



FinTech for Financial Inclusion: Harnessing and Balancing Innovation

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Payments Aspects of Financial Inclusion in the Fintech Era

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Views expressed are those of the presenters
and not necessarily those of the BIS or CPMI, or the WB

CPMI-World Bank report on *Payment aspects of financial inclusion*

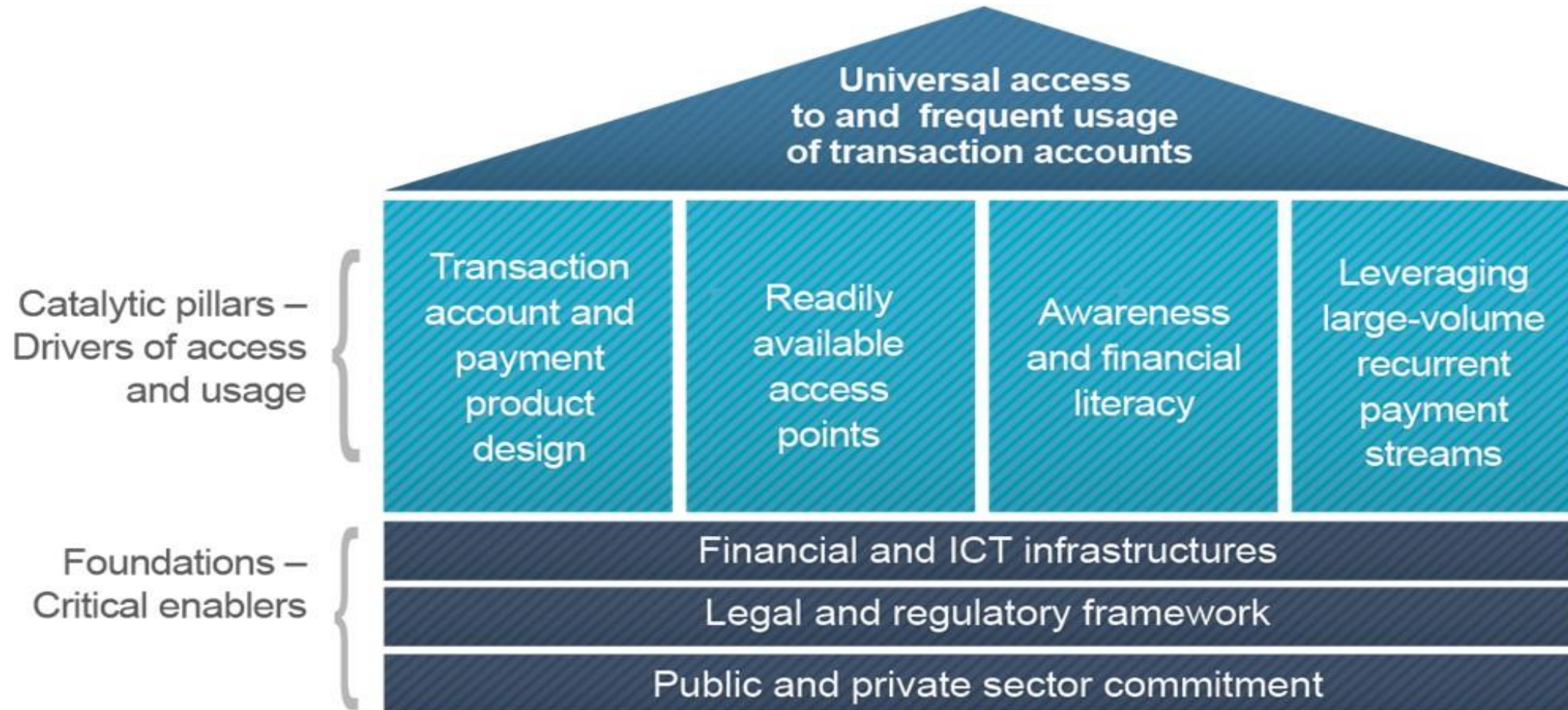


Key premises:

1. Efficient, accessible and safe retail payment systems and services are critical for greater financial inclusion
2. A transaction account (“deposit transaction account” or “e-money account”) is an essential financial service in its own right and can also serve as a gateway to other financial services
3. All individuals and businesses should be able to have access to and use at least one transaction account operated by a regulated payment service provider (bank or other authorised and/or regulated payment service providers (including non-banks):
 - i. to perform most, if not all, of their payment needs
 - ii. to safely store some value; and
 - iii. to serve as a gateway to other financial services



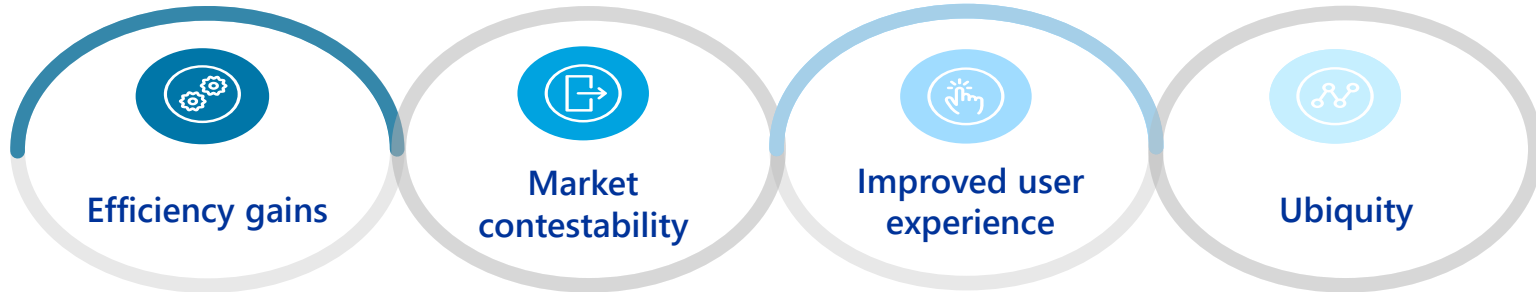
The PAFI "house"



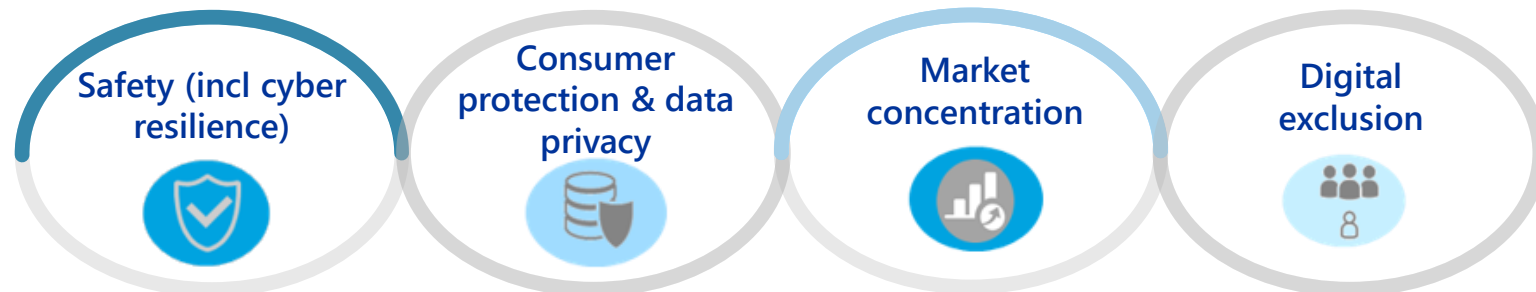
Source: CPMI and WBG Payment Aspects of Financial Inclusion, 2016
<https://www.bis.org/cpmi/publ/d144.htm>

Identifying potential opportunities & challenges of fintech for payment aspects of financial inclusion

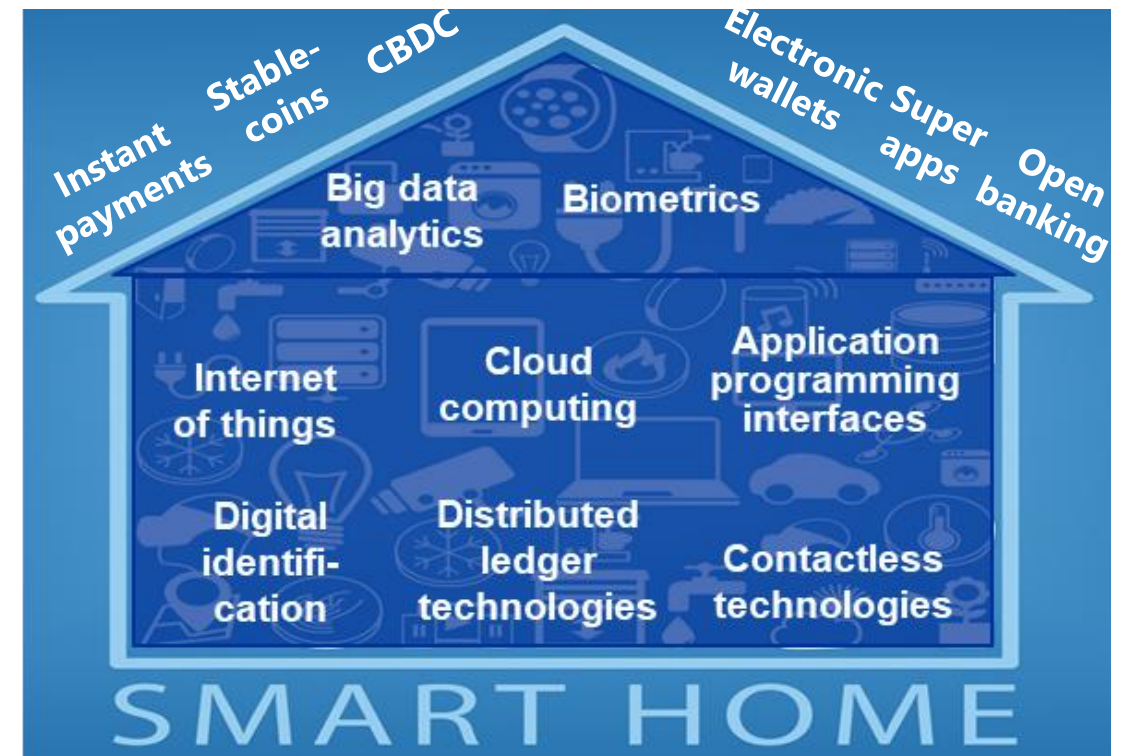
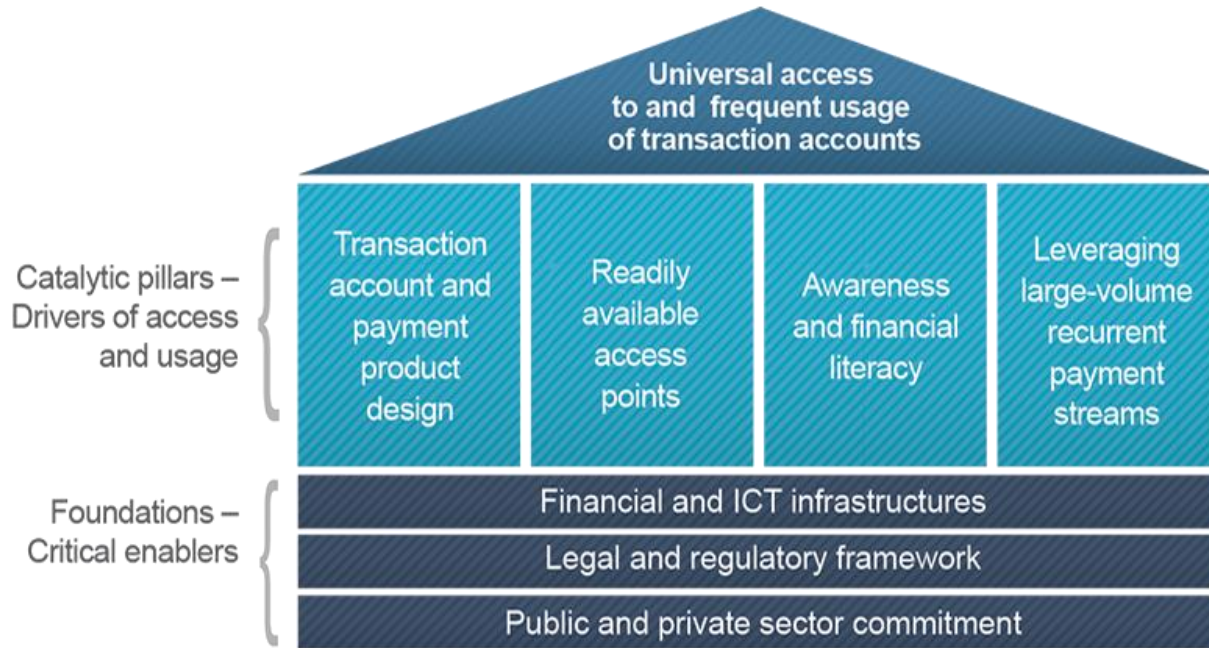
Opportunities



Challenges



Fintech can help to make the PAFI house a smart home & provide more people (financial) shelter



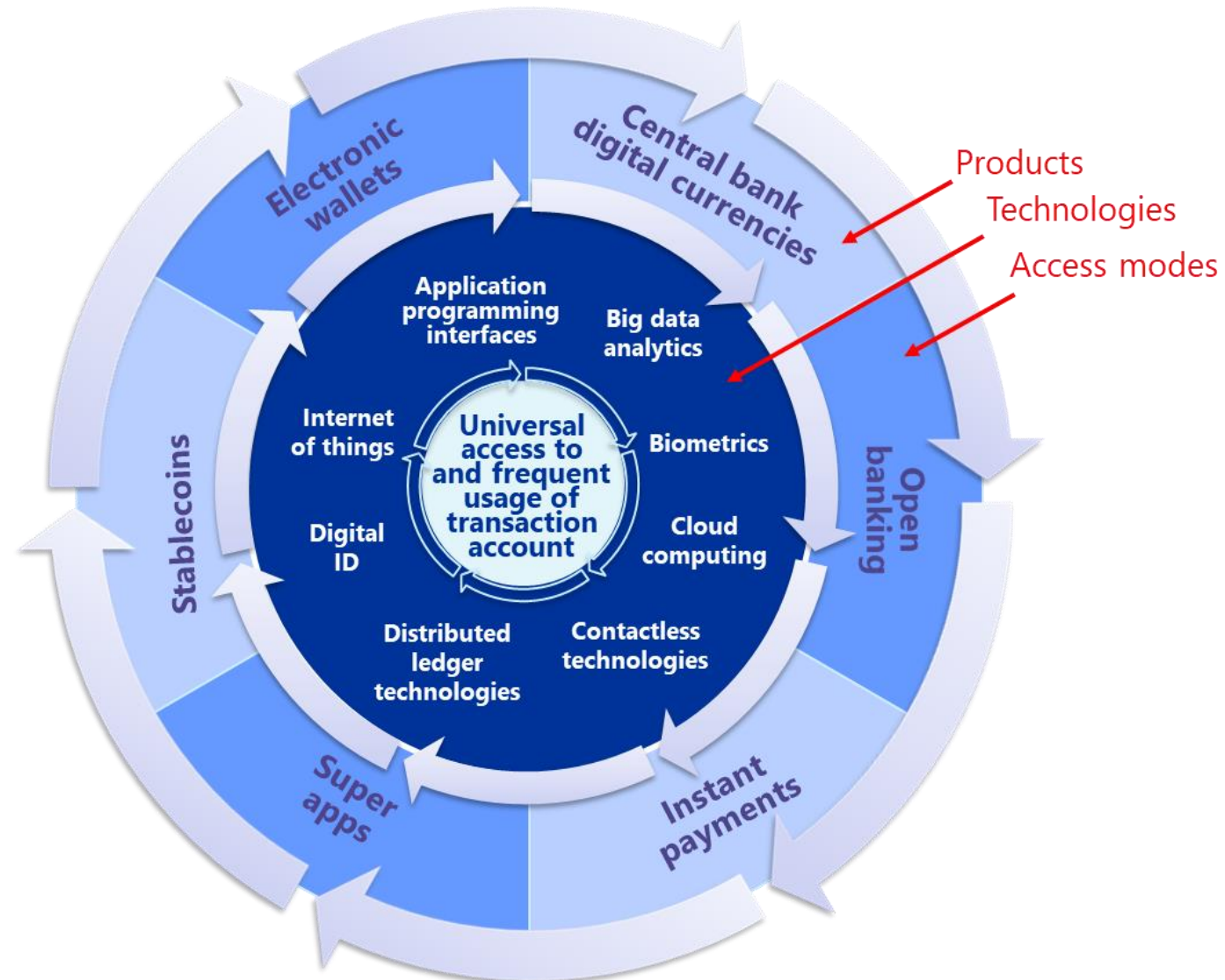


PAFI2.0

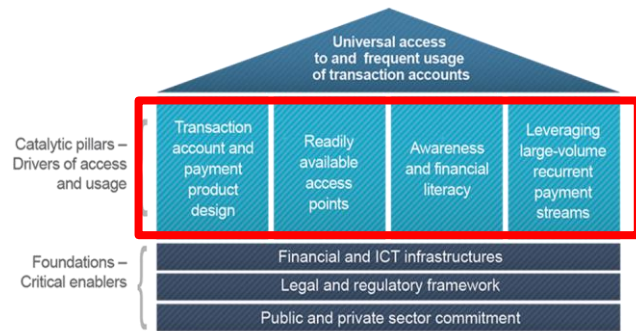
Overview of the report “Payment aspects of financial inclusion in the fintech era”

- Fintech developments of relevance for the PAFI framework
 - Application of fintech to new payment products/services and new access channels
- Opportunities and challenges of fintech in driving access to and usage of transaction accounts
 - For each of the four drivers, a look at the potential benefits and drawbacks of fintech
- The role of the basic foundations in harnessing fintech’s opportunities while addressing the challenges
 - How can the three foundations seize the opportunities while limiting the risks?
- Review of the PAFI guidance with focus on fintech
 - Provide additional key actions for consideration under each of the guiding principles

The PAFI "fintech wheel"



Opportunities and challenges of fintech developments in driving access to and usage of transaction accounts



Transaction accounts and payment product design

- Open banking has the potential to augment the usefulness of transaction accounts
- Digital ID simplifies customer due diligence
- Design of central bank digital currencies can aim at providing universal access to a basic means of payment
- Super apps cover a wide range of payment needs in their users' daily lives

Readily available access points

- New products and services change the demand for physical access points and cash
- Big data analytics can be leveraged for optimisation of agent networks
- Electronic wallets in combination with contactless technologies can expand the number of acceptance points at low cost

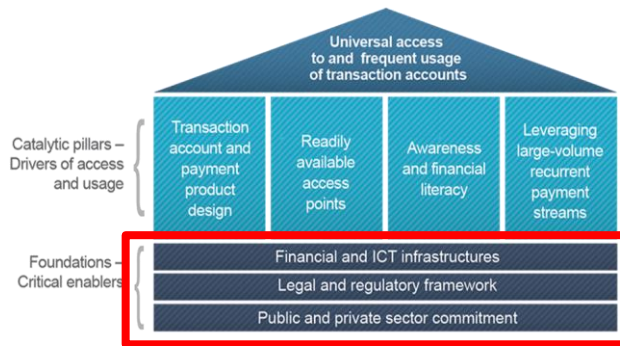
Awareness and financial literacy

- End users' digital capabilities do not always keep pace with product evolution
- Big data analytics can break down knowledge barriers or reinforce exclusion patterns

Large-volume, recurrent payment streams

- Cross-border retail payments innovation can benefit from a mix of fintech developments
- Electronic wallets in combination with contactless technologies could support the efficient use of transaction accounts for transit payments

The role of the basic foundations in harnessing fintech's opportunities while addressing the challenges



Public & private sector commitment

- Fintech developments call for increased international and cross-sectoral coordination between authorities
- A collaborative approach to fintech is key to making an impact
- Regulators' initiatives such as sandboxes, innovation hubs and innovation offices can foster the development of the fintech ecosystem

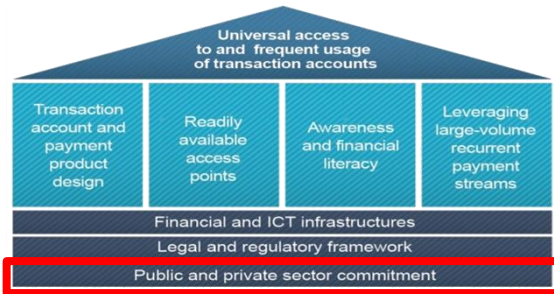
Legal and regulatory framework

- Adapted and new licensing frameworks enable new players to leverage fintech for innovative services
- Data frameworks need to ensure privacy in the fintech era
- Fintech developments may challenge the applicability of current oversight concepts and standards
- Fintech developments should not compromise the effective protection of end user funds
- Regulatory technologies can support authorities in fulfilling their supervisory and oversight tasks and market participants in meeting requirements more effectively and efficiently

Financial & ICT Infrastructures

- Fintech developments highlight the opportunities and challenges of non-bank access to payment infrastructures
- Fintech goes hand in hand with raising the bar for the cyber resilience of PSPs and financial infrastructures
- Interoperability and geographical coverage of financial infrastructures can benefit from fintech developments

Public and private sector commitment



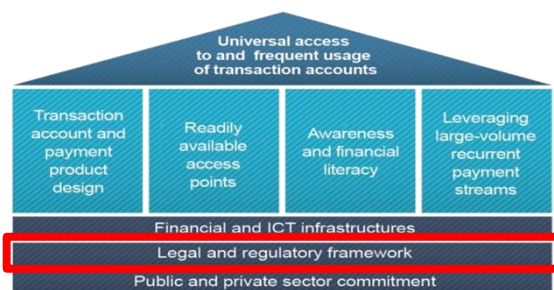
Guiding principle:

Commitment from public and private sector organizations to broaden financial inclusion is explicit, strong and sustained over time

KEY ACTIONS with a *Fintech focus*

- All relevant public and private sector stakeholders support the objective that all eligible individuals – regardless of culture, gender or religion – and businesses should be able to have and use at least one transaction account, and develop an explicit strategy with measurable milestones to that end.
 - *Fintech focus: All relevant fintech stakeholders are enlisted in support of this objective.*
- All relevant public and private sector stakeholders allocate the appropriate human and financial resources to support financial inclusion efforts.
 - *Fintech focus: Financial inclusion efforts seek to leverage fintech expertise among all relevant public and private sector stakeholders.*
- Central banks, financial supervisors, regulators and policymakers effectively coordinate their efforts with regard to financial inclusion.
 - *Fintech focus: These coordination efforts take the cross-sectoral and cross-border nature of fintech developments into consideration*

Legal and Regulatory Framework



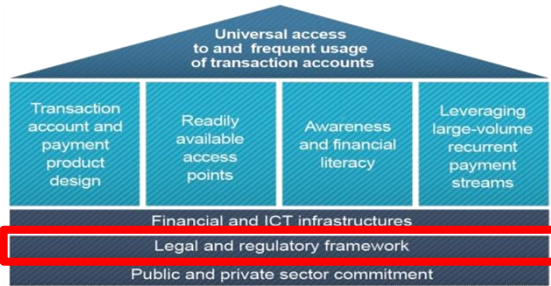
Guiding principle:

The legal and regulatory framework underpins financial inclusion by effectively addressing all relevant risks and by protecting consumers, while at the same time fostering innovation and competition.

KEY ACTIONS with a *Fintech focus*

- A robust framework is established to foster sound risk management practices in the payments industry, including through the supervision/oversight of PSPs and PSOs by regulatory authorities.
 - *Fintech focus: Where appropriate, relevant authorities leverage new technologies for supervision/oversight and foster their adoption by the private sector for risk management*
- [...]
- The framework aims to promote the use of transaction accounts in which customer funds are adequately protected through appropriate design and risk management measures, such as deposit insurance or functionally equivalent mechanisms as well as through preventive measures (eg supervision, placement of customer funds held by non-deposit-taking PSPs in high-quality and liquid assets, and, depending on the legal regime, specially protected accounts at banks and possibly trust accounts).
 - *Fintech focus: Any new or innovative forms of transaction accounts or payment products protect customer funds through appropriate design and risk management measures that are functionally equivalent to those that protect customer funds in "traditional" deposit transaction accounts.*

Legal and Regulatory Framework (cont'd)



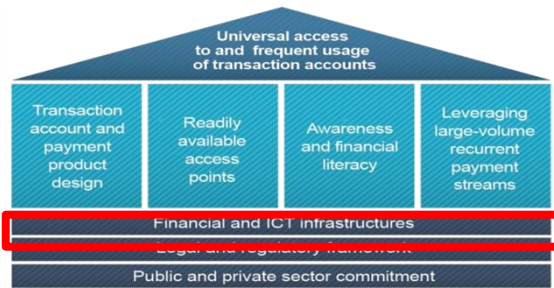
Guiding principle:

The legal and regulatory framework underpins financial inclusion by effectively addressing all relevant risks and by protecting consumers, while at the same time fostering innovation and competition.

KEY ACTIONS with a *Fintech focus*

- The framework requires PSPs to clearly disclose, using comparable methodologies, all of the various fees they charge as part of their service, along with the applicable terms and conditions, including liability and use of customer data.
 - *Fintech focus: The framework requires PSPs to clearly disclose the credit and liquidity risks that users face when storing funds in new or innovative forms of transaction accounts.*
 - *Fintech focus: The framework requires PSPs to clearly disclose how customer data are safeguarded and how data privacy is protected, along with customer rights regarding the use of their data.*

Financial and ICT Infrastructures

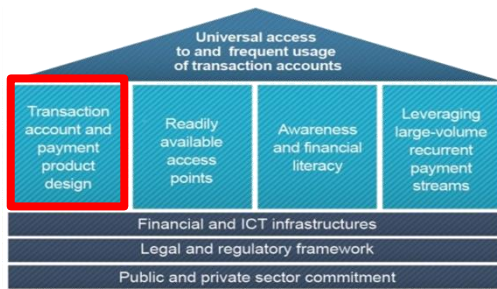


Guiding principle:

Robust, safe, efficient and widely reachable financial and ICT infrastructures are effective for the provision of transaction accounts services, and also support the provision of broader financial services

KEY ACTIONS with a *Fintech focus*

- Key payments infrastructures are built, upgraded or leveraged as needed to facilitate the effective usage of transaction accounts.
 - *Fintech focus: The design of key payment infrastructures takes into account innovative technologies, products and access modes.*
- Additional infrastructures are appropriately designed and operate effectively to support financial inclusion efforts by providing critical information to financial service providers, including an effective and efficient identification infrastructure, a credit reporting system and other data sharing platforms.
 - *Fintech focus: Public and private sector stakeholders support the establishment of a digital ID infrastructure for customers to digitally identify, authenticate and provide consent.*

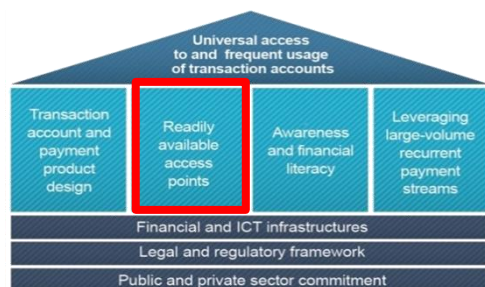


Guiding principle: The transaction account and payment product offerings effectively meet a broad range of transaction needs of the target population, at little or no cost.

Transaction account and payment product design

KEY ACTIONS with a *Fintech focus*

- [...]
- PSPs offer transaction accounts with functionalities that, at a minimum, make it possible to electronically send and receive payments at little or no cost, and to store value safely.
 - *Fintech focus: PSPs leverage new technologies and access modes to improve the design of transaction accounts and payment products for the benefit of all their customer segments*
- [...]
- The payment services industry, operators of large-volume payment programmes and other stakeholders recognise that the payment habits and needs of currently unserved and underserved customers are likely to differ, and therefore engage in market research and/or other similar efforts to identify and address those payment habits and needs.
 - *Fintech focus: The development and adoption of new technologies, products and access modes avoids the exclusion of customer segments due to factors such as age, culture, gender, religion and financial literacy.*

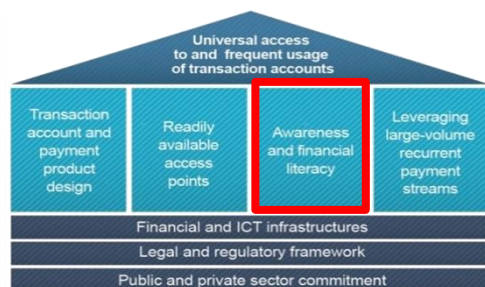


Guiding principle:
The usefulness of transaction accounts is augmented with a broad network of access points that also achieves wide geographical coverage, and by offering a variety of interoperable access channels.

Readily available access points

KEY ACTIONS with a *Fintech focus*

- PSPs provide convenient access to transaction accounts and services by offering an effective combination of own and third-party-owned physical access points (eg branches, ATMs, POS terminal networks and PSP agent locations) and of remote/electronic access channels (mobile phones, internet banking, etc).
 - *Fintech focus: PSPs seek to leverage the potential of new technologies, products and access modes to offer low-cost, easy-to-use access points and channels to expand reach and acceptance of electronic payment instruments, while ensuring that a basic level of physical access points is maintained*
- [...]
- The payments industry and authorities monitor access channels and access points and their usage to obtain an accurate picture of the availability and proximity of service points to the different population segments.
 - *Fintech focus: The payments industry and authorities consider the impact of the continued decline in the use of cash and the reduction in the availability and proximity of cash access points.*



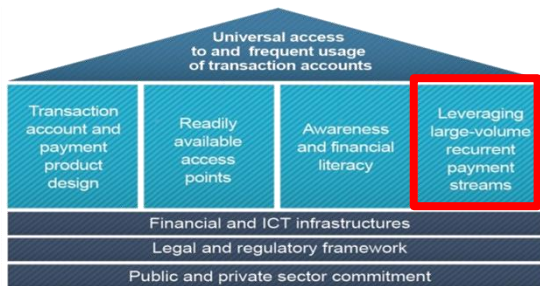
Awareness and financial literacy

Guiding principle:

Individuals gain knowledge, through awareness and financial literacy efforts, of the benefits of adopting transaction accounts, how to use those accounts effectively for payment and store-of-value purposes, and how to access other financial services

KEY ACTIONS with a *Fintech focus*

- All relevant public and private sector stakeholders engage in ongoing and effective educational and outreach to support awareness and financial literacy with an appropriate degree of coordination.
 - *Fintech focus: Educational and outreach efforts support awareness and financial literacy with respect to new technologies, products and access modes, using both traditional and digital communication means*



Guiding principle:
Large-volume and recurrent payment streams, including remittances, are leveraged to advance financial inclusion objectives, namely by increasing the number of transaction accounts and stimulating the frequent usage of these accounts.

Large-volume, recurrent payment streams

KEY ACTIONS with a *Fintech focus*

- Ad hoc incentives are considered, where appropriate, to foster adoption and usage of transaction accounts for large-volume and recurrent payments, including not only government payment programmes but also government collections and utility bill payments, transit fare payments, employer payrolls and, where relevant, remittances.
 - *Fintech focus: New technologies, products and access modes that facilitate the use of account-based, open-loop payment methods for large-volume and recurrent payments are considered.*
 - [...]
- The payments industry proactively seeks new ways to make transaction accounts a competitive and convenient option for usage in connection with all large-volume payment streams.
 - *Fintech focus: All relevant stakeholders take into consideration the potential of new technologies, products and access channels to improve the current offerings of cross-border retail payment services with a view to making transaction accounts more attractive for sending and receiving international payments, including remittances.*

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PAYMENT ASPECTS OF FINANCIAL INCLUSION (PAFI): APPLICATION TOOLS



Committee on Payments and
Market Infrastructures
BANK FOR INTERNATIONAL SETTLEMENTS

**PAYMENT
ASPECTS OF
FINANCIAL
INCLUSION**



WORLD BANK GROUP
Finance & Markets

Oya Ardic
May 27, 2021

INTRODUCTION

PAFI PHASE 1

- The CPMI-World Bank Group PAFI Task Force held its first meeting in April 2014.
 - During its first phase, the main output of the Task Force (TF) was the report “Payment aspects of financial inclusion”, published in April 2016.
- The PAFI Framework is the underlying framework used by the WBG for the UFA2020 initiative.

PAFI PHASE 2

- The PAFI TF re-grouped in September 2018 to deliberate on the experience gained from the implementation of PAFI.
- In phase 2, the PAFI TF worked on:
 1. Producing tools to facilitate the application of the PAFI GPs
 2. Developing a measurement framework for tracking progress
 3. Providing additional guidance on fintech issues that have relevant implications for PAFI’s underlying objectives.

OUTPUTS OF THE PAFI TF

Committee on Payments and Market Infrastructures
World Bank Group



Payment aspects of financial inclusion

April 2016



BANK FOR INTERNATIONAL SETTLEMENTS



WORLD BANK GROUP

Committee on Payments and Market Infrastructures
World Bank Group



Payment aspects of financial inclusion in the fintech era

April 2020



BANK FOR INTERNATIONAL SETTLEMENTS



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Committee on Payments and Market Infrastructures
World Bank Group



Payment aspects of financial inclusion: application tools

September 2020



BANK FOR INTERNATIONAL SETTLEMENTS

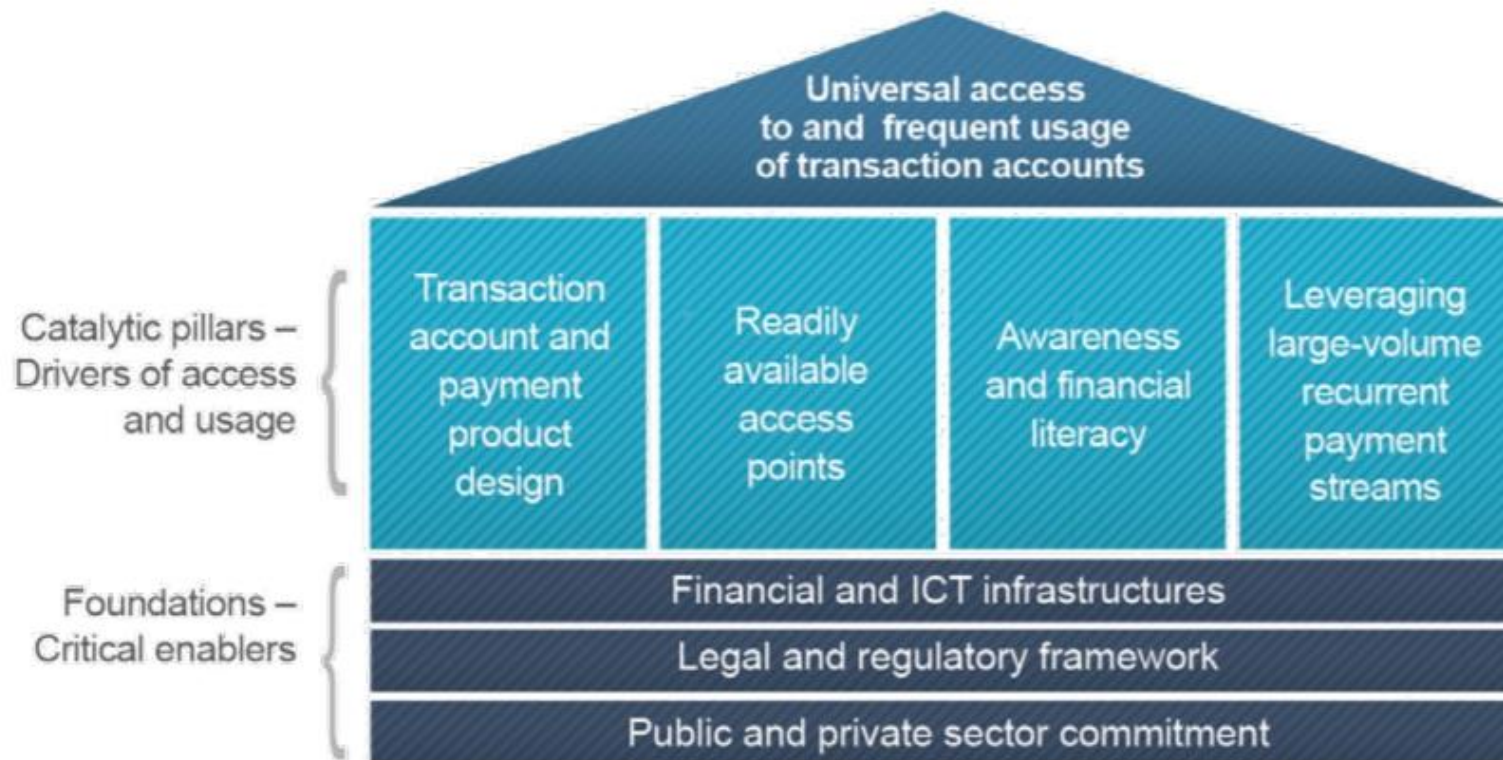


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PAFI FRAMEWORK

Framework for the guidance on payment aspects of financial inclusion

Figure 1



Source: CPMI-World Bank (2016).

OBJECTIVE OF THE PAFI APPLICATIONS TOOL REPORT

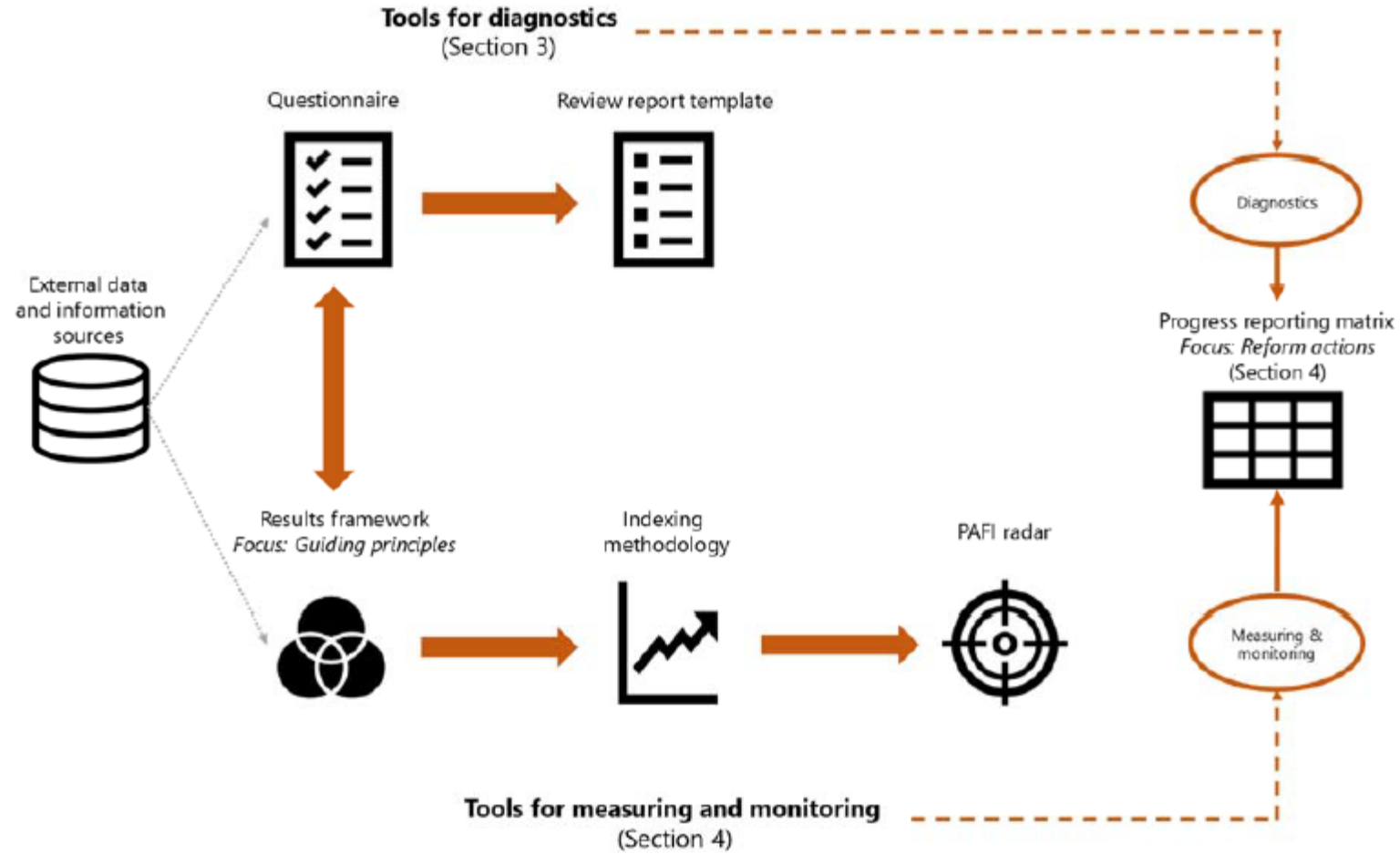
- To provide national authorities, international organisations, private sector stakeholders and other entities with more detailed guidance for the interpretation and application of the PAFI GPs.
- Based on first-hand experiences of PAFI TF members that were or are being tasked with assessing their jurisdictions vis-à-vis the PAFI GPs and devising and proposing reforms thereof, as well as from the lessons accumulated by the WBG through the “Universal Financial Access” initiative and its extensive operational work in this field since late 2015.

The guidance is not intended to set standards and does not supersede or modify the PAFI Guiding Principles or the key actions for consideration accompanying those principles.

OBJECTIVE (continued)

- More specifically, the tools in this report have been designed to assist the users by:
 - (i) supporting country diagnostics, with particular regard to a thorough collection of information to ensure a consistent application of the PAFI guidance;
 - (ii) proposing core indicators for each of the guiding principles to measure and track progress in enhancing access to and usage of transaction accounts;
 - (iii) enabling comparisons with international benchmarks and/or with a jurisdiction's own situation over time; and
 - (iv) facilitating internal follow-up and reporting of actual reform efforts in the area of financial inclusion from a payments perspective.

RELATIONSHIPS BETWEEN THE VARIOUS TOOLS



TOOLS FOR DIAGNOSTICS

KEY ELEMENTS

The PAFI Questionnaire:



- *Used for promoting uniformity and consistency in PAFI diagnostics*

Review Report Template:



- *Used for guidance and consistency in PAFI diagnostic reports*

TOOLS FOR DIAGNOSTICS: THE PAFI QUESTIONNAIRE

Annex 3: PAFI questionnaire

Guiding principle 1	Key actions for consideration	Questions
<p>GP 1: Public and private sector commitment:</p> <p>Commitment from public and private sector organisations to broaden financial inclusion is explicit, strong and sustained over time.</p>	<p>KAC 1: All relevant public and private sector stakeholders support the objective that all eligible individuals – regardless of culture, gender or religion – and businesses should be able to have and use at least one transaction account, and develop an explicit strategy with measurable milestones to that end.</p> <p><i>Fintech focus: All relevant fintech stakeholders are enlisted in support of this objective.</i></p> <p>KAC 2: All relevant public and private sector stakeholders allocate the appropriate human and financial resources to support financial inclusion efforts.</p> <p><i>Fintech focus: Financial inclusion efforts seek to leverage fintech expertise among all relevant public and private sector stakeholders.</i></p>	<p>Q.1.1.1: Is there a formal policy/strategy/initiative at the national level related to financial inclusion (including a national payments strategy or a fintech strategy with financial inclusion objectives)?</p> <p>Q.1.1.2: How does the policy/strategy encourage expanding the availability of retail payment services to promote access to formal financial services for the unserved or underserved?</p> <p>Q.1.1.3: As part of the national policy/strategy, is there any document formalising the collective private sector commitment towards the national vision? If so, please share the reference.</p> <p>Q.1.1.4: Do you have a national monitoring and evaluation framework related to financial inclusion? If so, does it include indicators related to payments?</p> <p>Q.1.1.5: Where a national financial inclusion policy/strategy (or equivalent) is less explicit, describe the efforts to broaden financial inclusion being undertaken by the relevant stakeholders, including fintech players.</p> <p>Q.1.2.1: Who are the stakeholders that can drive changes in payment systems and services?</p> <p>Q.1.2.2: What role do think tanks, private sector coalitions, non-government organisations, policymakers, regulatory authorities and regional organisations play in supporting research and fact-finding related to payments for financial inclusion?</p> <p>Q.1.2.3: Are there sufficient human and financial resources among public and private sector stakeholders allocated to support research in this area, including on fintech issues? What additional resources would be required to generate a greater impact?</p> <p>Q. 1.2.4: What additional resources can be mobilised through other groups or stakeholders (eg community development organisations) to support/promote financial inclusion objectives?</p>

TOOLS FOR DIAGNOSTICS: REVIEW REPORT TEMPLATE

Annex 4: PAFI review report template

I. Executive summary

This section highlights the key findings of the review. It is recommended that the main elements of the table with prioritised recommendations prepared in Section V also be included in the executive summary.

II. Introduction

This section introduces the report and includes the following key information regarding the review:

- Objective of the review: Identify the objective and context of the review.
- Reviewer: Identify the entity and the reviewer(s) conducting the review.
- Scope of the review: If not all guiding principles were reviewed, provide an explanation of why certain principles were not reviewed.
- Methodology of the review and sources of information: Identify the process followed in conducting the review. Identify the main sources of information, which may include written documentation (eg other reviews and reports, surveys, data for the core indicators proposed in the PAFI results framework and other statistics, relevant laws and regulations) and conversations with authorities and relevant industry stakeholders.

III. General overview of access to and usage of transaction accounts and summary of key findings

This section provides general information on financial inclusion in the country, with a focus on access to transaction accounts by individuals and, if possible, by micro and small enterprises, and also on the extent to which those accounts are used in practice. Including data and statistics specifically related to these issues is recommended in order to understand their evolution in recent years and the current status. Comparisons with other countries at a similar or more advanced stage of development are also desirable.

This section also summarises the main findings and conclusions of the detailed review, highlighting the key identified gaps or shortcomings for each of the guiding principles and the recommended actions to address them.

IV. Detailed review report

This is the core section of the report. For each of the guiding principles, it is recommended to include the following three subsections:

- Context subsection: This is a standard text that is essentially derived from the PAFI report and is provided to give a specific context to the discussion of the issues under each guiding principle.
- Status in the country: This subsection includes a detailed description of the current situation of the issues underlying each guiding principle, including achievements, gaps and shortcomings. To the extent possible, data and statistics related to these issues to be included.
- Recommendations: These are the suggested steps for authorities and other stakeholders to deal with the identified gaps and shortcomings.

An example of these three subsections for each of the guiding principles is shown below. It is based on the template used by the WBG in its country diagnostics exercises.

Guiding principle 1: Public and private sector commitment

Context

Financial inclusion requires a well functioning retail payments ecosystem, which is characterised by a complicated balance between cooperation and competition, safety and efficiency issues, as well as specific regulations for innovative and inclusive payment schemes. Fostering change in such an environment requires the ability to bring together diverse interests, launch policy research and development, change laws, mobilise funding to modernise financial infrastructures, and other similar requirements. Explicit, strong and sustained commitment from public and private sector organisations to broadening financial inclusion is indispensable if this agenda is to be effectively advanced.

Public sector authorities play a key role in creating an adequate enabling environment for financial inclusion in their respective jurisdictions. For example, many central banks are already working to better leverage the various roles they play in the retail payments space for this purpose.

Strong commitment from the private sector has also proved valuable in efforts to further the reach of transaction accounts that meet the needs of the unserved or underserved. In several cases, the industry has led the effort to provide basic accounts in their respective jurisdictions.

Status in the country

Gather facts on the basis of the questions included in the PAFI questionnaire and any other questions the reviewer(s) may deem relevant.

Recommendations

Include recommendations for authorities and/or for other relevant stakeholders.

Guiding principle 2: Legal and regulatory framework

Context

As recognised in the PAFI report, the legal and regulatory framework of a country plays a critical role in creating an enabling environment for inclusive payment services. Retail payment services involve a complicated mix of infrastructures, networks and services with both public and private sector investment, and benefit from varying degrees of competition and collaboration, as well as standardisation and innovation. In addition, adequate risk management, mitigation of fraud, abuse and protection of consumer interests are key supervisory and oversight considerations.

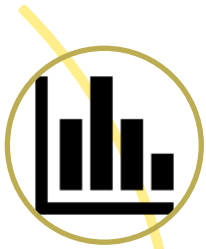
The following five key aspects of the legal and regulatory framework are analysed in detail as key elements for evaluating financial inclusion: (i) regulatory proportionality, neutrality and predictability; (ii) risk management; (iii) protection of customer funds (including both deposits and e-money customer funds); (iv) financial customer protection and transparency; and (v) financial integrity.

Status in the country¹⁴

Gather facts on the basis of the questions included in the PAFI questionnaire and any other questions the reviewer(s) may deem relevant.

TOOLS FOR MEASURING AND MONITORING PROGRESS: RESULTS FRAMEWORK

KEY ELEMENTS



The Core Indicators:

Used for GP measurement



Indexing:

Underlies construction of 7 GP indices and PAFI Radar



PAFI Radar Tool:

Excel-based tool that facilitates execution of the Results Framework on a local level.

EXAMPLE: CORE INDICATORS – GPs (Snapshot)

Part I: Proposed core indicators for the guiding principles¹⁹

Guiding principle	Proposed core indicators	Source/reference (as applicable) ²⁰	Frequency ²¹
GP1: Public and private sector commitment Commitment from public and private sector organisations to broaden financial inclusion is explicit, strong and sustained over time.	Existence of a well articulated strategy, roadmap or initiative to advance access to and usage of transaction accounts (all options below are valid): <ul style="list-style-type: none"> – National financial inclusion strategy (NFIS) or equivalent (eg National Payments Strategy addressing financial inclusion) → 0/1 binary indicator – National Payments Council (NPC) or National Financial Inclusion Council → 0/1 binary indicator – Existence of a retail payments strategy (RPS) → 0/1 binary indicator – Account ownership > 90% → 0/1 binary indicator 	WB FICP survey	Every 3 years
	Existence of a legal requirement for PSPs to offer transaction accounts with a minimum set of services (binary variable 0/1)	WB GPSS	Every 3 years
	Private sector commitment to financial inclusion through dedicated products and services targeting the unbanked: <ul style="list-style-type: none"> – Representation of relevant fintech or non-bank actors in the NPC → 0/1 binary indicator – Percentage of PSPs offering transaction accounts with functionalities that, at a minimum, make it possible to electronically send and receive payments at little or no cost, and to store value safely 	None None	Not applicable Every 3 years
GP2: Legal and regulatory framework	Risk Management – Oversight: A composite indicator can be built for each of the following aspects (a specific proposal is presented in Part 3 of this annex):	WB GPSS	Every 3 years

EXAMPLE: CORE INDICATORS – PAFI OBJECTIVES (Snapshot)

Part II: Proposed core indicators for the PAFI objectives

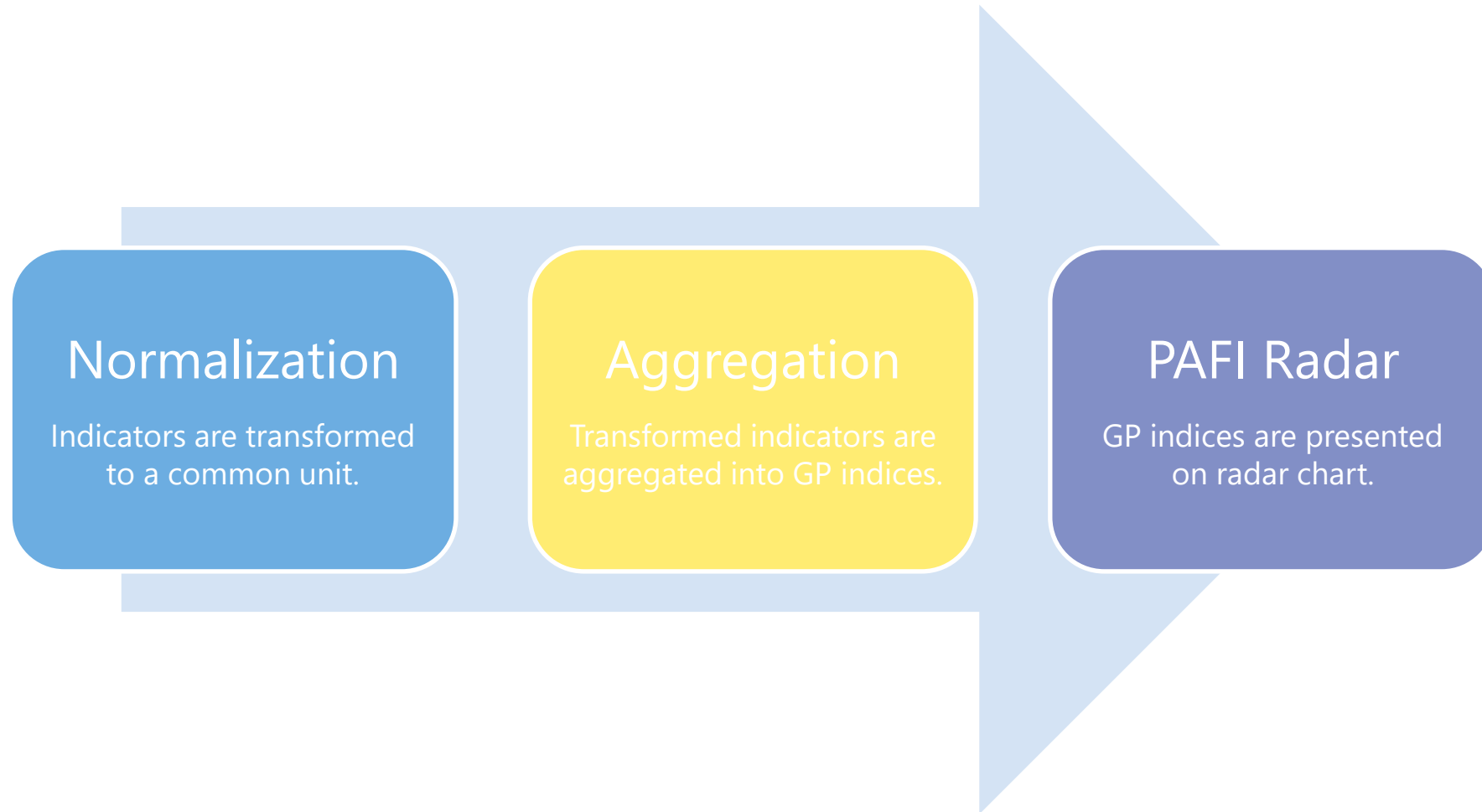
PAFI objective	Proposed core indicators	Source / Reference (as applicable) ²⁷	Frequency
Access to at least one transaction account operated by a regulated PSP	Adults with an account (% age 15+): Reflects the percentage of adults who report having an account (by themselves or together with someone else) with a formal financial institution or a mobile money provider	WB Global Findex / Central Banks	Every 3 years
	Number of accounts: Deposit accounts per 1,000 adults	IMF FAS	Annual
	Number of accounts: E-money accounts per 1,000 adults	WB GPSS	Every 3 years on an annual frequency
<i>That allows for:</i>			
(i) performing most, if not all, of one's payment needs	Made digital payments in the past year (% age 15+): Reflects the percentage of respondents to the Findex survey who report using mobile money, a debit or credit card, or a mobile phone to make a payment from an account, or report using the internet to pay bills or to buy something online, in the past 12 months. It also includes respondents who report paying bills or sending remittances directly from a financial institution account or through a mobile money account in the past 12 months	WB Global Findex	Every 3 years
	Electronic transactions per capita: includes credit transfers, direct debits, payment card transactions (debit cards, credit cards), and payments by e-money instruments (card-based e-money instruments, mobile money products, and online money products)	WB GPSS	Every 3 years on an annual frequency
	Number of mobile money transactions per 1,000 (people aged 15+)	IMF FAS	Annual
(ii) safely storing some value	Saving propensity: Saved at a financial institution (% age 15+). Represents the percentage of adults that saved at a bank or other regulated financial institution in the past year	WB Global Findex	Every 3 years

EXAMPLE: CALCULATING COMPOSITE INDICATORS

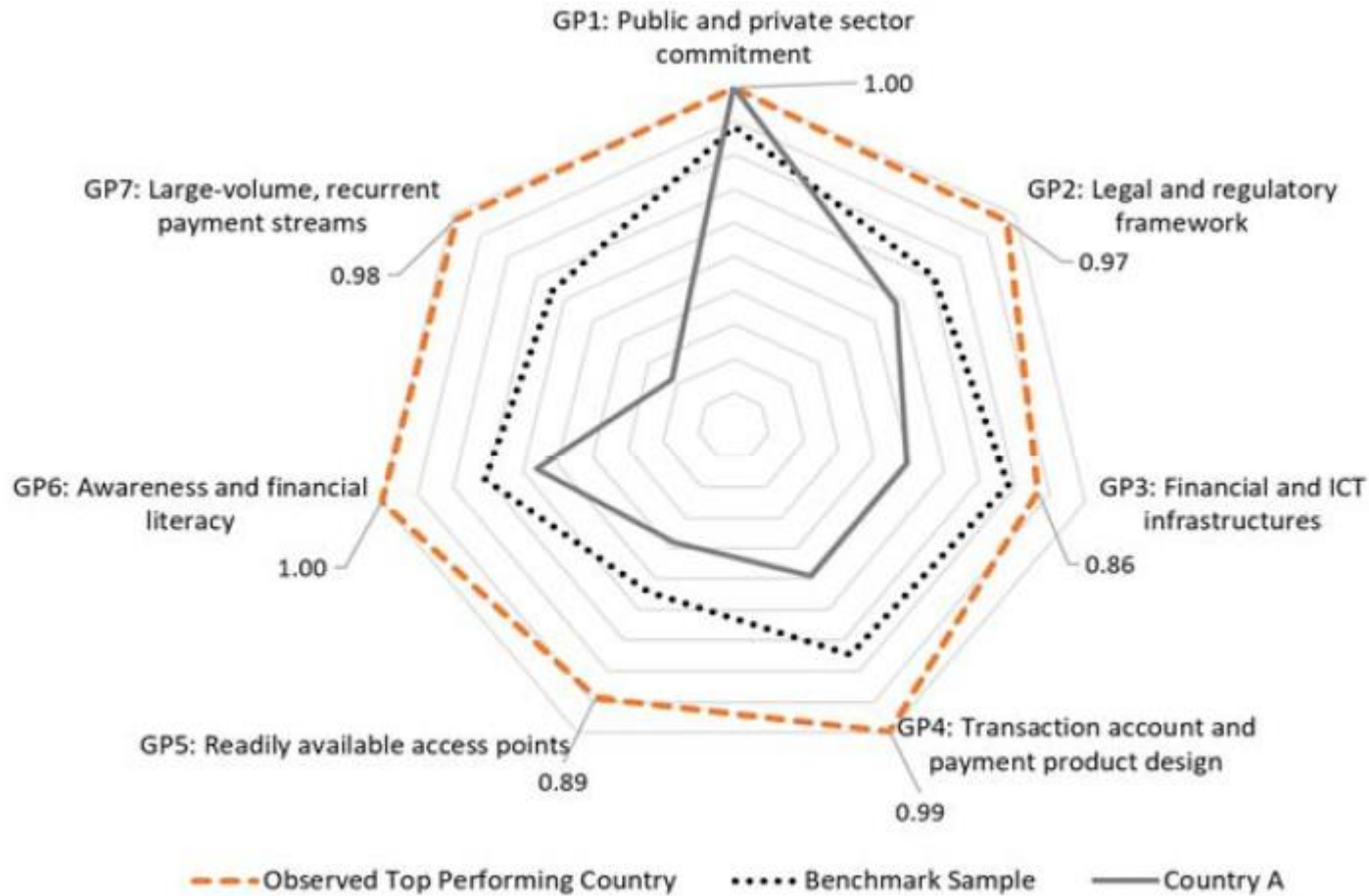
Part III: Methodology for proposed composite indicators

Guiding Principle	Proposed composite "core indicator"	Criteria	Points (To be summed up)
2	Risk Management: Oversight: [a] Central bank legal powers (Range of values: 0–3)	a.i) Central bank has formal powers to perform payment oversight. a.ii) Empowerment is general, in the context of "ensuring the adequate and safe functioning of payment systems" in the country. a.iii) Empowerment is explicit, granting it powers to operate, regulate, and oversee payment systems.	If (i), 1 total point If (ii), 2 total points If (iii), 3 total points
2	Risk Management: Oversight: [b] Organisational arrangements (Range of values: 0–4)	b.i) The central bank's payment system oversight function has been established and this is performed regularly and in an ongoing basis. b.ii) There is a specific unit or department within the central bank responsible for payment system oversight. b.iii) The payment system oversight function is segregated from payment system operational tasks either through organisational means or via independent reporting lines.	2 1 1
2	Risk Management: Oversight [c] Objectives of oversight (Range of values: 0–2)	c.i) The central bank has set down its objectives in carrying out the payment system oversight function in a regulatory or policy document. c.ii) The regulatory or policy is publicly available.	1 1
2	Risk Management: Oversight	d.1.i) Cooperation with other relevant authorities occurs mostly in an informal/ad hoc basis.	If (i) and (iii), 0.5 total points

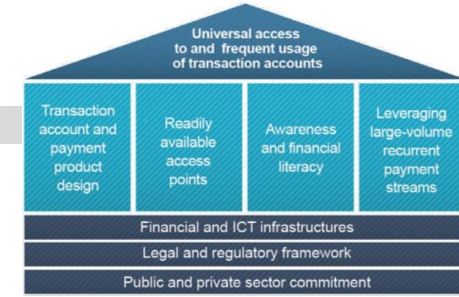
TOOLS FOR MEASURING AND MONITORING PROGRESS: INDEXING METHODOLOGY and PAFI RADAR



PAFI Radar



Why PAFI Radar?



Data Sources:

- WB Global Payment Systems Survey
- WB Global Financial Inclusion and Consumer Protection Survey
- Global Findex
- Doing Business
- WB Bank Regulation and Supervision Survey
- GSMA
- ITU ICT Statistics
- WB ID4D Database
- IMF FAS
- S&P's Financial Literacy Survey
- UNESCO Institute for Statistics, SDG 4.4.1
- WB World Development Indicators

TOOLS FOR REPORTING PROGRESS: THE PAFI REPORTING MATRIX

- The progress-reporting matrix has been designed to identify key aspects to be looked at from a project management perspective when engaging in a reform effort. This includes elements or features that are relevant at the reform inception stage or that need to be evaluated periodically once the reform has been launched.
- This tool is therefore aimed at identifying the extent to which each of the topics covered by the GPs is considered a priority in a country, the degree to which the relevant elements underlying those topics have been implemented, and who is responsible for them (e.g. central bank or another party)
- For an ongoing reform, the progress-reporting matrix is intended to periodically capture aspects such as the specific measures that have been initiated to address the identified gaps, the public and private sector parties involved, the expected outcomes and the associated challenges.
- Apart from its basic purpose, the progress-reporting matrix could also become a tool through which authorities in different countries can share their practical experiences.

TOOLS FOR REPORTING PROGRESS: THE PAFI REPORTING MATRIX

(Example for PAFI guiding principle 4)

GP4: Transaction account and payment product design	Current status			Reforms launched					Additional comments
	Priority for central bank	Status of implementation	Central bank responsibility	Type of reform initiated	Institutions involved in the reform	Expected outcome and impact	Time frame	Challenges for the success of the reform	
<i>KAC 1: Where reasonable and appropriate, PSPs provide a basic transaction account at little or no cost to all individuals and businesses that do not hold such an account and that wish to open such an account.</i>	1. High 2. Medium 3. Low	1. Implemented 2. Partially implemented 3. Ongoing implementation 4. Plans for implementation developed 5. No plan for implementation	1. Direct 2. Indirect	Describe reform 1, reform 2, up to reform "n". Columns to the right should be completed <i>per each reform</i> .	Include all public sector authorities or institutions. Include all relevant private sector entities, bodies and organisations.	Describe outcome. Evaluate impact (high or medium).	1. Short term or within 1 year 2. Medium term or 1 to 3 years. 3. Long term	1. Technological 2. Regulatory 3. Market 4. Human resources 5. Other	Describe
<i>KAC 2: PSPs offer transaction accounts with functionalities that, at a minimum, make it possible to electronically send and receive payments at little or no cost, and to store value safely.</i>	1. High 2. Medium 3. Low	1. Implemented 2. Partially implemented 3. Ongoing implementation 4. Plans for implementation developed 5. No plan for implementation	1. Direct 2. Indirect	Describe reform 1, reform 2, up to reform "n". Columns to the right should be completed <i>per each reform</i> .	Include all public sector authorities or institutions. Include all relevant private sector entities, bodies and organisations.	Describe outcome. Evaluate impact (high or medium).	1. Short term or within 1 year 2. Medium term or 1 to 3 years. 3. Long term	1. Technological 2. Regulatory 3. Market 4. Human resources 5. Other	Describe
<i>KAC 3</i>									
...									
...									
<i>KAC 7</i>									



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Thank you!

ANNEX



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BANK FOR INTERNATIONAL SETTLEMENTS

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ASPECTS OF
FINANCIAL
INCLUSION



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Methodology: Normalization

Min-max / Distance to Frontier:

$$d_{ij} = \frac{A_{ij} - m_i}{M_i - m_i}$$

Where d_{ij} is the normalized indicator i for country j , A_{ij} is the observed value of indicator i in country j , m_i is the minimum value and M_i is the maximum value.

The highest and lowest performers take on values of 1 and 0, respectively.

Outlier approach:

For indicators that have observations greater than 3 standard deviations from the mean, the 96th percentile observation for the indicator serves as the maximum value.

Methodology: Aggregation

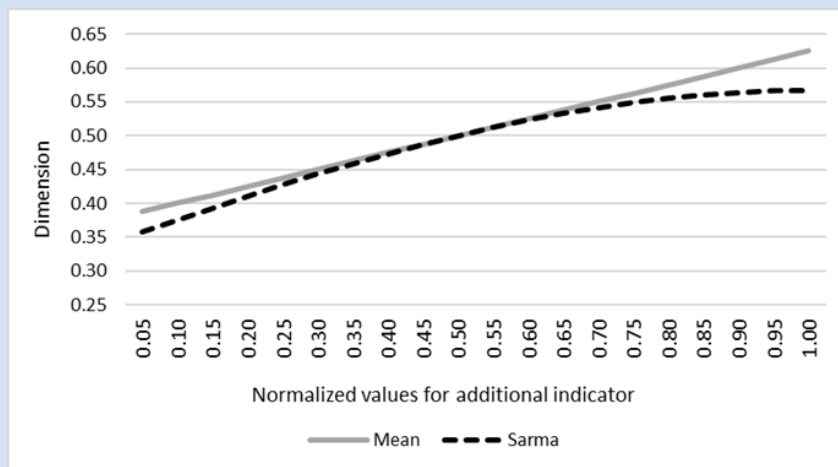
Aggregation method proposed by Sarma (2008):

$$IFI_j = 1 - \frac{\sqrt{(1 - d_1)^2 + (1 - d_2)^2 + \dots + (1 - d_n)^2}}{\sqrt{n}}$$

This aggregation method yields an index that takes on lower values than a simple average at lower and higher levels of the underlying normalized indicators.

It rewards balanced progress across dimensions and penalizes an index when one dimension is falling considerably behind. It also accounts for diminishing returns to performance from a single dimension.

Aggregation Behavior



$$1 - \frac{\sqrt{(1 - 1)^2 + (1 - 0)^2}}{\sqrt{2}} = 0.29$$