Strategies of Financial Inclusion for Enriching Sustainable Development Goals in BRICS Economies

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Abstract

Most of the challenges to sustainable development are interconnected and systemic in nature, which makes achieving this goal particularly challenging. Research on these barriers and their solutions revealed that neither technological nor social innovation hinders the adoption of this development model. The main reason lies in the specific mechanisms for overcoming inertia, resistance to change, path dependency, and entering a new trajectory. One of the key spaces where the widest circles of the population are in close contact with new technologies is the financial sector. Fintech has significant potential to overcome these limitations, change behavioral patterns, reduce path dependence, and launch development on a new trajectory.

The article provides a comprehensive analysis of these processes using the example of the expanded BRICS countries. It compares heterogeneous socioeconomic landscapes and assesses the readiness of the countries in question to master more complex development models, using digital banking as an example. The study identifies the blocking factors and suggests ways to overcome them. An interdisciplinary synthesis of the theories of narrative persuasion, evolutionary governance, and path dependence provides a new understanding of the interaction of financial systems, governance structures, and social behavior, upon which financial inclusiveness depends as a cornerstone for achieving balanced economic growth.

Keywords: openness to change; financial inclusion; digital financial technologies; BRICS countries; sustainable development goals; path dependence; economic flexibility; digital platforms; fintech; behavioral patterns

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Introduction

The development of financial inclusion (FI), i.e., providing citizens with broad access to financial services using digital technologies, is actively discussed among experts and politicians. In leading countries, universal access to such technological solutions has long been the norm. Meanwhile, in developing countries, with the adoption of new technologies that improve the quality of life, certain problems remain, the elimination of which is a priority socio-economic task for development institutions such as the World Bank and the UN (World Bank, 2022; UN, 2017). In most BRICS countries, the share of the population not covered by digital technologies remains significant. However, the spread of these technologies can stimulate a transformative transition to a new development trajectory (Purva et al., 2021). Embracing banking innovations expands the possibilities of managing available funds for different purposes – current expenses, emergency response, investment in education, health support, entrepreneurship, and so on. (OECD, 2020, 2022, 2023). As BRICS countries strive to increase welfare, FI can play a crucial role in achieving this goal (Umar et al., 2021). Mobile banking, digital wallets, online payment systems, and other tools, have increased the space for operating available financial resources and have created the preconditions for smoothing out social inequality (Pradhan et al., 2021; Abdu, Adem, 2021; Tian, Xiang, 2023). The spread of digital technologies is a priority for international development institutions, financial institutions, and government agencies. Specialized associations have emerged, such as the Alliance for FI (AFI) and the Global Partnership for FI (GPFI). Although this topic has only recently entered the academic discourse (Yang, Masron, 2023), a significant cluster of studies has formed around it. When talking about FI measurements, the most common indicators are the number of bank accounts or ATMs per capita. However, they reflect only one aspect of FI, namely access to finance (AF). According to the public goods theory, FI should benefit everyone, regardless of status or income (Kumar Vaid et al., 2020). The value of access to financial services directly impacts all areas of life, including investments in the future, making this area a priority in terms of including the entire population in a single financial system (Allen et al., 2016).

The positive contribution of FI to economic growth has been confirmed by numerous studies in different regions of the world (Mitchell, Scott, 2019; Zins, Weill, 2016; Evans, 2018; Tsai, 2017). For the BRICS countries, FI is one of the priorities for achieving inclusive growth and improving the population's well-being through a wide range of instruments (Umar et al., 2021). For financial system reforms to be effective, it is important to understand the diversity of microeconomic factors that influence FI. Digital platforms accelerate the spread of financial services, reduce costs, increase customer needs adaptability, and provide economic opportunities (Lauer, Lyman, 2015). The volume of non-cash transactions is projected to reach $1.9 trillion this year and the amount of per capita digital payments will triple by 2030 (PwC, 2021). However, for FI to spread everywhere, digital financial technologies alone are not enough since another deep-seated challenge is to overcome the population's unwillingness to accept them (Chatterjee 2020). A transformation of collective thinking and a rejection of established stereotypes are required.

The topic of societal acceptance of innovations is also widely covered in the literature, where a notable constellation of concepts related to this problem is used: the theory of evolution (Beinhocker, 2006), community planning (Albrechts, 2004), spatial development (Stöhr et al., 1981), evolutionary economics (Pike et al., 2010; Martin, 2012), futures studies (Inayatullah, Sweeney, 2021; Donnelly, 2023; Di Zio et al., 2023), cognitive biases (Tversky, Kahneman, 1974), path dependence (Arthur, 1994; Garud et al., 2010), resistance to novelty (Oreg, 2003), and observational learning (Walden, Browne, 2009), etc. All of them, to one degree or another, shed light on the mechanisms that allow us to overcome the low sensitivity of the population to new technologies, in our case, fintech and FI.

This paper uses Bayesian and Markov decision models to identify entry points for path rethinking and openness to new technologies. We synthesize the concepts of "path dependence" (Liu et al., 2024), "observational learning" (Walden, Browne, 2009), "narrative theories" (Puckett, 2016), "financial inclusion " (World Bank, 2022; UN, 2017), and "vision of the future" (Polack, 1972). The reasons for resistance to innovation and ways to overcome it are analyzed. It shows how a combination of these concepts can "grow" into a proposal for effective ways to ensure the financial inclusion of the population in the BRICS countries.

This article begins with a review of the literature on FI and concepts that encourage rethinking of emerging opportunities. It then provides examples of both successful implementation and problematic situations, as well as possible future scenarios. A classification of BRICS countries by their level of FI achievement and targeted recommendations for their transition to higher positions are proposed.

Literature Review

According to numerous studies, a narrative approach can stimulate change and motivate people to choose more complex, sustainable development paths, the reliability of which has been proven by the experience of those who have previously applied

such a strategy (Talbi, 2024). Narratives are structured assumptions about cause-and-effect relationships. Combined with analytical data, they reveal a holistic perspective, allow us to interpret events realistically, and make choices in conditions of deep uncertainty (Johnson et al., 2022). The structured delivery of narratives serves to solve such problems as rethinking the past, coordinating behavioral patterns and actions, and shaping a preferred future. Given that public narratives can be embodied in individual strategies and, under certain conditions, the likelihood of making bolder and more radical decisions to overcome path dependence increases, Conviction Narrative Theory (CNT) appears to be a relevant conceptual framework for our study. Countries still have barriers to accessing "digital finance," which have a destructive impact on development. The diagram in Figure 1 reflects the "dependence on the past" structure.

Existing ideas are transformed under the influence of two channels. On the one hand, "shot" fragments of the narrative transform the social context, and on the other, the actions taken can lead to the emergence of new events. Narratives combine the cause-and-effect, time, analog, and valence components of the information underlying decision-making. In other words, four processes are integrated:

- Explanation (structuring facts to make sense of the past and present).
- Modeling (creating a new path by extrapolating the narrative over time).
- Perception (assessment of the preferred scenario).
- Communications.

Relying solely on facts does not provide a holistic view of reality and must be supported by deeper knowledge that takes into account components that are not always measurable (Tuckett et al., 2020). The Bayesian process involves synthesizing knowledge about the past with new events. Taking these aspects into account becomes the basis for developing effective strategies to achieve FI, coordinating the efforts of different players to promote relevant instruments while increasing the population's readiness to accept them (Falaiye et al., 2024).

Evolutionary governance theory (EGT) considers, among other things, the influence of limiting conditions and collective behavioral patterns on the trajectories of socio-ecological development (Goldstein et al. 2023). Fairbairn (2020) provides an example of how this mechanism operates. The concept of "inevitable effects" derived from EGT helps identify important events that cause radical transformational shifts. However, it is not applicable to a broader spatio-temporal identification of future trajectories, since complex socioeconomic systems behave unpredictably. To describe them, evolutionary models of change, including "path dependence" (Gowdy, Baveye, 2019), are increasingly used in interdisciplinary sciences. According to the EGT, evolution is not always linear, allowing for locks that keep us in inertial scenarios from which it is very difficult to exit. The transition to a new, dynamic trajectory requires the ability to finely and complexly orchestrate interactions between different stakeholders and collective learning to adapt to more complex development models (Goldstein et al. 2023). Thus, the combination of CNT and PDM is a suitable tool to achieve the objectives of our study on the factors hindering the adoption of new technologies as a basis for ensuring FI in the BRICS countries.

BRICS Countries

With the accession of five new members to BRICS in 2024[1], the alliance's combined GDP reached $30.76 trillion (30% of the global total), and its share of the world's population is 40%. Its members have expressed their commitment to achieving the Sustainable Development Goals (SDGs), one of the key conditions that are seen as stimulating economic growth and reducing inequality. Digitalization and FI can significantly contribute to this process (Iammarino et al., 2019). Table 1 shows the main macroeconomic indicators of the BRICS countries in 2023.

Austria was chosen as a benchmark for assessing the current level of FI in the BRICS countries, whose relations with the alliance members can be called

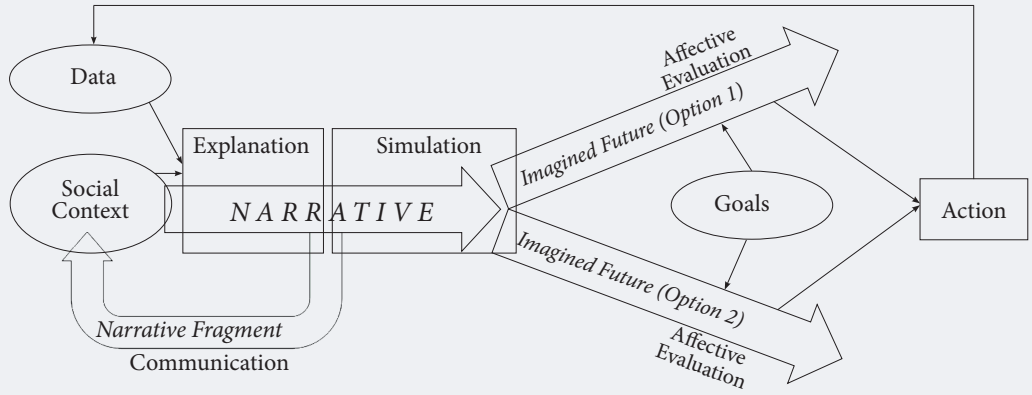
Table 1. **Macroeconomic Indicators of BRICS Countries Compared to Austria (2023)**

Country	GDP (share of world, %)	GDP growth rate (annual, %)	Inflation, consumer prices (annually, %)
Brazil	2.1058	2.9084805	4.5935628
China	18.50106	5.2	0.2348368
Egypt	0.507273	3.7590054	33.884776
Ethiopia	0.121358	6.4981346	30.218828
India	3.446253	7.5839711	5.6491432
Iran	0.551398	4.9521632	44.579186
Russia	1.642323	3.6	..
Saudi Arabia	0.836087	–0.754915	2.3270852
South Africa	0.390917	0.6016623	6.0739085
UAE	0.4806	3.4038572	..
Austria	1.760292	3.0169881	5.5970149

Source: authors.

1 On January 1, 2024, the BRICS alliance expanded to 10 countries: the original members, Brazil, Russia, India, China, and South Africa, were joined by Egypt, Ethiopia, Saudi Arabia, Iran, and the UAE.

Figure 1. **Representations and Processes in Conviction Narrative Theory (CNT chart)**



Note: Components are represented by block arrows, processes by rectangles, and beliefs and values that the thin arrows bring to the table by ovals.

Source: (Johnson et al., 2022).

partnerships, with a focus on the economic component. The country is a good benchmark for BRICS members due to its high level of FI and the development of digital technologies. Developed digital infrastructure and strong social support systems have provided the population with almost universal access to financial services.

India demonstrates the highest GDP growth rate (7.58%). It is noteworthy that Ethiopia, with a rate of 6.5%, is ahead of China (5.2%). In Saudi Arabia, a decrease in GDP of -0.75% was noted. These figures give an initial idea of the heterogeneity of the BRICS economic landscape, the variety of existing problems, and differences in development dynamics.

One of the key concepts used in our study is "unbanked," which means that an individual does not have an account with a financial institution. This status is seen as an obstacle to wealth. Most of its holders live in developing countries and have severely limited opportunities to perform banking transactions. Concentrating efforts on the digitalization of financial technologies will significantly increase the level of FI. The data presented below illustrate the problems of the countries under consideration, caused by the following factors: access to finance (AF), use of finance (UF), digital access to finance (DAF), and the level of wealth (LW). The analysis is based on data from the FINDEX 2021 survey (Demirgüç-Kunt et al., 2022).

A multi-level approach can improve the effectiveness of strategies to achieve FI. Table 2 lists the barriers to FI development in each country, according to the relevant characteristics, and outlines the general measures to overcome them. Table 4 pres-

Table 2. **Principal Component Loadings of FI Dimensions in BRICS Countries Compared to Austria**

Country	Component	Factor loading	Contribution to explanation of statistical dispersion (%)
Austria	AF	0.92	82.5
	BS	0.38	17.5
Brazil	AF	0.85	72.4
	WB	0.53	27.6
China	AF	0.92	82.5
	WB	0.38	17.5
Egypt	AF	0.92	82.5
	WB	0.38	17.5
Ethiopia	AF	0.92	82.50
	WB	0.38	17.50
India	AF	0.85	59.2
	WB	0.52	33.5
	UF	0.02	7.3
Iran	AF	0.92	82.3
	WB	0.38	17.7
Russia	AF	0.92	82.5
	WB	0.38	17.5
Saudi Arabia	AF	0.91	82.3
	WB	0.40	17.7
South Africa	AF	0.90	74.6
	WB	0.44	21.3
	DAF	0.12	4.1
UAE	AF	0.88	77.9
	WB	0.47	22.1

Legend: AF - access to finance, WB - well-being, UF - use of finance; DAF – digital access to finance.

Source: authors.

Table 3. **Analysis of The FI Index and Its Components by Country Using the Principal Component Method**

Country	AF	WB	UF	DAF	FI
Austria	0.95	0.90	-	-	0.92
Brazil	0.60	0.65	-	-	0.62
China	0.80	0.75	-	-	0.78
Egypt	0.50	0.55	-	-	0.52
Ethiopia	0.30	0.40	-	-	0.38
India	0.70	0.60	0.02	-	0.72
Iran	0.55	0.50	-	-	0.54
Russia	0.75	0.70	-	-	0.74
Saudi Arabia	0.85	0.80	-	-	0.82
South Africa	0.65	0.60	-	0.12	0.64
UAE	0.90	0.85	-	-	0.88

Source: authors.

Table 4. **Levels of Development of FI**

Country	AF	UF	DAF	WB	FI
L_1 — countries with developed financial sector					
Austria	0.95	–	–	0.90	0.92
UAE	0.90	–	–	0.85	0.88
Saudi Arabia	0.85	–	–	0.80	0.82
China	0.80	–	–	0.75	0.78
Russia	0.75	–	–	0.70	0.74
L_2 — countries at the stage of rapid transition to FI					
India	0.70	0.02	–	0.60	0.72
South Africa	0.65	–	0.12	0.60	0.64
Brazil	0.60	–	–	0.65	0.62
Iran	0.55	–	–	0.50	0.54
L_3 — countries with weak FI					
Egypt	0.50	–	–	0.55	0.52
Ethiopia	0.30	–	–	0.40	0.38

Source: authors.

ents the results of the principal component analysis (PCA) of the FI index and its dimensions by country.

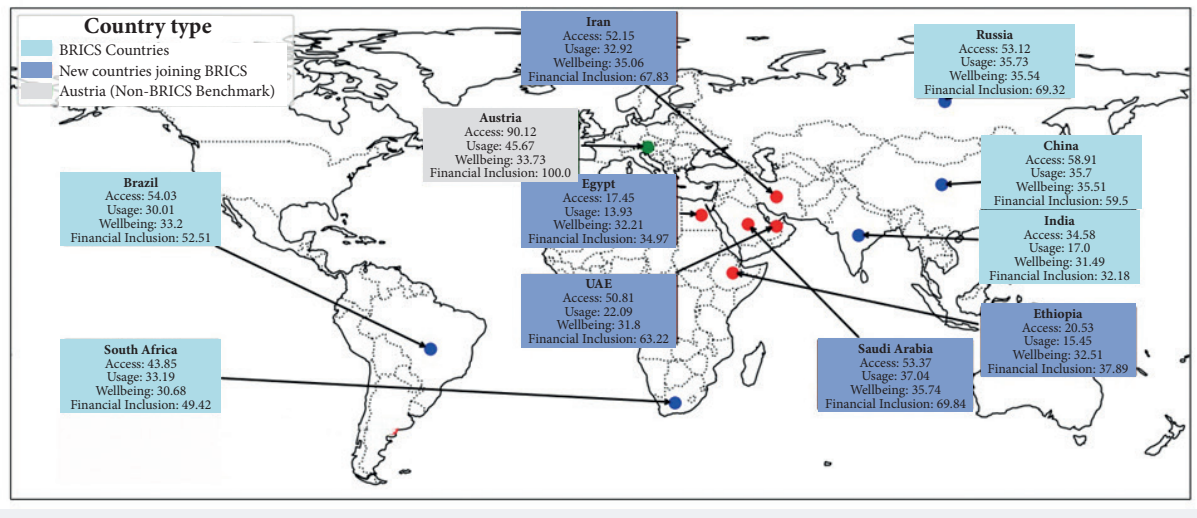
For most countries, the measures involve raising the level of education, smoothing out the "contrasts" between rural and urban areas, and adjusting mental and cultural patterns.

The data in Table 3 allow us to draw the following conclusions. Austria and the UAE dominate in all dimensions of FI. The remaining countries demonstrate noticeable differences in the values of AF and UF. In China, India, Russia, and Saudi Arabia, these indicators are balanced, indicating continued dynamism, while in Ethiopia and Egypt their values are low, indicating the need for targeted policy interventions.

In Table 4 and Figure 2, countries are divided into three levels according to their degree of FI development: L_1 (developed FI), L_2 (stage of rapid transition to FI) and L_3 (weak FI development).

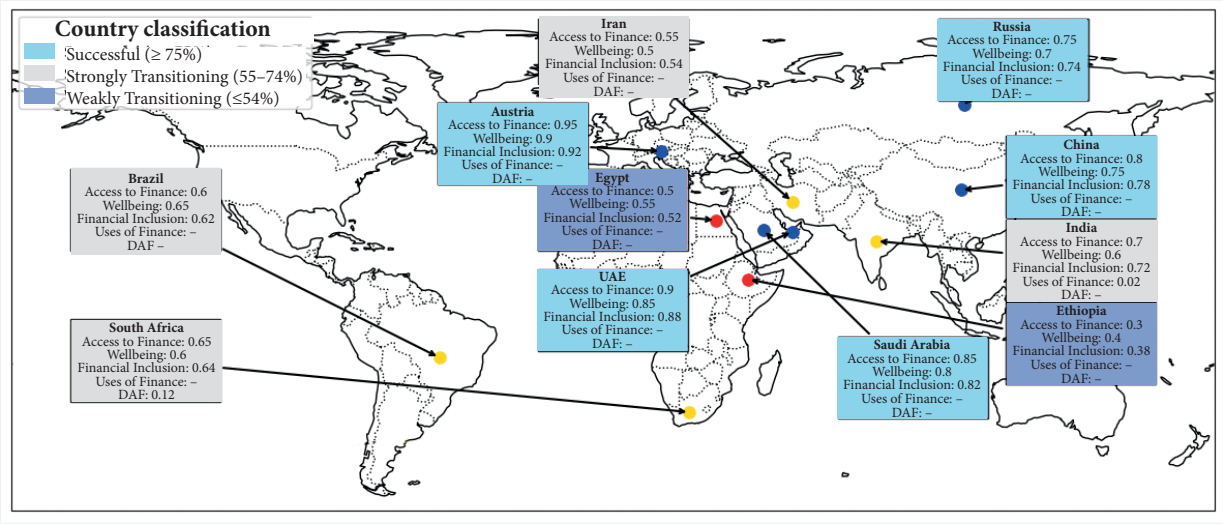
The distribution of the countries is based on their level of financial ecosystem development. The first-level "residents" are characterized by high values of all financial ecosystem indicators and a developed financial ecosystem. Austria is in the lead, followed by the UAE, Saudi Arabia, China, and Russia. The second tier includes India, South Africa, and Brazil, demonstrating a slower pace. Egypt and Ethiopia are located at the lower level and will have to take enhanced measures to expand access to financial services. The presented classification serves as a

Figure 2. **Current Situation with FI Parameters in the BRICS Countries and Austria**



Source: authors.

Figure 3. **The Degree of Progress of BRICS Countries Towards an Inclusive Financial System Compared to Austria**



Source: authors.

guide for determining the strategic focus for countries with different adoption levels, which would allow them to move from L_3 to L_2 and from L_2 to L_1.

Figure 3 divides the BRICS members into three categories based on the range of percentage values of their FI indicators relative to the benchmark, Austria. For the first of these ('successful,' ≥ 74%), the transition to an inclusive financial system should not pose any particular difficulties.

The second category (50-74%) is in the process of dynamic transition to building such a system. South Africa, Brazil, India, and Iran provide relatively high availability of finance in emergency situations (for a month), and the first two - also for a week. India, along with South Africa, leads in the distribution of mobile financial applications among the most economically active 60% of the population and, together with Brazil, is ahead of other countries in the volume of transfers of public funds to the accounts of such users. This demographic group, compared to the rest, expresses the least concern about their ability to meet current expenses and deal with the costs of medicine and education.

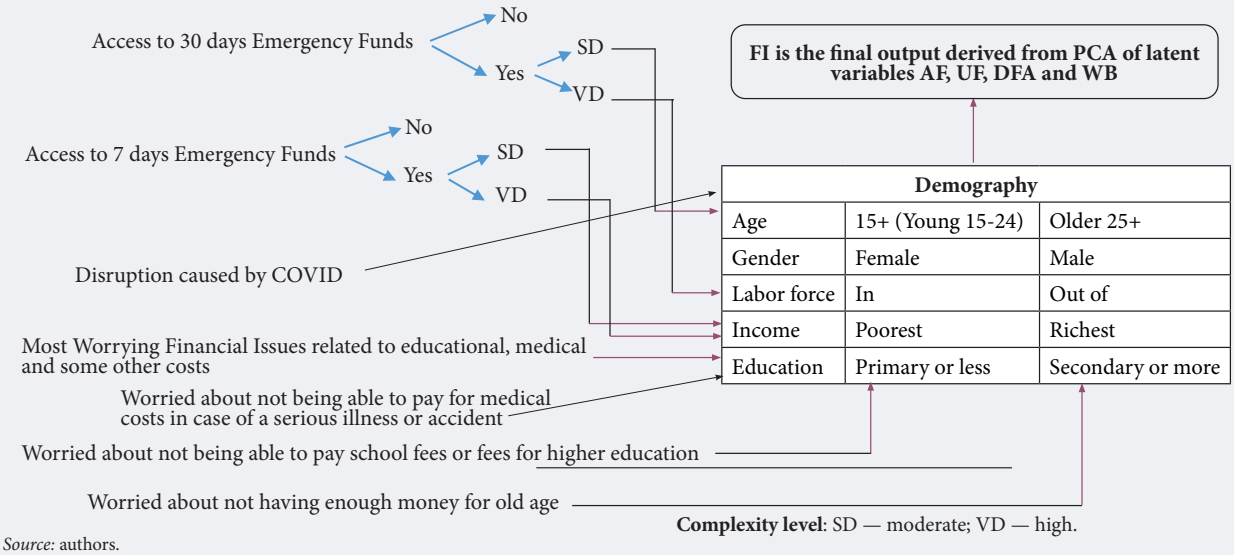
The third category of countries (less than 50%) is characterized by high barriers that impede the transition to an inclusive financial system. Ethiopia and Egypt, which are included here, have the poorest ability to provide access to finance in emergencies, regardless of the demographic group. These countries are characterized by the highest rates of vulnerable groups, the share of inactive accounts, and the minimum provision of digital infrastructure. In turn, the UAE, Austria, and Brazil are the top three countries when it comes to financial inclusion and the flexibility of their governance systems. This is shown by the fact that more people have bank accounts, use digital payment tools, and have better access to money in an emergency. In all BRICS countries, access to finance is highly dependent on employment status, income, age, and gender. Mature individuals with high incomes enjoy the greatest advantages.

Figure 4 shows a path dependence matrix that visualizes the cause-and-effect relationships that influence FI. Table 5 provides detailed characteristics of its elements. Finding the link between the things that affect the level of FI and demographic details helps us understand the problems that different groups of people face, taking into account the rules and technology available at the time. Understanding these relationships allows us to outline key areas of action to eliminate barriers to FI.

The Relationship between the Concept of FI and the Theories of Narrative, Public good and evolutionary control

According to ***Narrative Theory***, individual and social perceptions are reinforced by the transmission of success stories or failures, experiences, and discourses. Narratives influence decision-making, behavior patterns, the reproduction of patterns and barriers. Path dependence often arises from dominant blocking narratives that constantly generate and feed resistance to change in a self-reproducing cycle. Certain segments of the population lack access to financial services due to predetermined historical and cultural contexts. They express biased attitudes toward financial systems, perceiving them as complex, inaccessible, and questionable. Seeing financial services as "too expensive" perpetuates the narrative of exclusion through a rejection of complexity or the availability of "digital money" for ev-

Figure 4. **The "Path Dependence Matrix" Model for Analyzing Factors that Hinder FI**



Source: authors.

eryone. Such limiting patterns are displaced by new, alternative, and creative narratives.

Public Good Theory sees FI as a driver of collective well-being. From this perspective, regular financial literacy campaigns and other tools can break limiting narratives. Mechanisms that can help expand digital access to finance include subsidizing mobile devices and tariff plans for low-income groups and e-KYC (Know Your Customer). Concerns about not being able to pay for health care or education are addressed through microinsurance or public savings schemes that provide "safety nets" and mitigate systemic risks.

From an ***Evolutionary Governance Theory*** perspective, it is necessary to continually adapt to changing population needs and the emergence of new technologies, which implies a proactive response to waves of change.

Comparison of Approaches

Each theory offers unique but complementary approaches to overcoming the barriers discussed. The first of them (narrative) focuses on changing perceptions and behavioral patterns through stories and collective discourses [2]. The second emphasizes structural reforms and the democratization of financial services. The third suggests overcoming entrenched constraints through adaptability and institutional transformation. Table 6 presents measures for FI development based on the application of these theories. In general, they come down to adjusting narratives through information campaigns for L countries, shaping the perception of FI as a public good through infrastructure development, and regularly revising policies in light of emerging social and technological changes that determine changing public needs.

Comparison of the Conviction Narrative Theory and Path Dependence Model

Figures 1 and 4 present analytical frameworks for studying decision-making processes and system challenges from different perspectives.

Narratives are defined by the social context. They allow us to interpret events and facts, anticipate the future, and redefine the vector of development. Successful fragments of a narrative transform collective perception and generate new narratives to update individual narratives. According to the Path Dependence Model (PDM), mistrust of financial institutions and fears of the consequences of pandemics are deeply rooted in cultural narratives, determine behavior, reinforce path dependence, and hinder change. In both models, narratives play a key role in influencing decision-making, which in the CNT view is carried out through feedback loops, and in the logic of the PDM, underlies systemic barriers and behavior determined by path dependence.

Feedback loops connect narrative fragments in different combinations. Creative narratives reshape

2 In terms of approaches to adjusting narratives, a striking illustrative example is the comparison of the cases of three settlements on the Canadian island of Newfoundland, presented in the work (Van Assche et al., 2021). By following their own tracks, their populations eventually managed to achieve a profound transformation of collective thinking, successfully overcome "path dependence," identify and implement emerging opportunities in order to move to more complex, innovative business practices and adapt to new development models.

Table 5. **Factors Determining Path Dependence (by Components of the FI)**

Access to finance
Availability of funds in an emergency situation within 7/30 days
Reasons for not having a personal bank account • Distance to the banking institution • High cost of financial services • Lack of necessary documents • Distrust of financial institutions • Insufficient funds to replenish the account • Religious motives • Having an account with a family member
Welfare
Degree of concern about the inability to meet the following expenditure items (on a scale: Moderate / High) • Treatment of a serious illness or injury • Education • Current expenses, payment of utility bills • Life in the «third age»
Degree of concern about the consequences of global crises (e.g. pandemics) (on a scale: Low / Medium / Strong)
Use of finances
Reasons for not using a registered bank account • Distance to the banking institution • Discomfort when using the account independently • Insufficient funds to replenish the account • Lack of trust in financial institutions • No need to use an account
Digital access to finance
Reasons for the absence of a mobile money account • High cost of using mobile payment instruments • Insufficient funds to replenish the account • Lack of necessary documents • Remoteness of service providers • Access to an account provided by another person
Source: authors.

collective perception. Feedback transforms both systemic structures and determinants of FI. For example, concern about money problems is in a mutually reinforcing relationship with isolationist behavior. In CNT, feedback loops are explicitly present, while in the rut effect model they are implicitly embedded in the cyclical nature of barriers that reinforce path dependence.

Decision-Making involves assessing narratives in relation to goals and strategies based on personal and collective beliefs and values. The degree of achievement of FI is determined by the removal of barriers that reflect collective behavior and systemic inertia and are expressed in the absence of funds and inactive accounts.

Adaptation occurs when creative narratives change the collective social context and influence strategic decisions. It is a condition for overcoming path dependence. Removing barriers such as the lack of documentation and remoteness of service providers requires systemic reforms. Both models focus on the dynamic interaction of systemic structures and individual behavior. Both adaptive social narratives and reforms are aimed at breaking the rut.

Similar Information is considered the basis of narratives, which in turn become a tool for their assessment and interpretation. The arrows in Figure 1 reflect the interaction of information with narratives in the decision-making process. In the PDM, data are indirectly used to identify and assess barriers without narrative interpretation. Thus, in both models, information becomes the starting point for analyzing the system's state and its processes. However, in the CNT model, unlike the PDM, the use of data to select methods for eliminating FI barriers is supported by their narrative interpretation.

Summarizing the observations on the five considered dimensions, it can be concluded that the CNT focuses on the role of narratives and decision-making in a social context, and the PDM focuses on the structural barriers that accompany financial systems. The emphasis on the relationship between individual choice and systemic evolution will allow them to perform complementary functions for the analysis of complex processes, such as the achievement of FI.

Recommendations for BRICS Members

Significant progress in digitalization is observed in most BRICS countries – money transfers and payments are carried out using e-wallets, digital savings accounts are offered to manage finances online, and digital ID cards are being introduced. Examples of successful initiatives are given in Table 7.

Table 6. **Strategies for Achieving FI Based on the Theories under Consideration**

Theory	Measures
Narrative theory	• Presenting financial opportunities through creative, inspiring narratives • Media campaigns presenting alternative narratives
Public Good Theory	• State subsidies for relevant offers (low-rate insurance) • Expanding financial and digital infrastructure in underserved areas • Encouraging banks and fintech to innovate for underserved groups
Evolutionary control theory	• Adaptation to technological development taking into account feedback from the population (implementation of financial innovations in management) • Developing cooperation between government, business, and society to develop inclusive solutions. • Creating platforms for building resilience (preparing for economic shocks or technological disruptions).
Source: authors.	

Table 7. **Cases of National Programs**

Country	Program
Brazil	In 2020, an application was developed that integrates the social security card (Cadastro de Pessoas Phísicas) and driving licenses for digital identification of the individual.
Russia	In 2020, the Digital Profile system was introduced, allowing the management of the transfer of personal data to companies in real time. Access to data has improved, transparency has increased, and the quality of services in general has improved. It has become easier to process loans and insurance contracts.
India	The world's largest digital identity platform, Aadhaar (over a billion users), launched [1], allowing identification of a person anywhere.
China	Since 2019, the Zhen system has been in effect Ni, which identifies users by checking their faces against a database of digital IDs. By synchronizing the ID with the WeChat app, it allows users to pay for travel and accommodation through their phone.
Austria	Project Digital Austria aims to facilitate the transition of young entrepreneurs to digital financial technologies, thereby expanding market access and increasing competitiveness.

[1] https://www.digitalindia.gov.in/ebook/deity/page4.php, accessed 18.11.2024.

Source: authors.

Summarizing the current situation in countries with different levels of FI and possible measures to move to higher positions or maintain them, the following can be noted. To remain at the top level, L_1 countries (Austria, UAE, Saudi Arabia, China, and Russia) should invest in the creation of innovations and the development of partnerships.

L_2 countries (India, South Africa, Brazil, and Iran) have moderate FI performance. Significant potential can be unlocked through individual strategies.

India faces the challenge of reaching new population groups. This can be achieved by focusing on rural banking and improving financial literacy. In South Africa, the priority is to expand access to basic financial services. Brazil can improve the situation by investing in education and health. Iran needs to stabilize its economy and develop trade relations to reduce barriers and expand access to financial resources.

L_3 countries (Egypt and Ethiopia) face the most acute challenges. Egypt sees mobile banking and microfinance as a priority. Ethiopia needs comprehensive measures to build financial and medical infrastructure. They need targeted international aid and development partnerships to begin moving toward L_2.

The transition matrix can be viewed as a roadmap for different countries to increase their FI level. By eliminating key barriers, L_3 residents will increase their chances of moving to L_2, and likewise, L_2 residents will accelerate their ascent to L_1.

We developed proposals for appropriate strategies using the logic of the Bayesian and Markov decision models. Our methodology is described in detail in Appendices 1 and 2.[3] Table 8 provides an interpretation of the results of the Bayesian analysis and Table 9 provides country-specific recommendations.

Table 8. **Interpretation of Bayesian Analysis Results by Country Level**

Level	Brief Description
L_1	Austria, the UAE, Saudi Arabia, China, and Russia retain every chance of remaining at the L_1 level, which is due to consistently high indicators in all parameters.
L_2	India, South Africa, Brazil, and Iran have a 50% chance of moving to level L_1, especially if access to finance improves.
L_3	Ethiopia and Egypt have good prospects of moving to L_2, mainly due to the increase in AF and WB. However, without effective measures, they are likely to remain at the L_3 level.

Source: authors.

Conclusion

Increasing financial inclusion is seen as one of the priority conditions for stimulating economic development and reducing inequality. Digital technologies (mobile banking, payment platforms, etc.) are a cost-effective way of providing financial services, involving the population in the transition to a new quality of life.

They have played an important role in bridging the FI gap, especially in underbanked regions. However, increasing access to finance alone cannot drive change, as there will be resistance to new technologies and the effects they produce. To overcome this resistance, innovative strategies are needed, including the development of measures to overcome entrenched behavioral stereotypes and improve financial literacy.

[3] The Methodology is described in details in Appendices 1 and 2 (see Supplementary file: https://foresight-journal.hse.ru/article/view/22273).

Table 9. **Address Recommendations by Country**

Country	Focus	Measures
	L_1 countries	
Austria, UAE, Saudi Arabia, China, Russia	Maintaining a high level of development through innovation and global partnerships	L2 and L3 countries to promote regional development and stability
	L_2 countries	
India	Increasing the supply of banking services and simplifying the process of obtaining loans for SMEs in rural areas	Mastering new technologies to expand service coverage and improve financial literacy
South Africa	Promoting equal access to finance	Forming public-private partnerships to increase the number of jobs and reduce social inequality
Brazil	Improving education and health systems	Development of credit programs to support SMEs and agriculture
Iran	Expanding access to finance through international trading partnerships	Investing in infrastructure for a sound financial system
	L_3 countries	
Ethiopia	Improving financial inclusion through the development of microfinance and the creation of banking networks in rural areas	Modernization of basic infrastructure for health and education
Egypt	Development of mobile banking and digital payment systems	Stimulating entrepreneurship in regions underserved by banking services

Source: authors.

The BRICS countries, with their diverse economic landscapes, are interested in exploring the potential of digitalization to bridge the gap between financially underserved and financially affluent regions. China and India have demonstrated robust growth and high levels of digital innovation, while other members of the alliance face different challenges that limit their access to technology. This heterogeneity points to the need for tailored approaches to FI policy for each specific country.

Our analysis, based on data from the FINDEX 2021 survey, reveals differences in financial inclusion across demographic groups. The highest barriers are faced by young people, women, and the lower 40%. The lack of access to immediate financial support in emergency situations, fears of not being able to pay for healthcare and education, and a lack of interest in digital banking services stem from a lack of awareness and education, which manifests itself in path dependence effects. Persistent destructive narrative factors, such as the mistrust of financial institutions, also play a blocking role. Freeing yourself from such mental patterns will help you identify emerging opportunities and create a new path. Brazil, China, and India have succeeded in this, with government-supported digital financial ecosystems with effective tools. Of all the BRICS members, they are the closest to the conventional benchmark, Austria, which has provided almost full FI through advanced digital infrastructure and public-private partnerships.

We categorize countries based on their FI index values: L_1 (advanced FI), L_2 (rapid transition to FI), and L_3 (low FI). Transition strategies include reducing the cost of using accounts, improving financial literacy, subsidizing digital access, and implementing co-evolutionary policies tailored to societal needs. We propose a probabilistic model of FI development based on a gradual transition from the lowest level ($L_{3)}$ to the highest ($L_{1).}$ For L_3 countries, the fundamental expansion of access and the improvement of literacy are necessary prerequisites for progress.

The policy recommendations fall into the following categories:

- *Narrative interventions* are the dissemination of creative narratives that strengthen trust in financial systems and technologies in general.
- *The public good approach* is to subsidize the development of infrastructure and individual financial products based on the perception of FI as an asset, the access to which by each user does not reduce the benefits for everyone.
- *Adaptive management* is the development of flexible policies that ensure dynamic adaptation to changing technological and demographic realities.

Based on the transformative potential of FIs to stimulate "proportionate" growth, it is proposed to integrate the latest fintech solutions into localized policy frameworks to achieve sustainable and inclusive development of BRICS countries.

Limitations of the Study

First of all, it should be noted that there is insufficient analysis of specific regional or demographic nuances of the BRICS countries, since the analytical base was built on aggregated macroeconomic data from the FINDEX 2021 statistical survey. Principal component analysis appears to be a useful method for measuring FI, but it nevertheless presents an

overly simplified picture of the complex interaction of variables affecting FI in different contexts.

The economic, cultural, and infrastructural diversity of countries makes it difficult to draw general conclusions. The socioeconomic conditions in countries such as Austria (used as a benchmark) differ significantly from those in less developed BRICS countries such as Ethiopia or Egypt, making direct comparisons and extrapolations difficult. Systemic barriers to digital FI, such as lack of technological literacy and low internet access, have been understudied. Unintended consequences of digitalization, such as increased income inequality and cybersecurity risks, have not been addressed. Focusing on socio-cultural narratives and theoretical frameworks (the CNT and PDM models) may have overlooked practical issues such as policy resistance, the legal and regulatory environment, institutional frameworks, and private sector engagement. These problems show that the proposed frameworks need to be analyzed in more depth, taking into account the specific situation, and tested in real life in order to be used in more situations and have a greater impact.

Theoretical Conclusions

The application of the CNT model allowed us to determine how narratives influence decision-making regarding technologies and systems and determine the degree of resistance to them. The presented analysis enriches the theoretical understanding of the role of behavioral barriers in economic activity. Creative narratives and the rethinking of public perceptions help overcome path dependence and contribute to the increase of FI. Using the Evolutionary Governance Theory, the coevolutionary relationship between technological advances, institutional reforms, and public behavior was revealed. This contributes to the discourse on the adaptation of governance structures to overcome entrenched systemic barriers in a transition economy.

The perception of FI as a public good expands its theoretical understanding, highlights its importance and benefits for the entire population, and contributes to reducing inequality and achieving sustainable development. The study presents a path dependence framework that takes into account the interdependence of AF, UF, DAF, and WB.

It enriches the theoretical understanding of how historical and systemic factors perpetuate financial exclusion and offers a structured approach to identifying and mitigating these barriers. A probabilistic Markov model of how countries move between FI levels (L_1, L_2, and L_3) has been created. This model gives us a way to think about how policy outcomes change over time. The framework links theoretical ideas with their practical application by quantifying the likelihood of FI development through comparisons of socioeconomic indicators and development outcomes.

The study highlights the transformative potential of digital financial technologies (mobile banking, digital IDs) to reimagine economic systems and achieve financial inclusion. It provides a theoretical rationale for the idea that technology adoption can lead to systemic change if socio-cultural and infrastructural barriers are removed. Considering society's openness to technological solutions for their problems brings a behavioral dimension to FI theories, complementing the existing literature by analyzing the cognitive and cultural factors of FI adoption, in addition to the structural and technological determinants.

This study positions FI as a cornerstone for achieving equitable economic growth by directly linking FI to the SDGs. It advances the scholarly understanding of FI as a multidimensional phenomenon with broad health, education, and economic stability implications. The interdisciplinary synthesis of narrative persuasion, public good, and evolutionary governance theories provides new insights into the interactions between financial systems, governance structures, and social behavior that support FI and identifies directions for future research in similar contexts.

Practical Conclusions

The categorization of BRICS countries by FI levels (L_1: advanced FI, L_2: rapid transition to FI, L_3: weak FI) provides policymakers with a clear framework to tailor interventions to national circumstances and capabilities. For L_3 countries (Ethiopia and Egypt), fundamental financial infrastructure development and targeted initiatives for vulnerable groups are crucial. Successful examples from India (Aadhaar) and China (WeChat-integrated ID cards) highlight the importance of digital identities and mobile payment platforms for FI development.

Practical interventions include subsidizing mobile devices, facilitating digital access, and expanding mobile payment networks to cover more areas. Financial literacy campaigns are important to address barriers such as inactive accounts and mistrust of financial institutions. Programs targeting specific demographic groups (women and rural populations) can increase financial inclusion. Governments should reduce account fees, simplify account opening procedures, and provide low-income groups with subsidized financial products.

Public-private partnerships can increase access to financial products that meet customer needs. An analysis of narrative-driven resistance shows that creative narratives and policies can change public attitudes toward technologies, including those that enable FI. Recommendations to support vulnerable groups include expanding access to emergency finance, providing microinsurance, and creating opportunities to participate in government savings programs. Focusing on youth, women, and the lower 40% of the population can reduce their concerns about healthcare, education, and daily living expenses. Adaptive governance strategies, such as integrating fintech innovations into policy frameworks and digitizing identity documents (e.g., e-KYC), can remove barriers related to undocumented status. Overall, inclusive financial systems emerge from collaborative governance between governments, financial institutions, and technology providers. Identifying "blockers" (mistrust, price barriers, lack of digital literacy) allows us to develop measures to overcome systemic inertia.

Governments can use tools such as the Bayesian and Markov probability models to monitor and manage the transition to the next FI level, ensuring iterative and measurable progress. The perception of FI as a public good confirms the need to develop (with government participation) financial infrastructure, including banking networks in unserved areas, digital platforms, and subsidized services for low-income groups. Investments will ensure equal access to financial services.

This way, FI strategies will be linked to the SDGs (reducing inequalities and promoting inclusive economic growth). The findings apply to the design of policies aimed at closing the gap between FI and broader development goals.

Our study's findings offer practical recommendations for closing FI gaps, especially in less developed and transitioning countries. A multidimensional and adaptive approach will help stakeholders stimulate inclusive growth and enhance financial sustainability.

Further Research

We propose continuing research into the following areas:

- Principles for designing effective digital platforms that facilitate user adoption of financial services
- Policy frameworks for stimulating innovation in fintech.
- The role of narratives in shaping programs for teaching responsible strategic decision-making.

Addressing these issues will help shape a more inclusive future for the BRICS countries. Micro-level data could be used in future research to learn more about the regional, demographic, and sectoral differences in FI in these countries. This would also help researchers learn more about the things that help and hinder the growth of FI at the local level. It would be useful to focus on the growing role of new technologies in advancing FI, such as blockchain, AI, and decentralized finance, and to analyze their adoption and scalability. Assessing the effectiveness of narrative strategies to overcome public resistance to fintech could provide useful insights. In particular, this could include examining the role of local leaders, narratives, and cultural adaptation in shaping attitudes toward new technologies.

A comparative analysis of FI policies in the BRICS countries and benchmark countries such as Austria helps identify good practices and valuable strategies for improving regulatory frameworks, developing public-private partnerships, and integrating digital IDs into financial systems. Longitudinal studies assessing the socioeconomic impacts of FI development, including income inequality reduction and economic growth, will help quantify its broader impact. The analysis of the practical use of evolutionary governance structures in other regions or sectors will inform better adaptive policymaking strategies to address systemic barriers.

Research in these areas will help advance the scientific and practical understanding of FI, fill existing gaps, and leverage technological advances to advance inclusivity.

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