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The Role of Financial Technology in Reducing the Parallel Foreign Exchange Market Premium: An Applied Analysis of the Algerian Case

دور التكنولوجيا المالية في الحد من علاوة سوق الصرف الموازي: تحليل تطبيقي للحالة الجزائرية

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Abstract:

This study aims to examine the role of financial technology (FinTech) in mitigating the parallel foreign exchange market premium in Algeria, within an economy characterized by low adoption of digital financial services and a dual exchange market system. The study investigates the channels through which FinTech can influence the dynamics of the Algerian market. The findings indicate that the development of digital payment platforms and electronic transfer services contributes to redirecting demand for foreign currency toward the official system, thereby limiting the expansion of the parallel market. The study also highlights a set of structural and regulatory challenges that constrain the positive impact of FinTech. It concludes that effectively leveraging financial technology as a tool to curb the parallel market premium in Algeria requires support through comprehensive regulatory and institutional reforms.

Keywords: Parallel Exchange Rate Premium; Financial Technology (FinTech); Exchange Rate; Digital Financial Services, Financial Inclusion.

JEL Classification Codes: F31, E42, G20, O33, D14.

ملخص:

تهدف هذه الدراسة إلى تحليل دور التكنولوجيا المالية في الحد من علاوة سوق الصرف الموازي في الجزائر في ظل اقتصاد يتميز بضعف تبني الخدمات المالية الرقمية وازدواجية سوق الصرف، وتبحث الدراسة في القنوات التي يمكن من خلالها للتكنولوجيا المالية التأثير على ديناميكيات السوق الجزائري. وتشير النتائج إلى أن تطوير منصات الدفع الرقمية وخدمات التحويل الإلكتروني يسهم في إعادة توجيه الطلب على العملات الأجنبية نحو النظام الرسمي مما يحد من اتساع السوق الموازية، كما تبرز الدراسة مجموعة من التحديات الهيكلية والتنظيمية التي تحد من الأثر الإيجابي للتكنولوجيا المالية. وتخلص الدراسة إلى أن توظيف التكنولوجيا المالية كأداة للحد من علاوة السوق الموازية في الجزائر يتطلب دعما من إصلاحات تنظيمية ومؤسسية.

كلمات مفتاحية: علاوة سوق الصرف الموازي، التكنولوجيا المالية، سعر الصرف، الخدمات المالية الرقمية، الشمول المالي.

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INTRODUCTION:

The relationship between technological innovation and monetary stability represents one of the most complex topics in contemporary macroeconomics, Financial technology (FinTech) tools have increasingly intersected with the traditional structures of foreign exchange markets reshaping the concept of the "premium" or the price gap between the official and parallel markets.

Financial technology encompasses tools and systems such as digital payment solutions, cross-border electronic transfers, digital wallets, low-cost money transfer platforms, and even certain digital assets that enable value transfer without relying on traditional banking networks, These tools are widely employed across countries to facilitate financial remittances and reduce dependence on outdated cash-based methods, which often lack inclusivity and transparency.

The parallel foreign exchange market is a persistent phenomenon in many developing countries, where two exchange rates for foreign currency coexist, an official rate set by authorities and another rate determined in informal (parallel) markets, The parallel market premium represents the percentage by which the parallel exchange rate exceeds the official rate, This premium often reflects imbalances between the supply and demand for foreign currency and strict capital controls and a set of intertwined institutional factors.

In Algeria, the parallel foreign exchange market stands out as a structural component of the foreign currency system driven by a constrained exchange rate regime, heavy reliance on hydrocarbon revenues as the primary source of foreign currency, and the limited accessibility of official foreign currency channels for individuals and small enterprises, This situation has led to the widening of the parallel market premium at various times reflecting a persistent gap between the official exchange rate and its ability to satisfy actual demand, This gap in turn affects saving and investment decisions and encourages economic activities outside the formal regulatory framework.

Amid the growing use of digital payment methods and social media platforms, economic agents have increasingly sought alternative channels for value exchange to circumvent exchange and transfer restrictions, This development has contributed to reshaping the operational mechanisms of the parallel market both by reducing search and transaction costs and by accelerating the flow of information and price signals. Consequently, policymakers and researchers are compelled to reassess the relationship between financial technology and exchange rate stability within an institutional and regulatory framework characterized by Algeria's specific conditions.

Understanding the impact of financial technology requires moving beyond the superficial view of digitization as merely a convenience tool, and delving into how it alters transaction costs, cash velocity, and individuals' ability to circumvent regulatory constraints. This necessitates a rigorous academic examination of the phenomenon, with an analysis of the technical channels that either amplify or mitigate the parallel exchange rate premium. Algeria represents a particularly significant case study for analyzing the relationship between financial technology and the parallel foreign exchange market, given the persistent gap between the official exchange rate and the parallel market rate on the one hand, and the gradual adoption of financial technology solutions within the formal financial system on the other, Added to this is

the specificity of Algeria's regulatory framework, which is characterized by a high degree of control and regulation over the movement of capital and foreign currencies.

Research Problem :

The central research problem of this study is articulated through the following question:

To what extent can financial technology contribute to reducing the parallel foreign exchange market premium in Algeria?

Sub-Research Questions:

Based on the defined research problem, the following sub-research questions have been proposed:

1. How do digital financial services influence the behavior of economic agents within parallel foreign exchange markets?
2. What structural factors and institutional challenges hinder the effective use of financial technology in reducing the parallel market exchange rate premium in Algeria?
3. What public policies and strategic interventions can facilitate the transition from a widespread parallel exchange market to a more efficient and stable exchange rate system in Algeria?

Research Hypotheses:

Based on the aforementioned sub-research questions, the following hypotheses have been formulated:

1. Digital financial services contribute to a gradual transformation in the behavior of economic agents, within parallel foreign exchange markets by reducing reliance on cash transactions and promoting interaction with official financial channels, without necessarily eliminating the parallel market in the short term.
2. Structural factors and institutional challenges chiefly regulatory restrictions on foreign exchange, limited financial inclusion and underdeveloped digital infrastructure constrain the potential effectiveness of financial technology in reducing the parallel market exchange rate premium in Algeria.
3. Transitioning from a widely prevalent parallel exchange market to a more efficient and stable exchange rate system in Algeria requires the adoption of comprehensive public policies and strategic interventions, in which financial technology serves as a supportive element, within a broader package of monetary and regulatory reforms rather than as a standalone solution.

Study Contribution :

This study provides a set of original and significant scientific contributions to the literature on parallel foreign exchange markets and financial technology (FinTech), particularly within the context of developing economies characterized by low adoption of modern financial technologies.

First, The study contributes to enriching the literature on the parallel foreign exchange market by expanding the analytical framework to include financial technology as an institutional and behavioral variable, rather than merely as a technical tool, The study moves beyond traditional approaches that focus on monetary and macroeconomic determinants of the exchange rate premium, toward analyzing the indirect channels through which financial technology influences the behavior of economic agents, thereby enhancing the dynamic understanding of the relationship between financial digitalization and the informal economy.

Second, The study offers an alternative model to the prevailing standard research in this field by adopting an applied qualitative approach capable of interpreting financial phenomena in environments characterized by limited statistical data. It highlights the importance of institutional and behavioral analysis in assessing the impact of financial technology providing a methodological contribution that can be applied in similar studies for other countries with institutional characteristics comparable to those of Algeria.

Third, The study highlights the specificity of the Algerian experience in adopting financial technology and clarifies the limits of its actual impact amid regulatory constraints, low financial inclusion and the continued dominance of cash-based transactions, In doing so it provides a realistic perspective moving beyond overly optimistic technological narratives and emphasizes that financial technology serves as a supportive tool within a broader reform framework rather than as a standalone solution to the parallel market exchange rate premium.

Finally, The study contributes to guiding policymakers by highlighting that reducing the parallel market exchange rate premium cannot be achieved through digital tools alone, Instead it requires comprehensive public policies and integrated strategic interventions that incorporate financial technology within a broader vision for reforming the exchange rate system, strengthening confidence in the banking system and reducing the size of the informal economy, Accordingly the study provides an analytical framework that can serve as a basis for designing more balanced and realistic policy measures.

Methodology of the Study:

This study adopts a descriptive-analytical approach within the framework of a case study on Algeria, aiming to explore the potential role of financial technology in reducing the parallel foreign exchange market premium in an economic and institutional context characterized by distinct specificities, This methodology was chosen due to the relative scarcity of accurate and systematic quantitative data on financial technology indicators, The study is based on a comprehensive review of the academic literature, coupled with an analytical examination of developments in digital financial services and the behavior of economic agents and focusing on the institutional and behavioral mechanisms that may influence parallel market dynamics, The analysis also seeks to avoid excessive generalization while providing practical recommendations and strategic policy measures aligned with the study's findings and responsive to Algeria's unique economic and institutional context.

Literature Review :

- (Geranio, 2017) examined the potential of financial technology particularly blockchain and distributed ledger technologies to structurally transform the infrastructure of financial markets by reducing transaction and post-trade risks, lowering costs and enhancing transparency and liquidity, Although practical implementation remains largely at the experimental stage in most stock exchanges, the study emphasizes that the widespread adoption of these technologies could improve the efficiency of formal markets, This, in turn, carries indirect implications for narrowing pricing gaps and market distortions, including the parallel market exchange rate premium provided that a coordinated regulatory framework and effective risk management are in place.

- (Khettab & Gherbi, 2025) investigates the role of financial technology in promoting financial inclusion in Algeria over the period 2009–2023 Using a descriptive-analytical approach, the research combines a review of the theoretical foundations of financial technology and financial inclusion with a Bayesian econometric analysis to examine the relationships between technological innovation, access to financial services, and the development of banking activities. The findings suggest that advancements in financial technology have significantly contributed to expanding financial inclusion and enhancing the efficiency of banking services in Algeria highlighting the strategic potential of digital financial solutions in supporting the country's financial sector development.

- (Kalmykova & Ryabova, 2016) explored the development prospects of the FinTech market as an outcome of rapid technological advancement, highlighting the diversity of its instruments, including peer-to-peer lending, electronic wallets, digital currencies and mobile banking services. The study demonstrated that these innovations have contributed to reducing reliance on traditional banking channels, facilitating payments, transfers and currency exchanges without the need for formal intermediaries,The findings implicitly suggest that the expanded use of FinTech tools may influence the behavior of market participants in foreign exchange markets with potential implications for the efficiency of formal markets and the diminishing role of informal channels. Consequently, this can affect the dynamics of the parallel market exchange rate premium, even though the study primarily focuses on structural transformations in the banking sector.

- The study by (Kiguel & O'Connell, 1995) examined the phenomenon of dual exchange rate systems and the existence of parallel foreign exchange markets in developing economies, It proposed a simplified classification framework for these systems and provided a systematic analysis of their emergence and the rationale behind their preference over alternative exchange rate policy arrangements. Drawing on eight in-depth case studies, the study explored the capacity of parallel markets to absorb balance-of-payments shocks by insulating both international reserves and domestic prices, It further analyzed the determinants of the parallel market premium in the short and long term, discussing its relationship with informal activities and its fiscal implications. The study concluded that the outcomes of efforts to unify exchange markets vary according to economic and institutional contexts, carrying important implications for exchange rate policy design in developing economies.

- The study by (Ogun, 2015) investigated the determinants of the parallel market exchange rate premium in liberalized economies within a comprehensive theoretical framework distinguishing between long-term fundamental determinants and short-term nominal factors, The study integrated real trade models, portfolio balance approaches, and monetary frameworks to overcome the explanatory limitations of each approach in isolation, It identified key long-term determinants of the premium, including GDP, terms of trade, economic openness, foreign reserves, money supply, and government expenditure, while short-term fluctuations were influenced by expected inflation, real exchange rate misalignments, interest rate differentials, tariffs, capital flight and seasonal factors, The study also addressed data challenges and provided methodological recommendations to improve standard measurement, Its primary contribution lies in offering a comprehensive analytical framework that can serve as a foundation for subsequent applied research on the parallel market premium in developing economies.

1- Concept of Financial Technology (FinTech) :

Financial technology (FinTech) defined as the integration of digital solutions into the provision of financial services, offers theoretical potential to alter exchange market dynamics through digital payments, cross-border transfers and digital wallets, Despite the growing global interest in FinTech and its impact on financial and banking services research that explicitly links FinTech to the magnitude of the parallel exchange rate premium in environments characterized by low levels of FinTech adoption remains limited to date.

Financial technology refers to a broad set of innovations (observable in the financial domain in its broadest sense) that have been enabled by the use of advanced technologies, both in the delivery of services to end users and in the internal production processes of financial institutions, as well as in the design of market-based business models, without constraining the emergence of new forms of cross-sectoral activities.

FinTech represents innovative technology-based methods of performing activities that are directly or indirectly related to financial services rather than constituting a clearly defined industrial sector in its own right, In line with the logic of the digital economy FinTech contributes to the design of an open and continuous network of modular services serving businesses, individuals, and banking, financial and insurance intermediaries, In this sense it acts as a powerful accelerator of financial services market integration policies(Giglio, 2021).

Although financial technology (FinTech) is not a new concept, its rapid expansion and accelerated evolution in recent years signal the emergence of a new era, FinTech represents a critical nexus between the financial industry, information technology and innovation. The term “FinTech” is derived from the combination of the words finance and technology reflecting its core essence the application of technological advancement and innovation to support financial and banking activities through state-of-the-art technologies. More broadly the concept captures the interaction between technologies such as cloud computing and mobile internet on the one hand and financial services including lending, payments, money transfers and other banking activities on the other.

2- The Reality of Financial Technology in Algeria :

Financial technology (FinTech) represents a key driver of digital transformation in the global financial system, However the state of this sector in Algeria remains at an early stage of development compared to other countries in the region and worldwide, This reality encompasses the following aspects:

– **Adoption of Digital Transformation in the Financial Sector :** The trajectory of financial technology development in Algeria is characterized by gradualism and caution. While it has begun to gain a foothold within the banking sector and non-bank financial institutions, it remains at a nascent stage and has yet to achieve institutional maturity. It is observed that

banking digitalization efforts, despite their prominence in policy discourse and strategic agendas, have not yet translated into the widespread and effective adoption of digital financial services, which continue to suffer from limited usage and low levels of user trust (Amrane & Damene, 2023, p.218), This situation has contributed to slowing the consolidation of a digital financial culture and has constrained the financial system's capacity to deepen digital-based financial inclusion within Algerian society.

In this context, the digitalization of payment and transfer services launched by Algeria Post through its digital platforms has emerged as a notable initiative, This experience represented an important step toward expanding the use of electronic financial services beyond the traditional banking framework, However, its impact has remained relatively limited due to a set of constraints related to infrastructure, the regulatory environment, and levels of trust and adoption (Mellah & Bouguetaia, 2025, p.324).

– **Regulatory and Legislative Framework :** The regulatory framework is a key factor in either promoting or hindering the adoption of digital financial services in Algeria, Recently regulatory authorities have worked to develop legal frameworks to allow digital banks to operate under certain conditions such as the digital banking instructions issued by the Bank of Algeria in 2025, which permit the establishment of digital-only banks without traditional branches. However these institutions are subject to strict regulatory requirements that balance oversight with the control of innovation (Bougouffa, 2025, p.38).

The regulatory framework for integrating financial technology into economic transactions in Algeria is still in its early stages, There is a need for legislation and oversight that balance the promotion of innovation with the protection of financial system stability an issue that directly affects the ability of financial technology to expand within the Algerian market.

– **Financial Inclusion and Digital Transformation :** The effectiveness of financial technology is closely linked to indicators of financial inclusion, and Algeria still faces challenges in promoting digital financial inclusion despite existing electronic initiatives, The availability of digital channels and the expansion of digital financial services are all factors that enhance financial inclusion, however this requires robust digital infrastructure, a clear legislative framework and a high level of financial literacy among users, It is evident to Algerian users that financial inclusion in Algeria remains below the levels observed in some neighboring countries highlighting the need for strategies that leverage financial technology to bridge this gap.

3- Concept of the Parallel Exchange Rate Premium

The parallel market premium refers to the difference between the foreign exchange rate prevailing in the informal (parallel) market and the official exchange rate, It primarily reflects restrictions on access to foreign currency through official banking channels, weak confidence in monetary policy, and market expectations regarding future exchange rate movements.

The parallel market premium refers to the relative gap between the exchange rate in the parallel (informal) market and the official currency rate, reflecting the degree of deviation from equilibrium in the official foreign exchange market, This premium serves as a crucial indicator of pressures in the informal market, where an increase signals constraints on liquidity or inefficiencies in the distribution of foreign currency while a decrease indicates a closer alignment between supply and demand within official channels, demonstrating the effectiveness of monetary policies in reducing reliance on the parallel market (Akinbobola et al., 2018)

The parallel market premium constitutes a significant relative price that influences key macroeconomic variables and serves as one of the most important indicators reflecting the extent of imbalances in foreign exchange markets and the effectiveness of implemented monetary and fiscal policies, This premium represents the gap between the exchange rate in the parallel (black) market and the official exchange rate, reflecting both the degree of restrictions on currency transfers and access to foreign currency, as well as the level of confidence in government monetary policies.

4- Factors Influencing the Parallel Foreign Exchange Market Premium in Algeria :

The parallel foreign exchange market premium in Algeria is influenced by a set of interrelated factors which can be classified into structural, economic, behavioral, and institutional factors related to infrastructure.

4-1 Structural and Regulatory Factors :

Official restrictions imposed on the foreign exchange market represent one of the key structural factors contributing to the persistence of the parallel market exchange rate premium in Algeria, These constraints create structural distortions in the mechanisms for allocating foreign currency within the economy limiting the official market's ability to meet actual demand. At the level of restrictive exchange rate policies, monetary authorities impose a set of regulatory controls on the purchase and transfer of foreign currencies, These include ceilings on transfers and prior approval requirements and strict conditions linked to official import operations, While these policies aim to protect foreign exchange reserves, they create a gap between the officially available supply and the actual demand for foreign currency, This discrepancy encourages economic agents to turn to the parallel market thereby reinforcing its use and contributing to the widening of the parallel market premium (Benamar et al., 2025, p.64).

In addition, the shortcomings of official channels in providing effective payment and transfer services emerge as a significant regulatory factor, The limited capacity of banks and financial institutions to offer fast, flexible and secure services to meet the needs of individuals and businesses drives a large segment of economic agents to rely on the parallel market as a

practical alternative for conducting foreign currency transactions, This reliance further entrenches the role of the parallel market and reinforces its structural distortions.

4-2 Economic Factors :

The parallel market exchange rate premium is influenced by a range of direct economic factors foremost among them the imbalance between supply and demand for foreign currency within the official system, The limited supply available through official channels coupled with persistently high demand drives economic agents to the parallel market, resulting in higher exchange rates and an expansion of the premium relative to the official rate. in addition, Inflation rates and price volatility also play a pivotal role in increasing demand for foreign currency whether as a hedge against the erosion of purchasing power or to cover import costs particularly those conducted through the parallel market, This dynamic places additional pressure on the parallel market and contributes to the widening of its premium (Amrane & Damene, 2023, p.221)

Moreover, fluctuations in oil prices and levels of national income directly affect the dynamics of the foreign exchange market in Algeria given the economy's heavy reliance on hydrocarbon revenues as the primary source of foreign currency, A decline in oil prices reduces the inflow of foreign currency to the official market exacerbating the supply gap and contributing to the widening of the parallel market exchange rate premium.

4-3 Behavioral Factors :

The economic behavior of individuals and institutions plays a central role in reinforcing the parallel market exchange rate premium, as foreign currency transaction decisions are influenced by psychological factors and future expectations that extend beyond direct economic considerations, In an environment characterized by uncertainty, market participants tend to adopt speculative behaviors such as hoarding foreign currency or acquiring it proactively in anticipation of future value increases, This behavior inflates demand in the parallel market and contributes to the widening of the premium.

Limited trust in the formal financial system constitutes another critical factor in the persistence of this phenomenon, where weak confidence in banking institutions and in the efficiency and security of digital financial services drives a substantial portion of individuals to prefer cash-based transactions outside official channels (Bougouffa, 2025, p.40). Additionally, the prevalence of the informal economy and the expansion of parallel trade activities further reinforce this dynamic a significant number of economic agents rely on unofficial channels to facilitate commercial transactions which are often cumbersome or restricted through formal channels, This reliance sustains demand for foreign currency outside the official system contributing to the persistence of the parallel market and the widening of the exchange rate gap.

4-4 Institutional and Infrastructure Factors :

The quality of financial and technological infrastructure is a key determinant of the formal system's capacity to absorb demand for foreign currency and effectively compete with the parallel market, In the context of limited penetration of digital payment and transfer networks low reliance on bank cards, electronic applications and innovative financial solutions, the formal system remains less attractive to individuals and businesses, This drives reliance on informal channels to meet financial and transactional needs.

Furthermore, the lack of institutional incentives supporting financial innovation contributes to the persistence of distortions in the foreign exchange market, Many financial institutions are characterized by regulatory rigidity and limited flexibility in developing digital products that align with evolving demand and changes in user behavior, This deficiency slows the pace of financial modernization, leaving room for the continued dominance of the parallel market and the widening of the exchange rate premium (Samra & Damene, 2023, p225).

5- Channels Through Which Financial Technology (FinTech) Affects the Parallel Foreign Exchange Market Premium :

5-1 Transaction Cost Channel :

Financial technology contributes significantly to reducing the cost of domestic and international financial transactions through the digitization of payments, thereby diminishing reliance on costly traditional intermediaries. According to an analysis by the International Monetary Fund (Perez-Saiz, 2025) innovations in digital money and digital payment systems can reduce transfer costs by up to approximately 60 percent compared to conventional benchmarks, particularly for small-value transactions such as personal remittances. This reduction is primarily achieved through digital payment platforms that streamline transaction processes by lowering the number of intermediaries involved and, consequently, the fees they charge.

A reduction in transaction costs may incentivize economic agents to rely on official digital channels rather than informal channels (the parallel market) to access foreign currency. This shift weakens demand in the parallel foreign exchange market and, consequently, exerts downward pressure on the parallel exchange rate premium.

5-2 Financial Inclusion Channel :

World Bank reports indicate that financial technology constitutes a key driver of financial inclusion, as it enables individuals who were previously excluded from the formal financial system to access digital financial services such as e-wallets and money transfers at competitive costs. According to World Bank data, access to digital accounts and transaction capabilities in emerging markets has expanded significantly due to digital payment services and financial innovations, thereby allowing broad segments of economic agents to participate more actively in the formal financial system (Sharmista Appaya, 2021).

When individuals gain the ability to access foreign currency or conduct transfer operations through official digital platforms reliance on the parallel market diminishes, Accordingly improvements in financial inclusion driven by FinTech may reduce the demand that would otherwise be directed toward the parallel market thereby contributing to a contraction of the parallel exchange rate premium.

5-3 Market Expectations and Agents' Behavior :

Although the literature directly examining the impact of FinTech on the parallel foreign exchange market premium remains limited, insights can be drawn from studies on monetary behavior and market expectations, Improvements in payment speed, transparency, and information availability through digital channels tend to enhance agents' confidence in the formal financial system, According to World Bank reports on the future of financial technology, digitalization facilitates financial services delivery while expanding access and transparency, thereby reducing uncertainty that often drives economic agents toward the parallel market (Sharmista Appaya, 2021).

From a theoretical perspective, greater confidence in the official exchange rate along with its capacity to meet transactional needs more efficiently can alleviate speculative pressures that typically fuel the parallel market premium, particularly in economies experiencing macroeconomic instability or persistent shortages of foreign currency.

6- Structural Constraints Limiting the Role of FinTech in the Parallel Foreign Exchange Market in Algeria :

Despite the theoretical potential of financial technology to mitigate the premium in the parallel foreign exchange market, its effectiveness remains constrained by a set of deep-rooted structural challenges, These distortions significantly limit the capacity of FinTech solutions to function as effective substitutes for informal foreign exchange channels, Such challenges can be broadly summarized as follows:

6-1 Incomplete Digital Infrastructure:

The limited penetration of electronic payment and transfer applications, weak integration among financial institutions and the absence of a comprehensive national digital network constrain the ability of financial technology to expand and achieve a tangible impact in reducing reliance on the parallel market.

6-2 Regulatory Risks :

The absence of a clear and coherent and enabling regulatory framework for financial technology hampers the diffusion of FinTech innovations, constrains the growth of start-ups in this sector and limits the capacity of FinTech to develop effective formal alternatives to the parallel foreign exchange market. According to World Bank recommendations (World Bank, 2018), the development of financial technology requires a balanced regulatory framework that simultaneously ensures consumer protection and fosters innovation.

In the Algerian context, the regulatory framework for financial technology remains at an early stage of development, Monetary authorities impose strict controls on the purchase and transfer of foreign currency while clear mechanisms to support digital financial innovation are largely absent, This situation limits the ability of digital platforms to expand and provide effective formal alternatives to the parallel market, discourages the participation of start-ups in the digital financial services sector and delays the realization of the potential benefits of financial technology in enhancing market efficiency and promoting financial inclusion.

6-3 Lack of Trust in the Official System :

Confidence levels in Algeria's formal financial system and monetary policies remain relatively weak and demand for foreign currency outside official channels continues to be persistently high reinforcing reliance on the parallel market, This dynamic directly contributes to the widening of the exchange rate premium particularly in the absence of official digital alternatives capable of providing the speed, flexibility and efficiency needed to compete with services offered through informal channels, This situation reflects a dual challenge ; limited trust among market participants and the lack of a sufficiently developed digital infrastructure to strengthen the intermediary role of the formal financial system.

7- Policy Recommendations to Maximize the Impact of FinTech on Foreign Exchange Markets and Reduce the Parallel Market Premium in Algeria:

7-1 Strengthening the Regulatory Framework for Digital Financial Services :

Establishing clear and comprehensive regulatory policies is a fundamental prerequisite for encouraging the entry of FinTech firms that provide competitive digital payment and transfer services, Digital financial service systems have the potential to expand access to low-cost formal financial services provided that a robust regulatory framework is in place to support innovation while maintaining stability, World Bank reports (World Bank, 2025) emphasize that implementing a conducive regulatory environment enhances trust, broadens financial inclusion, attracts investment, fosters competition and promotes the development of secure electronic payment infrastructures.

7-2 Enhancing the Infrastructure of Official Cross-Border Transfers :

When official digital transfer channels are faster, cheaper, and more secure than informal (parallel) alternatives, demand for these formal channels increases, thereby reducing off-system transactions and alleviating pressures on the parallel market premium, To strengthen this effect, a set of practical policy measures can be implemented, including supporting the development of instant payment systems for foreign currencies within domestic markets, facilitating cooperation among central banks to establish efficient cross-border payment platforms and adopting standardized international protocols such as ISO 20022 to reduce interoperability gaps between different systems. These measures create a reliable and seamless digital environment that facilitates access to foreign currency through official channels, encourages the redirection of demand from the parallel market to the formal financial system, and thus effectively

contributes to reducing the parallel market premium while enhancing the efficiency of the official foreign exchange market.

Conclusion:

The expansion of financial technology (FinTech) is reshaping supply and demand in foreign exchange markets enabling participants to use digital platforms and cross-border payment tools instead of traditional channels, While these tools can reduce transaction costs, accelerate capital flows and sometimes narrow the gap between official and parallel exchange rates, their impact in Algeria remains limited due to structural, regulatory and behavioral constraints as well as weak digital infrastructure and low trust in the formal financial system.

Key Findings of the Study :

The most important findings of this study are :

- Financial technology tools such as digital payments and electronic wallets, contribute to reducing transaction costs and accelerating capital flows, thereby reshaping the supply and demand for foreign currencies and transforming the dynamics of the foreign exchange market.
- The reduction in transaction costs and the increased speed of digital transfers encourage economic agents to shift toward official channels, thereby decreasing reliance on the parallel market and narrowing the parallel market premium.
- Digital financial services enable broad segments of the population to access the formal financial system, gradually redirecting demand away from the parallel foreign exchange market.
- Weak digital payment infrastructure, the absence of clear regulatory frameworks, and low trust in the formal financial system limit the ability of financial technology to reduce the parallel market premium constituting significant structural and regulatory challenges.
- To achieve an effective impact of financial technology on the parallel market premium, it must be integrated within broader regulatory and institutional reforms that strengthen official channels and ensure the efficiency and stability of the foreign exchange market highlighting the critical role of the institutional and policy framework.

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