience. Combined with fast payments, payment initiation can offer a lower-cost solution for electronic payment acceptance for small businesses and better user experiences for payers.

While the links to the depth and utility of financial services are stronger, open finance has the potential not only to bring benefits to those with existing access to a transaction account but also to open up new pathways to account ownership (i.e., increase the breadth of financial inclusion). The development of new services can make account ownership more attractive,

3 Breadth refers to the number of customers who have access to and use a financial account.

4 Depth refers to the extent to which customers have access to an expanded suite of financial products and services.

5 Utility refers to the practical benefits and positive outcomes of financial products and services.

6 Women typically face greater financial exclusion than men. While the gender gap in account ownership in developing economies narrowed by 3 percentage points between 2017 and 2021 (from 9 percentage points to 6 percentage points), there are significant differences across regions, with some countries showing worsening gender gaps. Barriers persist and include legal restrictions and disparities based on income, job status, education, urban-rural, gender norms, and other aspects. Women and women-owned firms still lag their male counterparts in accessing finance globally.

and the new providers entering the financial sector can make more efforts to reach those traditionally excluded when looking to grow their customer base. While account ownership is a prerequisite to benefit from open finance services, open finance can be used to scale up application programming interface (API)-based[7] collaborative approaches and business models to serve low-income people.

While the early evidence shows potential for positive impacts, open finance can also pose new or enhanced risks. Increased data sharing and use heighten the potential for fraud, data security, protection, and privacy risks. While the introduction of new financial services providers and new business models can have advantages in terms of innovation and competition, it can also impose new regulatory and supervisory demands. While the entrance of new players can support competition, ushering in dominant players from other sectors (e.g., large technology companies or "Big Tech") and enabling them to gain access to customer data held by financial institutions without providing for reciprocity may hinder competition. Moreover, in the absence of key supporting elements, such as broad access to transaction accounts and widespread use of digital payments, there is a risk that those traditionally excluded will be left further behind. If open finance is not designed in a way that fosters adoption by underserved customers, the inclusion gap could be widened instead of narrowed.

As the development and adoption of open finance becomes a priority and a central element in digital financial ecosystems, there is a unique opportunity to design open finance frameworks in a way that supports financial inclusion and benefits all parties involved, especially customer segments that have been traditionally excluded and underserved.
Open finance is complex, requiring a collective commitment, coordination, and alignment in its design, implementation, and operation. Sound governance and oversight arrangements are critical to ensuring that the desired policy objectives are met and the potential risks mitigated. Although the evidence base from open finance implementations is still limited, countries considering, designing, or implementing open finance can benefit from access to global experience and good practices. Countries can leverage available experience to address key questions early on, while open finance frameworks are being designed, since taking corrective measures ex-post could prove more challenging and costly. These considerations bring together available knowledge and insight on open finance to assist countries exploring, designing, developing, or implementing open finance.

7 APIs encompass a set of encouraged or required rules and specifications for software programs to communicate with each other, forming an interface between different programs to facilitate their interaction.

Approach

THIS WORK AIMS TO PROVIDE high-level considerations for financial sector authorities implementing or looking to implement open finance. While design and implementation should consider the circumstances of each market and be tailored to the defined policy objectives, the considerations in this document are intended to be relevant to most open finance initiatives. To that end, this document articulates 10 key elements of open finance ecosystem design. It highlights connections between different design and implementation choices and potentially desired outcomes. When applicable, the advantages and disadvantages of alternative options are provided. The considerations are based on emerging good practices and existing standards in related areas.

This document focuses on: (i) open finance (instead of open banking or open data[8]); (ii) sector-wide arrangements (instead of individual initiatives[9] or bilateral arrangements); and (iii) country-level data sharing (instead of cross-border).

The contours of data-sharing frameworks within the financial sector and beyond are not always clear-cut. The available experience thus far shows that a phased approach to gradually expand scope has been the norm. Insofar as open banking is often a building block of open finance, the considerations in the document also apply to open banking. While this document does not address the implications of expanding open finance to other sectors (i.e., open data), many of the same considerations will continue to apply as data sharing ecosystems expand. Authorities are encouraged to consider the implications for an eventual open data ecosystem that includes data beyond the financial sector when designing and implementing open finance – while recognizing that participants and stakeholders would change significantly.

"Sector-wide arrangements" refers to coordinated frameworks, agreements, and structures established across the financial sector. These arrangements are put in place to facilitate the secure, efficient, and standardized sharing of financial data. This document focuses on sector-wide frameworks because their design and implementation involve choices and pose specific challenges that authorities need to address. These frameworks also have more significant potential for impact than bilateral or individual initiatives, as they affect the financial sector as a whole instead of only a limited number of players and their customers. Regardless of whether the open finance initiative is led by the industry, led by the regulator, or a hybrid of both, some level of financial sector-wide coordination is needed. Uncoordinated initiatives do not constitute an open finance framework and are not considered part of the open finance definition used in this document.

8 In the context of open finance, open data (sometimes referred to as smart data) refers to an extension of open finance that includes data outside the financial sector, for example, tax data, mobile phone data, or electricity data. The term "open data" can also be used with a different meaning outside the context of open finance.

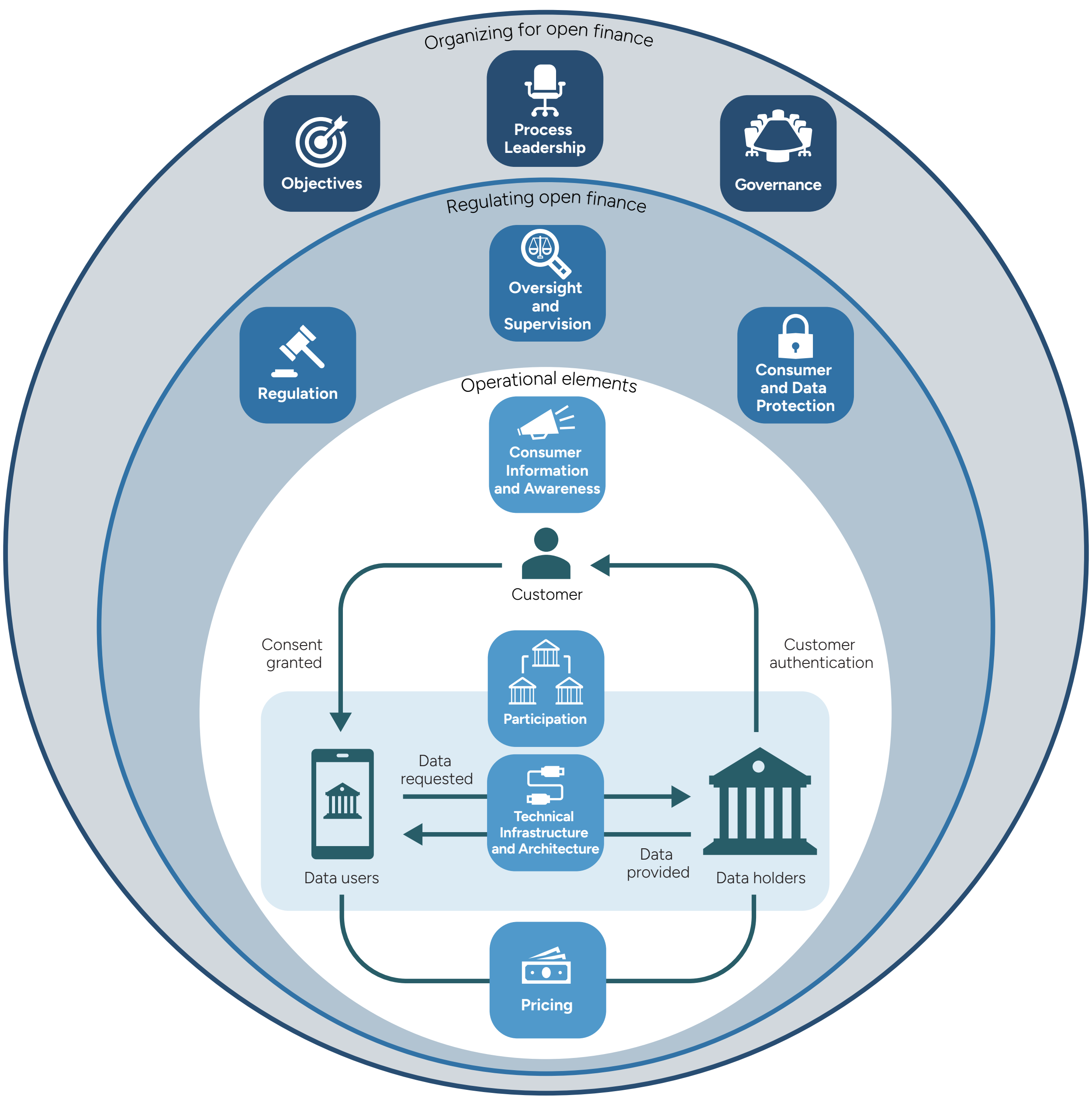
9 Individual initiatives refer to companies accessing data similar to that which would be obtained through an open finance framework, for example, fintechs aggregating financial information through screen scraping of online banking data using a customer's login credentials.

Finally, this document focuses on country-level[10] frameworks because these need to be developed before cross-border connections can be established. Thus far, there is limited experience with cross-border open finance initiatives. Applying the considerations highlighted in this document could contribute to more consistent approaches across jurisdictions, which could facilitate future cross-border efforts.

These efforts could be particularly important for small markets with limited opportunities to scale up on their own, as well as for use cases on cross-border payments and trade.

The considerations are structured around 10 key elements of an open finance framework (see Figure 1).

FIGURE 1. **Key Elements of an Open Finance Framework**



10 Or jurisdiction-level frameworks where relevant.

The elements start with **objectives,** as the policy objectives for an open finance framework in a given jurisdiction should guide design choices. Next, the document covers the **process leadership** and **governance** arrangements that will guide the design and implementation, followed by **regulation, oversight and supervision,** and **consumer and data protection,** which are essential supporting elements that need to be set up (if not already in place) or expanded and updated (where applicable) as part of an open finance framework. **Consumer information and awareness** are also highlighted, as these can impact open finance adoption and financial inclusion outcomes. **Participation** covers considerations related to the different players participating in the ecosystem, including data holders[11] and data users.[12] Lastly, the document addresses considerations around the **infrastructure and architecture** used in the technical design and implementation of open finance frameworks, followed by **pricing** considerations. While these are presented as distinct elements, it is important to note that the design choices made under one element will impact other elements. When designing the open finance framework, authorities should consider the interplay between different choices as well as the possible dynamic trade-offs between different policy objectives.

Authorities implementing open finance can face multiple challenges, including conflicting priorities, limited resources and capabilities, lack of institutional readiness, gaps in regulation that may or may not be within their mandate (like data protection or competition regulation), cybersecurity concerns, and resistance from incumbents. The considerations presented in this document consider these and provide a framework which authorities can use to navigate these challenges.

11 Data holders are entities that hold or possess and manage customer financial data. These entities are responsible for sharing the data securely and responsibly with third parties, often through APIs.

12 Data users are entities that use customer financial data. These can be financial services providers or third-party providers.

Key Considerations

Organizing for open finance

1. OBJECTIVES — Define the desirable policy objectives and how open finance will contribute to them

Having clarity about what policy objectives open finance aims to achieve and how it will do so is an essential first step when designing an effective open finance framework. Before starting open finance reforms, authorities should have a clear vision of the policy objectives they expect to achieve through open finance, as well as a clear articulation of how open finance can help achieve them. Open finance should not be considered the objective itself but a possible approach to addressing existing barriers in the market. Policy objectives should guide the framework's design and help identify supporting elements that may need to be set up or strengthened as part of the implementation. Policymakers should consider open finance as part of a broader financial sector development and fintech strategy, and consider the timing of investing in open finance vis-à-vis the impact of other initiatives while considering enablers and prerequisites. Each country will need to define its objectives based on its broader financial sector goals, its unique market conditions, and its priorities. Some objectives that open finance could support include improvements in competition, innovation, customer empowerment, and customer experience, which can support financial inclusion and increase the depth and utility of financial services. In addition to the high-level objectives, having more granular priorities targeting specific challenges in the market can help further inform decisions and track progress. For example, countries could focus on objectives such as improved access or lowered costs of financing for MSMEs, reduced costs or reduced fraud in new customer onboarding, or expanded insurance coverage for certain risks. Measuring the impact of open finance towards the identified policy objectives through a formal monitoring and evaluation (M&E) framework can support decision-making and foster accountability.

Realizing the potential impact of open finance depends on having key enabling elements in the financial ecosystem; assessing and ensuring their presence is also an essential initial step. If an enabling environment for financial inclusion is not in place, the potential benefits of open finance may only reach a small number of customers, leaving the more vulnerable people behind. In addition to foundations related to technology and infrastructure, legal and regulatory frameworks, and private and public sector commitments, enablers of access and usage of digital financial services are needed. These include transaction accounts that are easily accessible through digital and physical means by most adults; a safe and efficient payment system that is open to different participant types and can accommodate increasing transaction volumes; and efforts to create customer awareness and enhance financial literacy. Some ways in which authorities can support an enabling environment are through initiatives to open and generate use of transaction accounts by financially excluded customers (e.g., digitizing government-to-person [G2P] payments, including public salaries, pensions, and social assistance); through regulation and licensing that supports new player participation (e.g., fintech and digital banking regulation); by supporting the development of a national payment system that offers a competitive alternative to cash (e.g., fast payment initiatives); and/or by supporting the development of digital infrastructure to improve connectivity and expand internet access.

2. PROCESS LEADERSHIP — Recognize the key role of public authorities as well as the need for collaboration

Public authorities have a crucial role to play in the design and implementation of open finance. While open finance can be industry-led, regulator-led, or a hybrid of both, public authorities always have a key role to play. An arrangement driven solely by the private sector may not serve core policy objectives nor fully contribute to all relevant goals. The involvement of public authorities can be particularly important if increased competition is an objective, as it will be harder to meet this objective if providers with a dominant role in the market also have a dominant role in the framework's design. Public authorities can act as a catalyst for the open finance process by determining the policy objectives, making them public and explicit, and supporting an enabling environment to achieve them. Depending on the institutional setup and the design of open finance, authorities may exercise leadership through a multidimensional role, including as regulators and overseers, in their capacity as supervisors of open finance participants, in the context of open finance governance arrangements, and as infrastructure operators. Public authorities can bridge potentially conflicting interests by establishing clear processes, accountability, consultations, and collaboration mechanisms designed to achieve the framework's objectives. It is also important that the public authorities tasked with leading this process have the mandate needed to address all relevant aspects of implementation. Depending on the institutional setup in each country, this can involve more than one authority and could include the creation of a new body or coordination agency or the designation of an existing one.

Collaboration across different public authorities is needed to establish a successful framework. Close coordination between different financial sector authorities (and potentially other authorities, such as data protection authorities) will be needed, especially when a broad range of non-banking financial products is included. Clear mandates and smooth coordination can also help ensure consistency and fairness in regulatory and supervisory requirements across different players, as well as support supervision enforcement efforts and capacity-building through knowledge sharing. Where two or more authorities are involved and/or have responsibilities in the process, it can be helpful to identify the authority with the primary responsibility to drive the process and coordinate with other relevant authorities as appropriate. The leading authority should determine and establish the coordination and cooperation required to assist in regulatory design, implementation, and supervision enforcement to achieve open finance objectives. Coordination could be established through new or existing arrangements.

Public-private collaboration and open dialogue contribute to the implementation of a strong framework. An open consultation process that involves all relevant players from the private sector and nongovernmental organizations is desirable for designing a framework that reflects market realities and gets buy-in from all key stakeholders. An open dialogue with different types of private sector actors can offer the authorities valuable insights for designing an ecosystem that reaches the necessary participation and adoption to achieve its policy objectives. It is important for public authorities to be aware of the setup and operation costs that the framework could pose and the capacity constraints of different stakeholders. Public-private dialogue is also important to understand data holders' concerns on data security and privacy and to clearly establish liabilities, as a lack of clarity on potential liability over data users' activities can deter data holders from engaging with new players and slow down ecosystem growth. Scope, reciprocity, and competition implications should also be considered (see Participation, below).

3. GOVERNANCE ARRANGEMENTS — Set up effective, transparent, and inclusive governance arrangements

An effective governance arrangement must be defined early in implementation – but may need the flexibility to evolve over time. Governance in open finance refers to the arrangements that guide decision-making related to operational, functional, and fiduciary rules and standards for open finance. Governance arrangements and mechanisms are necessary to address sector-wide decisions that involve multiple actors and stakeholders who may have conflicting interests, to define how decisions are made and to ensure the accountability of all participants. Governance arrangements help make operational decisions efficiently, and set common sector-wide functional rules and standards and support compliance with them. It can be beneficial to design the governance arrangement and decide how it will be resourced early in implementation. Open finance governance arrangements can be created ad hoc or by leveraging existing fora or industry bodies. The governance structure can include distinct levels of decision-making, working groups, and dedicated support resources. While a governance model will be needed at any stage, it is likely that the need for decision-making and defining clear rules for the framework will evolve as the system matures. Therefore, authorities may consider revising the initial governance arrangements as the ecosystem develops and allowing for flexibility to adapt governance arrangements to better meet evolving needs.

The governance arrangements should have adequate representation of all relevant stakeholders and support the objectives of the open finance framework. The different types of financial services providers participating in open finance, including data holders and data users, should be represented in the governance model. Representation can be set up by creating groups or constituencies of providers with similar business models (e.g., large banks, medium/small banks, cooperatives/credit unions, payments providers, fintechs, etc.). It could also be beneficial to include an at-large representative and a representative for consumer rights. The governance arrangement should be designed considering the specific objectives and priorities identified for open finance, including granular priorities such as use cases to foster. For example, when increased competition is an objective, an adequate representation of smaller players will be important to limit the decision-making power of dominant players and provide a sufficient voice to small entities. Public authorities play a critical role in overseeing and potentially participating in governance processes to ensure decisions are consistent with policy objectives and to track progress against these, and those authorities may choose to have final approval or veto power over key issues. The governance arrangements can also provide a forum for public-private dialogue (as described in Process Leadership, above), and participation in technical discussions can offer authorities valuable insights into the incentives and challenges of different stakeholders and the implications for customers.

Governance arrangements can help organize and support the ecosystem operations, including by orchestrating third-party provider (TPP)[13] onboarding through directories. Models whereby TPP identity and access credentials checks are assessed individually by data holders can create inefficiencies if each TPP needs to go through the same review process multiple times. This can be particularly challenging for small players with limited resources as well as disincentivizing for incumbents, who may be less inclined to participate in the open finance ecosystem in view of the additional

13 TPPs are organizations or individuals that use APIs to access a customer's accounts, to provide account information services, and/or to initiate payments.

administrative burden and potential liability. These inefficiencies can slow down the ecosystem's growth and shift the balance of power towards incumbents who may delay or deny access to new players, potentially affecting a country's ability to fulfill policy objectives, such as increased competition. Governance arrangements can help set up more efficient shared directories. Governance arrangements can also be leveraged to set up fraud information sharing and scam monitoring agreements between stakeholders. The involvement of a supporting body or an entity created to organize and support the ecosystem under the umbrella of open finance governance arrangements can reduce these risks. An appropriate regulatory and oversight framework will need to be developed for such entities (see Oversight and Supervision, below).

Regulating open finance

4. REGULATION — Implement risk-based and proportionate regulation that clearly determines the rules for customer-permissioned data access

A sound regulatory framework that provides legal certainty to all participants is central to the success of open finance. Open finance requires a sound legal basis consisting of laws, regulations, rules, and procedures that govern the rights and obligations of all parties involved and create an enabling environment for innovation, facilitating new products, services, providers, and business models. The regulatory framework also needs to address new or exacerbated risks by setting clear rules for operating within the open finance ecosystem and for the relevant enforcement mechanisms. It is important to address gaps and overlaps in the legal and regulatory framework so that regulatory arbitrage is minimized and actors have certainty on the framework applied. Collaboration among different regulatory authorities may be needed in order to address the full scope of the regulatory framework. The legal framework should consider implications for competition and potential dynamic trade-offs with other objectives. For example, the participation of Big Techs or telecom operators has different implications at different stages of open finance maturity. Early on, it could be beneficial for large-scale customer adoption and inclusion but could result in the need for intervention should undue market power accrue. Regulation plays a key role in seeking a sensible balance between competition and innovation, and in ensuring that competition thrives to create greater financial inclusion.

The regulatory framework for open finance should determine the scope, rules, and conditions for (permissioned) access to customer data and should ensure these cover all participants. The framework should define: (i) the scope of participants (data holders, data users, intermediaries); (ii) the types of accounts and types of data covered (e.g., payments, savings, loans, investments, and insurance data), as well as the requirements to access that data; (iii) new services based on access to data (e.g., account information, payment initiation services[14]) and new service providers (e.g., account information service providers and payment initiation service providers, sometimes referred to as TPPs); (iv) modes and standards of communication between participants; (v) how they obtain consumer consent; and (vi) other aspects, such as the framework's governance model, if applicable. While the regulation will need to address all relevant areas, some details may need to evolve over time (such as specific technical protocols) and thus may be better addressed through other means, like guidance or governance arrangements. In making these determinations, regulators should be guided by the policy objectives and the market context.

14 Payment initiation services refers to account-to-account transactions in which applications can initiate payments directly from customer accounts via APIs. This type of service enables customers of widely used apps (such as social media and e-commerce apps) to also originate and receive payments more seamlessly through these apps. When combined with fast payment systems, payment initiation services enable the development of business models and new ways for originating and receiving payments.

If data sharing is mandated, the regulatory framework needs to clarify the types of participants, accounts, and data that needs to be made accessible and provide adequate time for compliance. When data sharing is mandated, authorities must specify the types of entities that are mandated to participate and may also make distinctions based on their size. A focus on larger players can be beneficial as these players tend to hold the most significant volume of data and can be better equipped to meet compliance requirements in a shorter timeframe than smaller data holders, as well as due to their potential for larger systemic impact. The authorities should also provide clear timelines that consider data holders' capacities and allow for the development and testing of the necessary APIs.

In addition to new regulations, explicit guidance may be used to clarify how existing laws and regulations should be applied in the context of open finance. Open finance rests on laws, regulations, and standards that govern personal data and digital financial services, including data protection and privacy, consumer protection, customer authentication, operational risk, information security and cybersecurity (covered in more detail under Consumer Protection and Data Protection, below), anti-money laundering (AML), and countering the financing of terrorism (CFT). These need to be reviewed carefully.[15] The open finance regulatory framework should facilitate the standardization of data transfers (covered in more detail under Technical Infrastructure and Architecture, below). Guidance may be needed on how existing regulations should be applied to new types of players (e.g., TPPs) or to new products and services. Open finance may also expose gaps in existing frameworks, which authorities may need to assess and address before implementing open finance and/or include in the reforms package.

5. OVERSIGHT AND SUPERVISION — Guarantee provision of the necessary enforcement powers and resources for oversight of the ecosystem, as well as proportionate supervision of all participants

Authorities need to articulate an oversight policy for the open finance framework. Oversight is concerned with monitoring open finance activities, assessing them against the policy objectives, and ensuring compliance with applicable laws and regulations, as well as inducing change as needed. Appropriate oversight frameworks for open finance are needed to allow authorities to monitor whether market and customer needs are met, to assess risks, and to identify failures and address them, as well as to promote overall efficiency. As part of the oversight responsibilities, authorities also need to oversee the setup and operation of the open finance governance arrangements.

Authorities need to subject all open finance participants to proportionate and risk-based supervision. Adequate supervision is required in order to ensure individual participants' compliance with the applicable regulations. There is likely to be a need to supervise new players entering the financial ecosystem, new services, and/or new business models. The cross-sectoral nature of open finance amplifies the need for effective cooperation arrangements between authorities. In countries where no single authority has jurisdiction over the entire ecosystem, joint oversight structures/committees may be appropriate. Given the likely participation of new and smaller players, supervision needs to be risk-based and proportionate.

15 The legal and regulatory framework applicable to AML/CFT should cover the entire ecosystem and its participants and should be adequately calibrated to the size, complexity, and type of risks posed by new entities and activities.

Authorities should have the necessary enforcement powers, mandate, and resources to oversee the open finance framework and supervise all its participants. Authorities responsible for the oversight and supervision of the open finance ecosystem should have the power to obtain information from all participants and induce change as needed to reach the stated objectives or reduce potential risks. Open finance will likely pose new demands on supervision resources to fulfill authorities' responsibilities and the related supervisory activities. New demands regarding authorities' supervisory capacity in digital technology and analytics, consumer and data protection, and other related aspects of open finance should be assessed early and addressed adequately.

6. CONSUMER PROTECTION AND DATA PROTECTION — Ensure a robust consumer and data protection framework is in place

A strong consumer protection framework is essential to building consumer trust and generating positive customer experiences and outcomes that foster adoption while minimizing potential harm. Consumer protection provides legal protections against wrongly executed services and articulates accountability rules for financial losses, fraud, and other potential abuses or misconduct. Open finance-enabled services and activities should be subject to consumer protection requirements equivalent to those that apply to other financial services, covering information duties and rights, liability rules, complaints management, and other relevant areas. An effective recourse mechanism wherein customers can access a convenient, easy-to-use complaints process for dispute resolution is necessary. Consumer protection rules should cover all participants, including TPPs, that access and use customer data through open finance. As a response to screen scraping and fostering competition, open finance also presents a safe and open way for customers to allow third parties to access their data with financial institutions.

A robust data protection and privacy framework that provides sufficient safeguards to mitigate risks associated with increased personal data transfers must be in place or set up as part of open finance implementation. Open finance entails a new way of sharing personal data and a larger number and greater scope of players accessing and using this data in the financial sector. If an open finance framework is not supported by robust data protection and privacy regulations, it may increase the risk of data corruption, misuse, unauthorized access to data subjects'[16] personal and financial information, or fraud. The fundamental data access rules prevailing in the context of open finance will typically be set out in the existing data protection framework, which may need to be updated to ensure consistency with open finance regulation. Additional regulatory responses may be needed if the applicable data protection and privacy laws do not effectively provide sufficient safeguards to mitigate risks associated with the increased access to consumer data and the new activities and services in the context of open finance. While the existing data protection framework will apply to open finance participants, there may be a need to provide additional guidance on how to operationalize it to avoid legal uncertainty. Frameworks may also need to define how data protection principles (e.g., data quality, data minimization, accountability and transparency, data subjects' rights, consent, legal basis for data processing, storage, third-party usage) are applied in the context of open finance. In addition, data holders should be able to easily verify the TPPs and their legal rights and compliance with standards needed to access customer data safely. This could be facilitated, for example, through certificates or by using a central registry. Participating financial services providers'

16 A data subject is an individual or entity whose data is being collected, processed, and used by financial institutions and other entities. This includes data related to financial transactions, account details, investment information, and any other financial information that can be linked to the individual or entity.

use of privacy technologies could support individual privacy and strengthen trust and adoption of open finance frameworks.

Permissioned data access requires informed consent and an active opt-in (as well as the option to opt-out) based on information that is specific, clear, concise, and easily understandable to all customers, including those with limited digital literacy. Obtaining valid consent for a specific purpose from data subjects before data is shared is a defining element of an open finance framework. In open finance, there is typically a dynamic approach to customer consent, allowing customers to revoke data access at any time and review their consent history. An appropriate record of the consents granted and the authentication of the data subject should be available as evidence of consent. While some jurisdictions have enacted rules for the provision of consent, others have developed consent management mechanisms. A focus on having a smooth customer experience is important when designing processes to provide, manage, review, and revoke consent, as well as when determining the level of detail and duration of consent. While a one-time or short consent duration may be sufficient for certain use cases, other use cases that require recurring access to personal data (as is the case with PFM tools), the customer experience will likely improve with longer consent duration windows that do not require frequent renewals.

Data security measures should be in place for all ecosystem participants, and standardized APIs should be the mechanism to share data. Data security measures that prevent unauthorized access to or use of data, including cybersecurity standards and clear liabilities in the event of failures, should be in place. Standards adopted should enable participants to identify, prevent, and respond to a cyber incident with the minimum friction possible to the systems, networks, and data subjects. Security measures should also allow for the confidentiality of data in transit and in storage while protecting data from any alteration, unauthorized access, loss, or misuse. Open finance participants should be required to adopt security policies, procedures, controls, and business continuity arrangements consistent with those applicable to digital financial services and commensurate with the risks entailed in the type(s) of service(s) and the information accessed or shared. To aid in making operations more secure, data access should be provided via standardized APIs through which TTPs exchange data with data holders. The API standard selected should meet up-to-date security standards and may need to be updated over time.

Secure customer authentication, preferably based on multi-factor authentication (MFA)[17] such as two-factor authentication (2FA) – including digital IDs where feasible – is central to the integrity of an open finance ecosystem, but design choices may have implications for data protection and customer experience. Robust customer authentication is critical to reduce fraud and enhance consumer protection. 2FA and MFA are best practice standards for remote access to accounts and electronic transactions. Regulators should ensure that authentication rules used in open finance fall within the broad scope of 2FA/MFA, but they may need to apply proportionality to adapt these rules to open finance. Different authentication methods present different trade-offs between security and ease of implementation. The application of 2FA/MFA in the context of open finance may, for instance, have implications for user experience (e.g., when the user must provide both factors manually). When the necessary digital ID systems are in place, digital ID-based authentication is both secure and simple for customers. However, when feasible, multiple authentication methods can be made available to avoid exclusion, for example, of customers who may not have a digital ID. Different methods of authentication could also be considered for different actions, for example, differentiating

17 2FA or MFA is the process of verifying identity using at least two independent factors, such as a personal ID number, password, or security tokens.

one-time or first-time actions from recurring activities. While 2FA/MFA are considered best practice today, it is important that the authentication methods required evolve to keep up with technological advances.

When designing data protection, privacy, and security provisions, it is important to consider their impact on customer experience, competition, and innovation. Authorities will need to strike a balance to ensure the open finance experience is user-friendly, convenient, and accessible – without any unnecessary frictions for customers – while maintaining robust security and consumer protection standards that protect customer information. It is especially important to understand the impact of design choices on customers with limited digital skills and those using lower-end devices. A standardized user experience across different players in the ecosystem can simplify engagement and help build customer trust. If increased competition is an objective, a risk-based and proportional approach is important when implementing compliance requirements so as not to unnecessarily burden new and small players while ensuring necessary protections for all customers. To support competition, considerations should also be made on how smaller players can be supported in meeting the necessary standards (e.g., for standardized APIs). Similarly, if supporting innovation is an objective, the ability to use open finance data for purposes such as new product development, risk model improvement, or tailored product recommendations should be enabled. Privacy technologies and approaches like de-identification, encryption, synthetic data, and provisions on ethical data mining can help ensure data protection while allowing data to be used for product innovation.

Operational elements

7. CONSUMER INFORMATION AND AWARENESS — Facilitate consumers' awareness and understanding of open finance opportunities and risks

Ensuring the public is well-informed about open finance, including about protection arrangements, is important to support both consumer protection and customer adoption. Evidence from customer research suggests a strong correlation between people's understanding of open finance and their willingness to share data and participate in the framework. Early evidence from this research also suggests that awareness of open finance and willingness to share data can be lower for underserved and traditionally excluded segments, specifically lower-income people and women. Therefore, fostering consumer financial capability and awareness among these segments is particularly important, especially when financial inclusion is an objective. The public must be informed about both opportunities and risks. It is important for customers to understand how their data is being shared and used, what protections exist to ensure this is done in a responsible manner, and what recourse mechanisms are available. For example, ensuring that customers understand how to withdraw access to their data once the intended purpose is met can incentivize adoption (as it lowers the perceived risk) and offer protection against the potential risk of discriminatory practices. Public campaigns to increase awareness and improve understanding can help ensure the benefits reach underserved segments and avoid the risk of widening exclusion gaps. When possible, information campaigns should incorporate consumer feedback. Both the public and private sectors have a role to play in educating customers, as early customer research shows most customers learn about open finance from their financial institution. It is important to note that customer experience may not be optimal early in the implementation process (e.g., due to API failures or limited available use cases). Therefore, it may be preferable to delay the launch of ambitious public awareness campaigns to encourage adoption until relevant use cases are well implemented and adequate redress mechanisms are in place.

8. PARTICIPATION — Enable broad participation of financial services providers

Broad participation of financial services providers, especially large data holders, is needed to ensure that as many customers as possible can benefit from open finance. It is important that those holding large financial data pools participate early in the implementation by adopting APIs that can enable access to their customers' data. Participation of large players helps create the network effects[18] needed to encourage further participation in the ecosystem. It also enables widespread customer adoption, as customers cannot opt to share their data with data users unless the provider holding their data participates in the framework. Therefore, it is important for authorities to ensure that incentives exist for large data holders to participate. Where needed (as demonstrated by the assessed market dynamics, such as market concentration and composition), authorities could consider mandating large data holder participation. Regardless of whether authorities deem mandating participation necessary or not, close dialogue with the industry on the potential benefits and costs can encourage a design that better fits market needs and promotes participation.

Establishing reciprocity[19] for data users that are also data holders can be a strong incentive to participate. While complete reciprocity may not be possible (different participants hold different types and amounts of data that offer different potential value to others), reciprocity ensures that those who want to benefit from the ecosystem also contribute to it, thus supporting competition and innovation in the financial services industry. Reciprocity can help increase the amount of data available. The broader the scope of data included in the open finance framework, the more incentives for incumbents to participate (including via reciprocity), as more data will be available beyond what they can access through existing mechanisms such as credit reporting systems.

Open finance can unlock new business opportunities in terms of revenue opportunities from new services and new customers, cost savings, streamlined processes, and improved risk assessments. This can help overcome the reluctance to make the initial investment. Having a clear articulation of the potential benefits the framework could deliver for financial services providers can help achieve buy-in from the private sector. Drawing upon available experience from live open finance frameworks, some of these benefits can include reduced costs for customer onboarding, reduced costs for credit assessment and loan origination, growth of the lending portfolio, reduced losses due to improved risk assessments, growth of the customer base, improvements in cross-selling effectiveness, and increased customer activity and product use.

When designing the implementation roadmap, the impact of the scope of participation and the speed of implementation should be considered. While maximizing provider participation may be the end goal, requiring smaller players with limited capabilities to join within a short time frame could have negative consequences in terms of data quality and, potentially, data security. A phased approach, wherein the scope of data sources and types of participants are expanded gradually, may be easier to implement and oversee. The existing capabilities of different types of players should

18 The network effect value grows in proportion to the number of possible connections between users. This means that returns to scale grow exponentially with new users and that there are only incentives to join if a significant number of users have joined.

19 Reciprocity refers to the characteristic of data sharing in an open finance ecosystem in which eligible entities participate both as data holders and as data users (i.e., contribute to and benefit from shared data) with the aim to create a more vibrant ecosystem and promote greater competition. It is important to note that data sharing should only happen with customer consent. Reciprocity entails the ability to access data held by those looking to use data, but it does not imply this data would be shared without specific customer consent.

be considered when defining the roadmap, as well as the complexity of including a particular product or type of data. For example, bank account transaction data may be easier to include early on than insurance data. Transaction data is indeed likely to be more standardized since banks are accustomed to communicating transaction information in order to process transactions between parties. The potential for impact on policy objectives should also be considered when prioritizing which data sources to include first. Given the significant role that smaller providers like microfinance institutions and financial cooperatives can play in reaching traditionally excluded segments, especially in low- and middle-income countries, it is important to consider how to support the participation of these types of entities when financial inclusion is a goal.

9. TECHNICAL INFRASTRUCTURE AND ARCHITECTURE — Encourage the use of standardized APIs and a common architecture

APIs should be standardized to support broad participation, allow for interoperability, reduce costs, and ensure data security standards are met. Common technical standards for APIs are critical for the smooth functioning of open finance, particularly to avoid fragmentation and to decrease costs. Standardized API specifications support improved competition by enabling interoperability and equal access for all participants. Standardization is also essential to realize the efficiencies promised by open finance and to lower the costs of operation and innovation. In addition to the API standards, it can be helpful to define expectations in terms of service level. The development or adoption of API standards can be led by the regulator or by the industry, depending on their available capacity and willingness; the existence of an industry body that could ensure neutrality; and/or other market factors. Regardless of who leads the development, it is important that there is collaboration between the regulator and the industry. Regulators may require market participants to develop common data and API standards through an existing industry body or ad hoc forum instead of directly defining these in the open finance regulatory framework. They may also keep the option to steer the process and/or approve API standards. This can help keep regulation neutral to technical standard choices, which may need to evolve quickly to stay up-to-date with technological evolutions. It is important for the regulator to ensure that the standards selected meet the necessary data security requirements so that information is transmitted, processed, and managed safely and that the standards are reassessed periodically to ensure consistency with up-to-date technical standards.

While data storage is decentralized in open finance frameworks, data transfers can be bilateral20 or centralized.[21] Each data transfer model has advantages and disadvantages and should be assessed according to the scope of the ecosystem as well as the specific market conditions and objectives. A bilateral approach could avoid a single point of failure and does not require the setup and operation of a central hub. However, a bilateral architecture may be more complex and expensive to implement and oversee. The market power of large data holders is more likely to play a role and potentially delay establishing connections in a bilateral framework than in a centralized one. Standardized APIs, as well as clear guidance from the regulator on roles and responsibilities of participants, terms, and levels of service can help mitigate this by limiting the ability of large players to establish their own requirements to connect. A centralized approach is likely to create lower costs and shorter timelines for implementation and simplify oversight. However, such an approach may be more prone to service interruption

20 In a bilateral architecture, each participant connects directly to other participants in the ecosystem without the existence of a central hub. While the data exchange is bilateral, an overarching multilateral framework and standardized APIs are defined for the ecosystem, ensuring these bilateral connections are uniform across participants.

21 In a centralized architecture, participants are connected to each other through a central hub such as a switch or an aggregator.

as it can have a single point of failure, requires setting up a central hub, and requires identifying or creating an entity to operate it. A hybrid approach is also possible, in which different parts of the ecosystem use different approaches. For example, a bilateral approach could be used for data sharing while a centralized approach could be used for payment initiation. Multiple bilateral or centralized architectures could also be used to simplify participation for different types of providers. For example, distinct architectures could be created for different subsectors (e.g., banking, insurance, investments), thus simplifying participation for players who may only participate in one area. Both existing infrastructure (e.g., payment systems, credit information systems) and new infrastructure for data sharing should have a sound legal basis for each material aspect of their activities – including new activities introduced in the context of open finance – and should be authorized, regulated, and overseen.

10. PRICING — Monitor and influence pricing to support policy objectives

Pricing is a critical element of open finance design as it impacts the adoption and the development of open finance use cases. This section refers to pricing between institutions that are data holders and data users. While end customers may incur costs for using products and services that avail data shared through open finance, fees to customers are generally not contemplated in open finance frameworks. In an open finance framework, data holders incur costs for making technical interfaces available to share customer data. As mentioned in the previous section, when designing the architecture for the ecosystem, the impact on integration and operation cost implications for open finance participants should be considered. Data holders' ability to recover these costs could act as an incentive for better quality data and interfaces. On the other hand, costs to data users may impact their incentive to participate or innovate.

A set of common principles on compensation can reduce complexity and should support fairness. Common principles on compensation from data users to data holders can reduce complexity by limiting variability and price discrimination, increasing transparency and market confidence. Any compensation should be fair, commensurate to a data holder's marginal cost, and nondiscriminatory in order to support a level playing field across different providers. There could be differentiation in pricing based on the type of data, customer segment, products or services delivered or developed, type of APIs, type of data user, or other such aspects. For example, free access could be mandated for direct or unprocessed customer data while a sustainable commercial model that supports fair compensation and incentivizes investment and innovation could be set up for processed or value-added data APIs.

The impact of pricing policies on public policy objectives should be considered if compensation rules are established. Pricing is likely to influence incentives to participate and innovate. If prices are too high, competition could be hindered, as it would make it harder for new and smaller players to participate. High prices could also weaken the business case for serving low-income customers and traditionally excluded segments and could be detrimental to financial inclusion goals. For example, volume-based data access fees can put smaller players at an unfair disadvantage, limiting competition, while bilateral pricing agreements may represent a barrier to participation in open finance. Reaching a pricing level that is as low as possible can support policy objectives, especially competition, innovation, and financial inclusion. This may require putting in place a coordination mechanism and objective criteria to facilitate agreement on specific levels of compensation. Further, certain circumstances (e.g., the need to foster initial uptake) or policy objectives may warrant delaying cost recovery or justify free access by data users. Compensation principles may be revised as the ecosystem matures.

Regularly monitoring pricing levels is an integral part of the oversight of open finance and

provides information to support authorities in the identification of the most appropriate corrective measures. If the market fails to deliver fair and transparent pricing consistent with public policy objectives, the relevant authorities may need to intervene to ensure alignment. Governance arrangements can have a bearing on pricing – from building consensus around a set of common principles to developing compensation models to updating these if needed.

Concluding Remarks

THE IMPLEMENTATION OF AN OPEN finance framework requires the intentional design of multiple interconnected elements involving a range of different stakeholders. Public authorities play an important role in defining the policy objectives for open finance, ensuring that the design and implementation choices are consistent with achieving those objectives, and guiding the overall enabling environment, including regulation, supervision, and oversight arrangements to support responsible open finance. With an appropriate design in place, open finance can help close inclusion gaps and expand the availability and effectiveness of financial services. The guiding considerations presented in this document, evaluated in the context of the individual country's conditions and needs, can help to achieve these outcomes.

Data sharing is a fast-evolving space that will continue to change in the coming years. As more jurisdictions set up open finance ecosystems, a bigger focus on cross-border connections between ecosystems is likely to arise, with efforts to pilot cross-border use cases underway. An increasing number of countries are already starting to focus on open data and how to bring more data effectively and safely from outside the financial sector into the ecosystem. While this involves additional complexities, it also holds significant promise for those currently excluded from the formal financial sector who may become visible by the integration of nonfinancial data sources.

For a list of resources on open finance, please see: https://www.findevgateway.org/guide/2024/11/open-finance-guide-to-knowledge-resources

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