Master's Thesis of International Commerce

Analysis on the Effect of Foreign Exchange Market Opening and Transaction Time Extension in South Korea

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Abstract

The South Korean foreign exchange ("FX") market has remained closed for approximately 20 years following the 1997 Asian financial crisis. The South Korean government has assessed that such outdated and closed FX market regulations pose a threat to exchange rate stability and impede the growth of capital and financial markets. Consequently, the government has announced its intention to commence restructuring the FX market from the latter half of this year (July 2024), aiming to propel South Korea towards becoming an advanced financial market through this restructuring.

Key changes include the extension of FX transaction hours and the direct participation of Registered Foreign Institutions ("RFI") in the domestic FX market. The government anticipates that these changes will transition the domestic FX market into a more open and competitive structure than previously.

However, the restructuring of the domestic FX market brings forth potential concerns alongside its advantages. With the restructuring of the domestic FX market imminent, this study seeks to analyze the anticipated effects and risks of market opening and propose necessary measures for South Korea to emerge as an advanced financial hub and the issuing country of the internationalized currency in the future.

Keyword : Foreign Exchange, Korean FX Market, Market Opening, FX Policy, Currency Internationalization
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Abstract

I. Introduction

1. Research Background

In February 2023, the South Korean government unveiled its plan to advance the FX market, marking the first significant opening of the domestic market since the establishment of the Republic of Korea in 1948. Following the implementation of this innovation initiative, the South Korean government is actively considering the possibility of gradually fully liberalizing the FX market. In essence, it articulates an aspiration for the global integration of the Korean won ("KRW"). With the imminent opening of the domestic FX market, the author now aims to delve into the intricacies of this advancement plan. The author will analyze the anticipated effects and market apprehensions following the execution of this plan. Furthermore, the author will delineate the concept of currency internationalization and elucidate the reasons why several nations, South Korea included, aspire to internationalize their currencies, namely, the benefits of currency internationalization. Drawing from these analyses, the author intends to suggest which aspects should be prioritized if South Korea introduce future supplementary policies for FX market opening and modernization. In the end, through this research, the author endeavors to discern the trajectory that the KRW should pursue within the international arena in the foreseeable future.

2. Landscape of the Korean FX Market

2-1. The History of the Domestic FX Market

The FX market refers to a specific platform where the demand for and supply of FX converge. In a broader context, it encompasses not only this spatial concept but also a series of mechanisms involved in the formation and settlement of FX transactions. The FX market is not a physically existing market like a stock exchange. It denotes an over-the-counter market where FX transactions take place among financial institutions. The FX market facilitates capital flows between countries and plays a pivotal role in settling FX demand and supply arising from external transactions such as trade. Furthermore, under a floating exchange rate system, exchange rates fluctuate in response to the supply and demand of various currencies, aiding in the adjustment of imbalances in the current account. Economic entities such as corporations and financial institutions utilize the FX market to hedge against exchange rate risks, thereby mitigating potential losses associated with exchange rate fluctuations. Over time, South Korea's FX market has evolved while fulfilling such roles and functions. The history of the South Korean FX market is a dynamic narrative shaped by various economic, political, and social factors. Following is a brief overview of this dynamic history.

Post-War Reconstruction (1950s-1960s): Following the Korean War, South Korea focused on rebuilding its economy. During this period, the government imposed strict controls on FX market to stabilize the currency and promote economic development.

Export-Led Growth (1970s-1980s): South Korea experienced rapid industrialization and export-led growth during the 1970s and 1980s. The government adopted a policy of export promotion and gradually liberalized the FX market to accommodate increasing international trade.

Asian Financial Crisis (1997-1998): The Asian Financial Crisis had a significant impact on South Korea's economy, leading to a sharp depreciation of the Korean won and necessitating a bailout from the International Monetary Fund (IMF). In response, the government implemented reforms to strengthen the financial sector and improve transparency in the FX market.

Financial Sector Modernization (2000s-2010s): In the early 2000s, South Korea continued to liberalize its financial markets, including the FX market, to attract foreign investment and promote financial innovation. The government also introduced measures to enhance market transparency and reduce exchange rate volatility.

Recent Developments (2020s): In the 2020s, South Korea's FX market has evolved in response to changing global economic dynamics and technological advancements. The government continues to pursue policies aimed at maintaining a stable currency, facilitating international trade, and attracting foreign investment.

Throughout its history, the South Korean FX market has played a crucial role in supporting the country's economic growth and integration into the global economy. However, challenges such as exchange rate volatility and external economic shocks remain ongoing concerns that policymakers continue to address through prudent monetary and fiscal policies.

2-2. Structure and Transaction Trends in Domestic FX Market

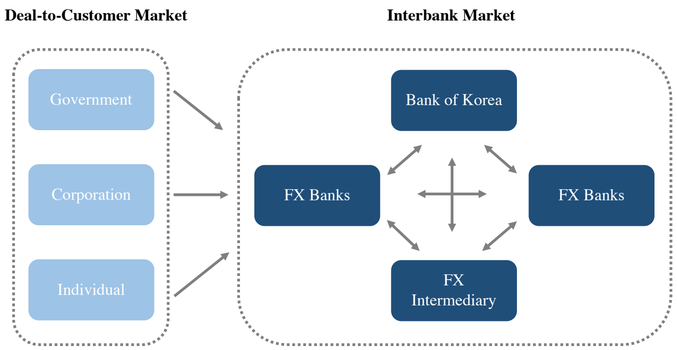
2-2-1. Structure of the Domestic FX Market

In the domestic FX market, various participants with different purposes take part. These include customers, FX banks, FX brokers, and central banks. Customers primarily consist of businesses engaged in import-export transactions or individuals traveling abroad who wish to engage in FX transactions for goods and services. FX banks play a central role in the FX market. They receive and execute customers' FX transaction requests on their behalf. FX intermediary institutions receive intermediary fees and facilitate transactions between banks. They assist in making transactions more efficient in the FX market. Central banks act as authorities in the FX market, working with the government to ensure market stability. They are responsible for regulating and supervising the FX market and intervening in the market if necessary to maintain stability. With these key participants in the domestic FX market, the "Seoul Foreign Exchange Market Committee" has been established.

Within this Committee, various discussions aimed at the development of the FX market take place. The most significant law governing the domestic FX market is the 'Foreign Exchange Transaction Act'. This legislation comprehensively regulates all external and FX transactions in South Korea. Furthermore, there exists 'The Seoul Code of Conduct', established under the direct of the Seoul Foreign Exchange Committee. The code seeks to provide all participants in the market with a common set of best practices and to promote discussions on the improvement of market practices. It consists of General Standards, Ethical Standards, Dealing Principles Standards, and Market Practices for Dealing Procedures (Bank of Korea).

The FX market is divided into the interbank market and the deal-to-customer market based on the composition of the trading parties. The interbank market resembles a wholesale market, where banks participate in FX transactions. Transactions in the interbank market are typically conducted either through FX intermediaries or directly between banks. Generally, when referring to the FX market, it implies the interbank market. On the other hand, the deal-to-customer market resembles a retail market, where transactions occur between individuals or businesses and banks. Banks acquire specific FX positions based on transactions in the deal-to-customer market and adjust them in the interbank market (Bank of Korea) (Figure 1).

Figure 1 Structure of the Domestic FX Market



Source : Recomposed by Author based on the information of Bank of Korea

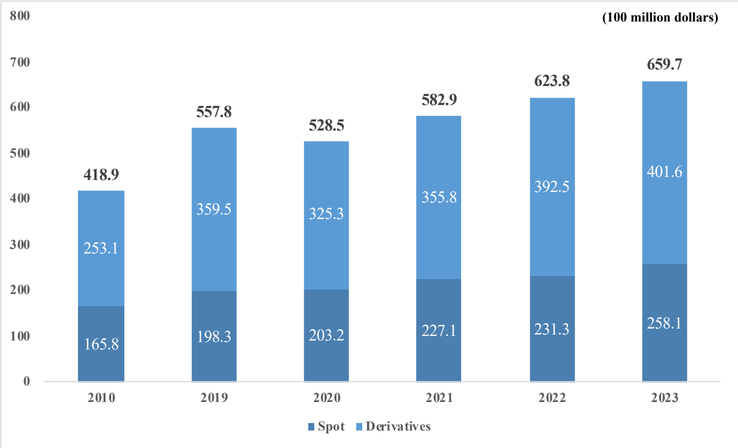
The majority of spot exchange transactions in the interbank market occur through FX brokerage companies[①] authorized by the Korean government. Other foreign intermediaries lacking this authorization primarily focus on FX swaps, transactions involving heterogeneous currencies, and Non-Deliverable Forward ("NDF") transactions in offshore markets. This contrasts with other developed nations that lack a distinct authorization system for FX intermediaries. Foreign financial institutions are only permitted to trade as customers of domestic financial institutions. Presently, transactions in the domestic FX market are limited to the hours of 9:00 to 15:30 Korean Time, deviating from the establishment of a 24-hour FX market through a global service network seen in developed countries. Currently, two currency pairs are traded in the interbank market: the KRW and US dollar ("USD") and KRW and Chinese yuan renminbi ("CNY"). For KRW/USD spot exchange transactions, the minimum transaction unit is $1 million. Electronic brokerage systems are predominantly utilized for brokerage methods (Bank of Korea).

2-2-2. Transactions in Domestic FX Market

In domestic market, the daily FX turnover of FX banks (interbank transactions and deal-to-customer transactions combined) increased from $55.77 billion on average in 2019 to $65.96 billion on average in 2023 (Figure 2). Overall, both spot transaction and derivatives transactions are increasing in South Korea. While the transaction volume has been steadily increasing, it is not yet sufficiently large compared to the size of Korea's economy (Bank of Korea).

① There are two authorized FX brokerage companies in Korea

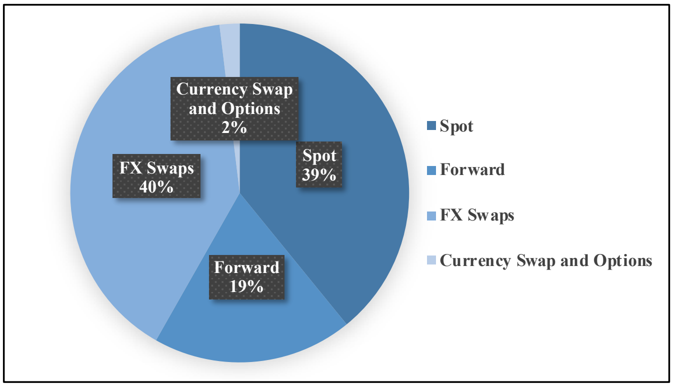
Figure 2 FX Turnover of FX Banks in Domestic Market (by Product)



Footnote : 1) Figures are calculated based on the daily average
2) Derivatives include Forward, FX swaps, Currency swap and options
Source : Recomposed by Author based on Bank of Korea data

Domestic FX transactions can be classified into categories such as spot exchange, forward exchange, FX swaps, currency swaps, and currency options. When examining the proportion of FX turnover by product, as of 2023, spot and swap FX transactions account for the largest share of total FX turnover (Bank of Korea) (Figure 3).

Figure 3 Proportion of FX Turnover by product in Domestic Market (2023)



Source : Recomposed by Author based on Bank of Korea data

According to the Table 1, the average daily trading volume of spot exchange in 2023 experienced a 55.7% increase compared to 2010. This figure suggests a relatively sluggish growth trajectory when juxtaposed with the quantitative growth observed in other capital markets, such as the inflow and outflow of capital in Korea, and financial transactions including those in the stock market during the same period. Conversely, forward exchange has exhibited a relatively rapid growth trend compared to spot exchange transactions. The average daily trading volume of forward exchange in 2023 experienced a 93.3% increase compared to 2010. Banks' forward exchange encompass a significantly larger volume of NDF transactions with non-residents than transactions conducted for hedging purposes by import and export companies. As a result, NDF transactions constitute a substantial portion of forward exchange transactions. In 2023, the average daily volume of NDF transactions amounted to $99.6 billion, nearly doubling compared to 2010. The swift expansion of NDF transactions can be attributed to the gradual increase in non-residents' participation in NDF trading for hedging or speculative purposes, following the authorization for NDF transactions between domestic FX banks and non-residents in April 1999 (Bank of Korea).

Table 1 FX Turnover of FX Banks in Onshore Market (by Product)

(100million dollars)

	2010(A)	2019	2020	2021	2022	2023(B)	(B-A)
Spot	165.8	198.3	203.2	227.1	231.3	258.1	55.7%
Forward	65.2	119.9	99.2	112.3	120.0	126.0	93.3%
NDF	54.4	107.9	79.8	88.1	91.7	99.6	83.1%
FX Swaps	179.2	226.2	213.4	229.3	258.3	263.0	46.8%
Currency Swap and Options	8.7	13.4	12.7	14.2	14.2	12.6	44.8%
Total	418.9	557.8	528.5	582.9	623.8	659.7	57.5%

Footnote : 1) Figures are calculated based on the daily average
Source : Recomposed by Author based on Bank of Korea data

2-3. Trends of the KRW in Offshore NDF Market

While non-residents are generally prohibited from trading KRW in the domestic market, there exists a method for them to engage in offshore KRW trading. Non-residents utilize NDFs to trade KRW, thereby circumventing the regulatory framework established by the Korean FX authorities.

NDFs, or non-deliverable forward contracts, are FX agreements where physical delivery of the underlying currencies is not necessary. Instead, settlements are made in cash by calculating the disparity between the spot rate on the maturity date and the predetermined forward rate. NDF transactions entail lesser payment risks compared to general forward exchange transactions. Moreover, NDF deals can be conducted with smaller amounts, resulting in a significant leverage effect. Payments in NDF transactions are primarily made in US dollars, enabling non-residents to freely engage in forward exchange transactions, even when they seek to trade currencies with limited internationalization levels, without the necessity to hold or exchange the currencies themselves. As NDFs are traded privately, they are part of the over-the-counter ("OTC") market[②]. The contract is drawn up and agreed upon solely by the involved parties, allowing for more flexibility with terms. Since all terms must be agreed upon by both parties, the end result of an NDF typically favors all involved. Because of this characteristic, NDF markets serve as an attractive alternative to domestic markets for foreign investors seeking opportunities for hedging and speculative transactions. They aid in addressing the restricted level of internationalization observed in many emerging market economy ("EME") currencies, including the KRW (CFI Team ; Ganti, 2022 ; Patel & Xia, 2019).

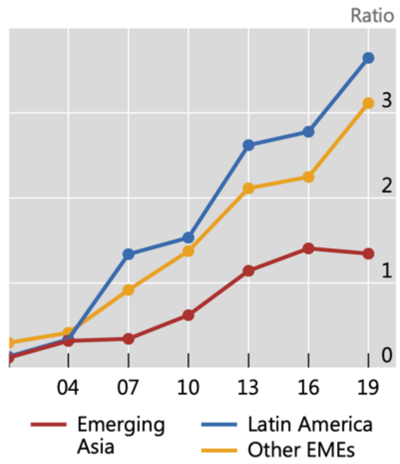
Given the scenario described, Korea's FX market is primarily comprised of a domestic market centered on spot exchange transactions and an offshore market centered on NDF transactions. Traders have more flexibility to execute KRW FX transactions in the offshore market compared to the onshore market. NDF transactions in offshore markets not only obviate the need for the actual acquisition and transfer of real KRW but are also not subject to regulations by Korean FX authorities. While KRW NDF transactions were historically conducted in Asian hubs like Singapore and Hong Kong, larger-scale transactions are now increasingly taking place in major global financial centers such as New York, London, and Tokyo with the London played the most significant role (Bank of Korea ; Patel & Xia, 2019).

Unlike the gradual growth trend observed in the domestic FX market, the offshore FX market for the KRW is experiencing rapid growth. This faster pace of development in offshore markets compared to domestic markets is a common phenomenon found in most EME currencies. In many EME countries, there is an emerging trend where the turnover of off-shore FX derivative trading surpasses the

② The OTC market is where securities trade via a broker-dealer network instead of on a centralized exchange like the New York Stock Exchange. OTC trading can involve stocks, bonds, and derivatives, which are financial contracts that derive their value from an underlying asset (Murphy, 2024).

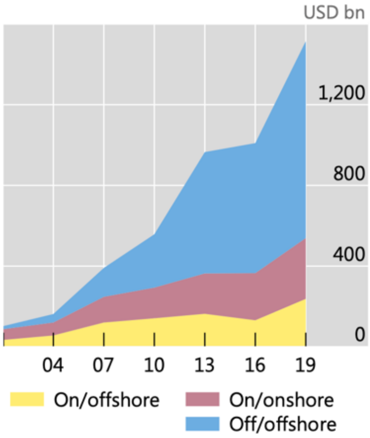
on-shore spot transactions by a significant margin (Patel & Xia, 2019). Among a variety of derivatives, the growth of NDF is driving the trend in the offshore market. Propelled by the strong expansion of NDFs, offshore trading's proportion of FX turnover has risen for the majority of Emerging Market Economy EME currencies. (Figure 4). The offshore markets of EME currencies surpass the trading volume of domestic markets, primarily because the NDF market within offshore markets is rapidly expanding for most currencies. Moreover, based on the transaction location, determined by the sales desk location of the reporting dealer, a trade can be categorized as either "strictly domestic" (involving two parties located onshore), "onshore-offshore" (involving one onshore and one offshore party), or "strictly offshore" (with both parties located offshore). It is also notable that strictly offshore transactions account for the largest proportion of the entire FX turnover in EME currencies (Patel & Xia, 2019) (Figure 5).

Figure 4 Offshore to Onshore turnover



Source : Patel & Xia, BIS (2019)

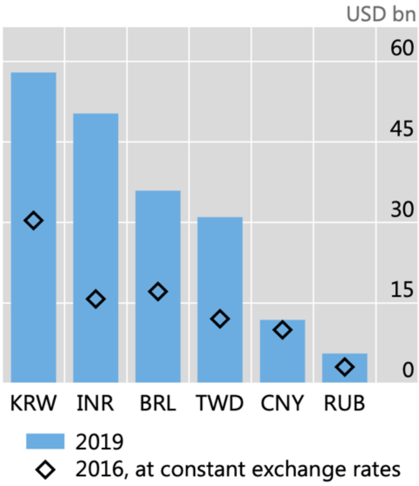
Figure 5 FX turnover in EME currencies by counterparty location



Source : Patel & Xia, BIS (2019)

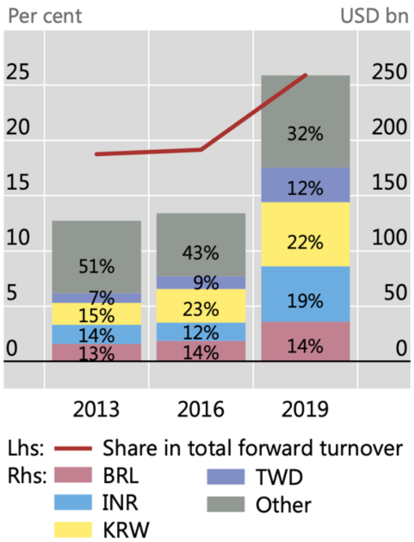
According to data released by the BIS, the expansion of the KRW NDF market stands out as notably prominent among EME currencies. The daily average NDF trading volume of the KRW in offshore markets witnessed a nearly twofold increase from 2016 to 2019, reaching a share of 22% among EME currencies, before experiencing a slight decrease in 2022 (Figure 6, 7). This trend can be attributed to the steady expansion of Korea's real and financial economies, particularly the significant increase in residents' overseas securities investments and the inflow and outflow of foreign securities investment funds. These factors have surged more than in other emerging markets, leading to an upsurge in demand for hedging and speculative transactions in the KRW (Lee & Kim, 2023).

Figure 6 The NDF Trading Volume of the Top 6 EME Currencies



Source : Patel & Xia, BIS (2019)

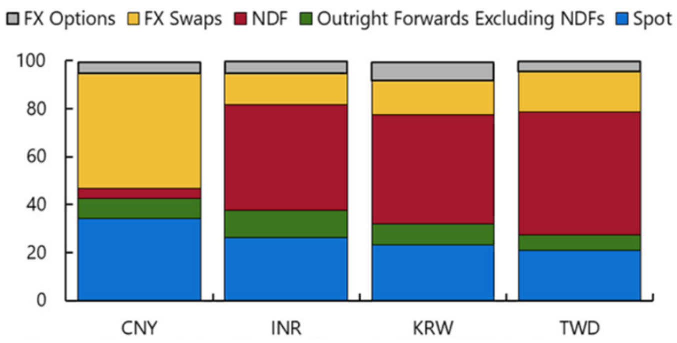
Figure 7 The Share of the NDF Trading Volume per EME Currencies



Source : Patel & Xia, BIS (2019)

Compared to other FX products such as spot, swaps, and options, NDF trading volumes are significant for INR, KRW, and TWD (Figure 8). In these currencies, NDF volumes greatly surpass those of all other FX products, including spot trading (Schmittmann & Teng, 2020).

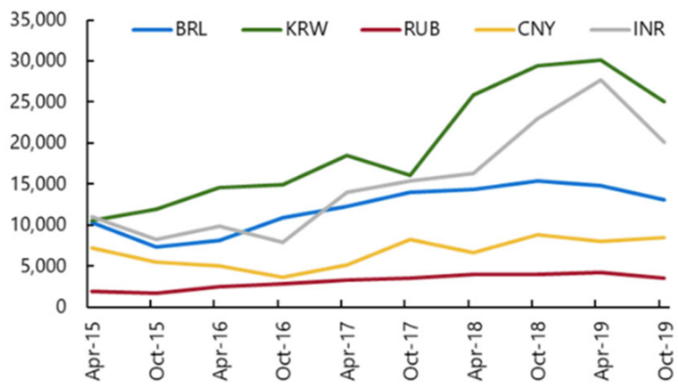
Figure 8 Daily Transaction Volumes by FX Product



Footnote : 1) Billions of USD
Source : Schmittmann & Teng, IMF (2019)

It has been observed that in London, one of the largest international trading hubs globally, records the highest volume of NDF trades involving the KRW (Schmittmann & Teng, 2020) (Figure 9). These findings suggest that the Korean government must take into account not only domestic transactions but also offshore KRW transactions.

Figure 9 NDF Daily Average Turnover in London



Footnote : 1) Millions of USD
Source : Schmittmann & Teng, IMF (2019)

Non-residents trading KRW/USD NDF with onshore FX banks also engage in much larger NDF transactions with other non-residents (transactions between non-residents) in offshore market, thereby enriching the liquidity of offshore markets to a level comparable to onshore markets. Consequently, the bid-ask spreads for NDF markets are not significantly different from those in the onshore spot exchange market. Indeed, the KRW FX market is evolving with a division between the onshore market, which is focused on spot exchange transactions, and the offshore market, which is centered around NDF trading. Furthermore, as the liquidity and efficiency of offshore NDF markets increase, not only do onshore FX market participants' transactions impact the determination of the KRW/USD exchange rate, but also the NDF trading of non-residents in offshore markets significantly influences the KRW exchange rate (Lee & Kim, 2023). The author will provide further elaboration on how the NDF market impacts the domestic spot exchange rate.

II. Reshaping the Foreign Exchange Market

1. Motivation and Purpose of the FX Market Advancement

There were likely various factors contributing to the announcement of the advancement for the South Korean FX market. However, the main reasons can be categorized into those originating domestically and those originating externally.

1-1. Motivation from the Onshore Market

1-1-1. Inadequate Growth of the Domestic FX market compared to the Real Economy

The volume of domestic FX turnover in Korea is exhibiting a sluggish growth trend compared to the growth rates observed in the real economy, market capitalization of stocks and bonds, as well as the pace of increase in external assets and debt. The total volume of FX turnover relative to nominal GDP and market capitalization has generally declined since 2019. For the market capitalization, there was a brief rebound in 2022, but the ratio falls again in 2023. Particularly when compared to the volume of bond transactions and external assets and debt, the rate of FX turnover in 2023 appears even lower compared to that of 2010 (Table 2).

Table 2 Comparison of Domestic FX Turnover to the Size of Economy

(100 million dollars,%)

	2010	2019	2020	2021	2022	2023
Total FX Turnover(A)	418.9	557.8	528.5	582.9	623.8	659.7
Nominal GDP(B)	11,438.7	16,510.1	16,446.1	18,176.9	16,732.6	17,131.2
Market Capitalization(KOSPI)(C)	9,876	12,662	16,784	19,253	13,679	16,289
Bond Transaction Volume(D)	5,053	18,960	18,115	13,104	7,717	8,514
External Debt(E)	3,546.9	4,707.4	5,506.3	6,306.9	6,652.4	6,636.3
External Assets(F)	4,506.1	9,571.5	10,344.2	10,825.5	10,217.1	10,277.9
A/B	3.7	3.4	3.2	3.2	3.7	3.9
A/C	4.2	4.4	3.1	3.0	4.6	4.0
A/D	8.3	2.9	2.9	4.4	8.1	7.7
A/E	11.8	11.8	9.6	9.2	9.4	9.9
A/F	9.3	5.8	5.1	5.4	6.1	6.4

Footnote : 1) Total FX Transaction is calculated based on the daily average
2) Bond Transaction Volume includes Government, Municipal, Specific Laws, Corporate, and Foreign bond
3) Market Capitalization and Bond Transaction Volume are calculated based on the average exchange rate of the year
Source : Recomposed by Author based on Bank of Korea data

Additionally, examining South Korea's global rankings based on GDP and FX turnover reveals a disparity between the two metrics. As of 2022, South Korea held the 13th position worldwide in terms of GDP, while it remained at the 15th position globally in terms of FX turnover (Table 3).

Table 3 World Ranking in 2022 (by GDP, FX Turnover)

	World Ranking in 2022	
	GDP Nominal	**FX Turnover by Country**
1	United States	United Kingdom
2	China	United States
3	Japan	Singapore
4	Germany	Hong Kong SAR
5	India	Japan
6	United Kingdom	Switzerland
7	France	France
8	Russian Federation	Germany
9	Canada	Canada
10	Italy	China
11	Brazil	Australia
12	Australia	Luxembourg
13	Korea, Rep.	Denmark
14	Mexico	Netherlands
15	Spain	Korea, Rep.

Source : Recomposed by Author based on the data from World Bank, BIS

These trends suggest that cross-border capital market and international financial transactions occurring in South Korea are significantly increasing (which also increases the demand for FX transactions), while the quantitative growth of the domestic FX market is relatively slow.

1-1-2. Closed Structure of the Domestic FX Market

While Korea has achieved levels of trade volume and capital market maturity comparable to advanced countries, its FX market growth has stagnated in comparison. Despite the increased demand for FX transactions accompanying the growth of the real economy, the closed structure of the domestic FX market hindered accessibility for foreign financial institutions. The reason for the closed structure of the domestic FX market stems from Korea's past experience of currency crises caused by FX shortages. To prevent similar crises, Korea has strengthened various regulations, procedures, and monitoring mechanisms. Regarding accessibility to Korea's FX market, foreign investors raised three the most significant inconveniences as following (Oh, 2023):

1) Deliverable[③] KRW can only be traded in the domestic FX Market : Under current laws and regulations, Deliverable KRW FX product cannot be traded in the cross-border FX market and can only be traded in the domestically. Developed countries have refrained from imposing restrictions on non-residents' payment and receipt of their own currency, facilitating internationalization and potentially leading to the emergence of a global market. However, in case of South Korea, FX authorities only allow the non-residents' payment and receipt of KRW to current transactions, such as exports and imports among others.

2) Participation in the FX market is exclusively granted to domestic financial institutions approved by the FX authorities : According to the Foreign Exchange Transaction Act, market participants are strictly restricted to domestic banks registered with FX authorities, as well as FX banks such as branches of foreign banks. Domestic securities firms have also been involved in the interbank FX market since 2003. FX intermediaries in domestic market are restricted to government-authorized FX brokers and only registered FX banks can trade through these intermediaries. Consequently, overseas financial institutions desiring to conduct transactions involving the KRW are constrained to trade only as customers of domestic market participants. In contrast, other developed countries do not have a formal authorization system for FX brokers or market participants, thereby leaving the determination of market participants to the discretion of many intermediaries.

2) Limited Trading Hours: In contrast to other developed countries that allow FX brokers to offer round-the-clock global services for trading their domestic currency, Korea adheres to a more restricted schedule. Trading hours are confined to 9:00 to 15:30 Korean time, in alignment with the operational standards set by the Seoul Foreign Exchange Market Committee. From the standpoint of foreign investors, even if they try to engage in KRW transactions through domestic market participants (in this case, they will trade as a customer of domestic participants), they find themselves unable to do so outside of trading hours. Consequently, they naturally gravitate towards trading in the offshore market, which operates around the clock.

③ FX product that requires the underlying currencies to be physically exchanged upon the contract’s maturity.

1-2. Motivation from the Offshore Market

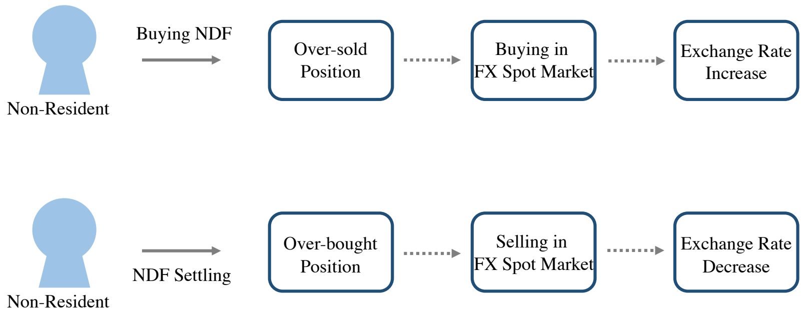
1-2-1. Increasing Impact of the NDF rate on the Domestic Spot Rate

Despite South Korea's notable advancements in both the real economy and capital markets to date, the growth rate of the onshore FX market has proven inadequate. In contrast to the domestic market, the offshore market is experiencing significant growth in the trading volume of non-residents' NDF transactions, which driving the expansion of the overseas KRW FX market. The surge in offshore NDF transactions also exerts influence on the onshore spot exchange rate.

These NDF transactions can be broadly categorized into onshore-offshore transactions and strictly offshore transactions. Let's examine how each NDF transaction with different trading counterparts could impact the domestic exchange rate. Primarily, NDF transactions between non-residents and domestic banks exacerbate exchange rate volatility by impacting the FX positions of domestic banks, despite not entailing actual inflows and outflows of foreign currency funds. For instance, when a non-resident purchases KRW/USD NDF, the domestic FX bank, as the trading counterpart, finds itself in an over-sold position. To mitigate the exchange risk resulting from position imbalances, the domestic FX bank purchases spot FX in the interbank market, thereby exerting upward pressure on the KRW/USD exchange rate. Subsequently, upon settling the price differential at the maturity of the NDF transaction, the domestic FX bank enters an over-bought position. At this juncture, the bank sells spot FX again to square[④] its overall position, exerting downward pressure on the KRW/USD exchange rate (Bank of Korea). Figure 10 illustrates how these NDF transactions between non-residents and domestic FX banks affect the spot exchange rate.

④ The situation where a trader or portfolio has no market exposure.

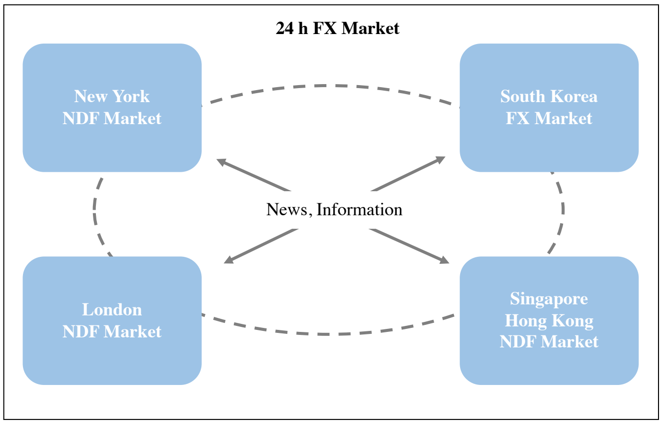
Figure 10 Impact of Onshore-Offshore NDF Transaction on Spot rate



Source : Recomposed by Author based on the data from Bank of Korea

Secondly, even if non-residents do not engage in transactions with onshore market participants, NDF transactions among non-residents in the offshore market still impact the domestic spot exchange rate. Figure 11 illustrates the global FX market, which operates 24 hours a day. According to this figure, the closing price of KRW/USD NDF transactions in the New York FX market influences the opening and closing prices in the Seoul FX market, subsequently exerting a cascading impact on the NDF exchange rate in other international market. After passing through all the other markets, the rate once again impacts the NDF transactions in New York and the cycle goes on (Lee & Kim, 2023).

Figure 11 Serial Interaction of NDF and Spot rates in FX Market



Source : Recomposed by Author from Lee & Kim (2023)

KRW NDF transactions among non-residents in global financial centers such as London surpass the volume of onshore SPOT transactions. Consequently, the mutual influence between SPOT and NDF exchange rates is escalating, with the offshore NDF exchange rate primarily exerting a significant one-way impact on the onshore spot exchange rate (Lee & Kim, 2023). This expansion in the offshore NDF market deepens the divided structure of the KRW FX market.

Likewise, NDF transactions originating abroad are exerting a growing influence on the domestic FX market. These transactions not only directly and indirectly impact the domestic spot exchange rate but also significantly affect the domestic FX market in reverse. Recognizing this dynamic, Korea has introduced measures aimed at enhancing the domestic FX market in order to mitigate the disruptive effects of offshore transactions, a phenomenon often described as 'Wag-the-dog'.

Since the initial opening of the domestic capital market to foreign investors in 1992, Korea has consistently progressed both quantitatively and qualitatively, despite enduring two global financial crises. While the scale of the real economy, such as trade, has steadily expanded, foreign investment in domestic stocks and bonds has surpassed $1 trillion, and overseas securities investment by domestic residents has similarly expanded to a comparable scale. Consequently, cross-border capital transactions have significantly broadened, and the volume of foreign exchange transactions in the domestic foreign exchange market has increased in tandem with this growth. However, the growth of the onshore FX market has exhibited relatively insufficient expansion compared to the development pace of other capital markets, and the lack of structural improvements in the onshore FX market has been highlighted as a contributing factor to this situation. Until now, various structural mechanisms in the domestic interbank FX market have impeded the internationalization of the KRW, contrary to their intended objectives. In contrast, in offshore global financial hubs, both domestic and foreign economic entities can engage in NDF transactions without encountering such structural impediments. Consequently, offshore KRW NDF transactions are catering to diverse foreign exchange transaction demands and rapidly advancing the offshore KRW FX market. This situation is interpreted as a factor slowing down the growth of the onshore KRW FX market.

To enhance future external stability and firmly establish an open macroeconomic regime, Korea's FX market structure needs to be further advanced beyond its current state. By addressing structural issues, the onshore FX market should align its development pace with the level of advancement in the capital market. Simultaneously, onshore FX market should absorb the demand for KRW transactions that are concentrated in offshore markets while also mitigating the vulnerability of onshore exchange rates to external factors.

The recent opening of the FX market can be perceived as the inception of this innovation. In February 2023, the Korean government introduced the "Advancement of the Foreign Exchange Market". In the subsequent discussion, we will scrutinize the policies that formerly served as barriers to foreign investors in the KRW onshore FX market and analyze the fundamental components of the newly announced innovation.

2. Major Changes of Foreign Exchange Market Advancement

In this section, we will conduct a comprehensive review of the newly proposed FX market innovation plan, which aims to tackle the structural issues identified in the onshore KRW FX market as discussed earlier. The content analyzed in this section has been recomposed by the author using the official document titled 'Proposals for Improving the Foreign Exchange Market Structure', as released by the Korean FX authorities.

2-1. The Expansion of the Participation within the Onshore FX Market

As part of the ongoing advancement plan, Korea has opted to permit participation in the interbank market for Registered Foreign Institution (“RFI”) upon meeting specific criteria. Authorization will be restricted to global banks and securities firms[⑤] of a similar nature to those[⑥] presently eligible to engage in interbank markets for foreign exchange transactions. Participation by foreign financial institutions outside of this classification will not be allowed.

⑤ Foreign financial institutions engaging in businesses equivalent to the aforementioned categories under domestic regulations + Overseas subsidiaries or branches of domestic financial institutions.
⑥ According to the Foreign Exchange Transaction Act, foreign exchange handling institutions include banks, financial institutions, and investment brokerage or intermediary businesses.

The authorization criteria are outlined as follows:

1) Adequate Liquidity Provision - The institution is required to maintain sufficient trading limits (Credit Line) to facilitate seamless transactions with existing participating institutions.

2) Identification Verification - Prior to authorization, corporate information including personal details and confirmation of account openings for domestic won payments must be verified.

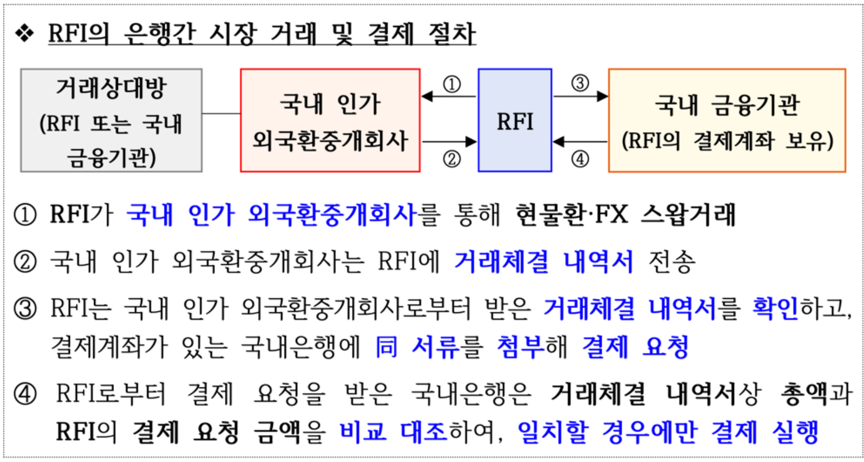
3) Regulatory Equivalence Assessment - The regulatory and supervisory framework of the institution's home jurisdiction must be deemed equivalent to that of Korea through a thorough assessment process.

4) Commitment to Compliance - The institution must adhere to various reporting and verification obligations and refrain from engaging in market manipulation or actions detrimental to sound trading under the Foreign Exchange Transaction Act. Additionally, they must cooperate with submissions for supervisory purposes and understand that their authorization may be revoked in case of serious violations.

The scope of access includes both the interbank spot market and the FX swap market. Allowing RFIs to participate in the FX swap market is crucial because global investment institutions often require FX swap transactions for hedging purposes when investing domestically. Additionally, granting access to the FX swap market enables RFIs to conduct transactions that would otherwise be processed in the offshore NDF market at a lower cost. All RFIs are permitted to trade with both onshore and offshore customers.

To ensure smooth transaction monitoring, settlement of KRW payments for interbank transactions involving RFIs is permitted exclusively through domestic foreign exchange intermediaries authorized by the government. Figure 12 provides a more detailed illustration of the interbank market transactions and settlement process for RFIs.

Figure 12 The Transactions and Settlement Process for RFIs



Source : 외환시장 구조 개선방안 (기획재정부) (2023.02)

2-2. The Extension of Trading Hours

The second phase of the advancement plan involves the extension of trading hours. Previously, trading hours for the onshore FX market spanned from 9:00 to 15:30 Korean time. The newly unveiled plan aims to significantly expand these hours, operating from 9:00 to 2:00 the following day. This extension is synchronized with the closing time of the London financial market, considering the preparedness of domestic banks for adjustments in trading hours and staffing arrangements. Korean FX authorities have articulated their intention to further prolong trading hours to 24 hours, contingent upon the specific conditions of the banking sector in the future.

The extension of trading hours is anticipated to alleviate challenges encountered by foreign investors in the current onshore market. Previously, the closure of the onshore FX market coincided with the closing time of the stock market, posing difficulties for financial institutions to settle positions, as they determine the currency exchange amount after the stock market closes. Additionally, global investment institutions often assess their currency assets (Fixing) at the closing price in London (1:00 Korean time, 16:00 London time). However, there was no applicable exchange rate for the KRW/USD at that time, leading to the occasional use of the closing rate of the Korean FX market instead. With the extension of trading hours, it is anticipated that this issue of disparate benchmark rates for other currency assessment and fixing will be mitigated. Nevertheless, the market average rate

("MAR") will persist in being calculated based on the existing time frame from 9:00 to 15:30 Korean time. Other benchmark prices will be provided as necessary through consultation.

2-3. Establishment of the Competitive Transaction Infrastructure

The third strategy involves establishing the onshore FX market infrastructure to a standard comparable to that of advanced nations. Specific initiatives include the introduction of electronic trading platforms, referred to as Application Programming Interface ("API"), and electronic brokerage services for customers, known as Aggregator. API denotes an electronic trading infrastructure facilitating FX banks to furnish real-time quotes to customers and enabling automatic transaction execution upon order receipt. Traditionally, FX banks would receive customer orders via telephone and execute transactions in the interbank market. Such APIs are already prevalent in global advanced markets. As per the Bank for International Settlements (BIS) data as of 2022, electronic trading via API represented 57.6% of global FX transactions. Korea initiated its embrace of API from 2023 onward. Notably, FX authorities unveiled strategies to actively integrate APIs into current onshore market participants and to establish connections with RFIs. Although API adoption remains nascent in Korea, various domestic FX banks intend to finalize API development following the meticulous implementation scheduled for the latter half of 2024.

Once API development reaches a certain level of maturity, the introduction of Aggregators is anticipated following amendments to foreign exchange laws. Institutions aspiring to operate as Aggregators must register with the foreign exchange authorities beforehand. Figure 13 elucidates the scope of services for Aggregators. Given that transaction mediation among financial institutions in the interbank market is limited to approved FX intermediaries, services akin to those of onshore FX intermediaries, such as Non-Disclosed Streaming, will be prohibited. For Aggregators, delivering seamless quotes based on APIs is crucial to maintaining competitiveness in the customer market. As electronic trading is already extensively utilized in other developed global markets, the rollout of APIs by domestic banks is poised to be a pivotal undertaking in enhancing accessibility to the onshore FX market.

Figure 13 The Scope of Services for Aggregators

對고객 외국환 전자중개회사의 서비스 제공 방식 및 허용 범위

허용	채팅	✓ 당사자간 메신저로 가격 확인, 주문, 거래체결
	RFQ (Request For Quotation)	✓ 고객 호가 요청 → 은행별로 고객에 호가제시 → 고객은 최적 가격의 은행 선택 → 거래 체결
	Disclosed Streaming	✓ 은행이 고객에 지속적 호가 제시 → 고객은 은행별 호가 확인 후 최적 가격의 은행 선택 → 거래 체결
불허	Non-Disclosed Streaming	✓ 은행이 고객에게 지속적 호가 제시 → 고객은 은행별 호가 확인 없이 최적 가격에 자동으로 거래 체결

Source : 외환시장 구조 개선방안 (기획재정부) (2023.02)

III. Expected Effects of the Korean FX Market Innovation

To attain a level of accessibility to FX markets akin to advanced nations, Korea has unveiled measures such as augmenting opportunities for trading onshore for global financial institutions, extending trading hours, and enhancing trading infrastructure. In this chapter, we will explore the anticipated effects stemming from the advancement of the onshore FX market for the KRW.

1. Advancement of Financial Sophistication and External Stability

By elevating the accessibility of onshore FX market to a level commensurate with advanced countries for international investors, it becomes feasible to foster the growth of Korea's capital market and financial sector. The recent innovation plan for the onshore FX market has decided to substantially extend trading hours and ease restrictions for non-residents, such as permitting direct trading after the registration by offshore financial institutions. As a result, it is anticipated that investment in KRW assets will surge, and opportunities for domestic financial institutions to operate overseas will broaden. Moreover, the global acceptance of the Korean currency could enhance, and the medium- to long-term reliance on foreign currencies and the associated exchange rate risks concerning trade settlements and capital procurement could diminish.

Efforts to advance Korea's financial landscape also breed heightened market expectations. Among these aspirations is the inclusion of Korea in the Morgan Stanley Capital International ("MSCI") World Index[⑦]. Full-scale opening of the FX market is deemed essential for South Korea to meet the criteria for inclusion in the MSCI World Index. While Korean FX authorities have underscored that their initiatives to bolster the FX market aren't driven by aspirations for MSCI World Index inclusion, market observers interpret South Korea's moves to liberalize the onshore FX market as a stride toward potential inclusion not only in the MSCI World Index but also in the World Government Bond Index ("WGBI"), one of the world's three major bond indices. Notably, all 23 countries encompassed in the MSCI World

⑦ The MSCI World Index is an index compiled by Morgan Stanley Capital International. It's one of the key benchmarks that global funds use when deciding on investment allocations.

Index boast offshore FX markets and succeeded with currency internationalization (Lee, 2023). Korea has pursued inclusion in the MSCI World Index since 2008, encountering recurring setbacks primarily due to the absence of offshore FX markets, limited market accessibility, and stringent registration requirements for foreign investors, among other factors (Lee , 2022). If the ongoing opening of the FX market paves the way for the establishment of offshore FX markets for the Korean currency, market sentiment indicates that the prospects for Korea's inclusion in the MSCI World Index may be more promising than ever before.

2. Improvement of FX Trading Convenience

Upon the implementation of a new operational framework for the onshore FX market, all market participants including financial institutions and other customers who desire currency transactions will gain additional access to extended trading hours. Consequently, domestic investors who invest on overseas assets will be able to exchange currencies without extra fees even during late-night periods, while offshore clients will have the flexibility to convert currencies as required as well. This initiative is anticipated to alleviate the inconvenience associated with the previously limited trading hours aligned with the Korean time zone and cater to the diverse needs of customers with varied motivations for FX transactions.

Moreover, as conditions will mitigated for market participants, a broader array of institutions will gain access to domestic markets and more competitive market environment will be formed. This competitive environment holds the potential to enhance the pricing of FX transactions within the market. Consequently, FX customers can anticipate engaging in transactions with lower costs and enhanced services in the future. Encouraging price competition among domestic and international financial institutions will contribute to the enhancement of both the quality and efficiency of FX transaction services. Furthermore, FX intermediaries, that only allowed to engage in domestic transactions previously, will seize expanded business opportunities to serve offshore customers beyond the onshore customers.

3. Increase in Liquidity and the Mitigation of Market Volatility

Through the opening of the domestic market, it becomes adept at absorbing the demand for Korean won transactions that was previously concentrated in the offshore NDF Market. Presently, there exists a destabilizing aspect attributed to the disproportionate influence of certain FX market participants primarily engaging in one-directional trading. A notable instance is the prevalence of overseas orders for domestic shipbuilders, primarily selling dollars, which contributes to the depreciation of the KRW/USD exchange rate. With the market opening, KRW trading demands with various transaction purposes, previously conducted in the offshore market, can be accommodated. Consequently, expanding market participants with diverse trading motivations could foster stability in the market. Furthermore, foreign investors could utilize the domestic spot FX market rather than offshore NDF markets for hedging transactions when there is ample liquidity and favorable trading prices available. As discussed earlier, the anomalously burgeoning NDF market paradoxically impacts the onshore spot exchange rate. The opening of the onshore FX market is also anticipated to mitigate this ‘Wag the dog’ phenomenon. Enhanced accessibility to the onshore market has the potential to diminish incentives for offshore NDF transactions and attract these incentives to the onshore market. The determination of exchange rate can be led by the domestic market and the situation will serve to strengthen the sovereignty of domestic exchange rates.

If the opening of the onshore FX market to non-residents is expanded, it is anticipated to have a limited adverse effect on the volatility of the KRW exchange rate, while concurrently exhibiting positive impacts on market development by fostering an increase in trading volume. With the growing presence of trading participants driven by various motives, the determination of spot exchange rates in the domestic FX market can occur more efficiently. Moreover, the increased liquidity can bolster the market's resilience in responding to external shocks. However, it's essential to highlight that if liquidity fails to surpass 20% of regular trading hours during extended trading hours, the positive effects may be undermined. This situation could raise concerns about a potential significant increase in exchange rate volatility (Lee & Kim, 2023).

IV. Potential Risk and Consideration Points

1. Potential Risk Factors raised in the Market

Amidst the optimistic anticipation surrounding the innovation of the onshore foreign exchange market, there have also emerged concerns. While gathering the insights from foreign exchange dealers actively engaged in onshore market transactions, the author has also conducted a market research and analyze three prominent potential risk factors as follows.

1-1. The Possibility of Liquidity Shortage in the Onshore Market during Extended Trading Hours

In line with the plan to advance the FX market, existing participants in the onshore market are proactively gearing up for this initiative. Commercial banks are adapting by establishing new nighttime trading desks or deploying traders to overseas branches to facilitate operations during these hours. In support of market development, the Korean government has designated seven FX banks for the KRW/USD market as the leading banks[8] for 2024, which increased by one from the previous year (Bank of Korea). Nevertheless, apprehensions persist regarding the actual generation of sufficient liquidity.

FX dealer “A” in Foreign Bank Branch : One of the primary clients in the FX market currently are domestic corporations, with export companies acting as sellers of foreign exchange and import-oriented firms predominantly acting as buyers. It remains uncertain how much demand there will be for corporate currency exchange to address nighttime market liquidity after the business hours of domestic companies (6 p.m. Korean time). For instance, the KRW/CNY market, initiated in 2014, is presently dominated by market making institutions, with minimal actual demand evident. Initially, it was anticipated that there would be active transactions in the KRW/CNY market due to the trade growth between China and Korea. However, upon its launch, it was observed that significant actual demand was lacking. Merely

[8] Banks that spearhead the trends within the banking industry and set exemplary standards for trading practices and decision-making.

assuming that liquidity will materialize if the onshore market opens solely because the offshore NDF market has expanded entails risks. There are concerns that the commencement of the onshore market during nighttime hours may result in the emergence of another KRW/CNY market.

Indeed, the motivations behind spot FX transactions can generally be categorized into real demand, speculation, and hedging. Spot FX transactions driven by real demand entail orders from customers, including businesses and individuals, who purchase and sell foreign currency at FX banks for various purposes such as exports and imports, overseas remittances, and overseas investments. Given that these transactions are initiated by individuals who typically operate during domestic business hours, the demand for such transactions may experience a notable decrease even with the introduction of nighttime trading. Trading for speculative purposes involves seeking profits based on expectations of future exchange rate movements. Traders focusing on speculative trades may participate in active trading during nighttime hours. However, as speculative trading does not comprise as significant a portion of overall trading motivations as real demand or hedging, it is less likely to serve as a solution for liquidity supply. Another significant aspect of spot FX trading involves hedging to manage exchange rate risk. FX banks execute transactions in the interbank market in response to customer trading requests, which resulting in the establishment of the bank's long or short positions. To mitigate exchange rate risk, it is customary for the banks to maintain a square position by conducting transactions in the opposite direction. However, hedging may also encounter a substantial volume shortfall if there is a scarcity of orders driven by real demand from diverse customers.

1-2. The Risk of Exacerbating Exchange Rate Volatility

As highlighted in the preceding chapter, research findings indicate that if sufficient liquidity is furnished during extended trading hours, the risk of exchange rate volatility may diminish. Nevertheless, it's crucial to underscore from the same research that if liquidity during extended trading hours does not surpass 20% of regular hours, there's a caveat that volatility may instead rise. Ultimately, the pivotal factor is the actual trading demand. Should adequate liquidity not be supplied during extended trading hours, volatility may be exacerbated by a few outlier trades aiming to intentionally influence the market exchange rate.

FX dealer “B” in Domestic Bank : Market volatility is indeed a crucial issue. If there is insufficient liquidity during extended trading hours, the market becomes vulnerable to external forces seeking to manipulate exchange rates. In particular, destabilizing exchange rates may be an attractive option for entities involved in fixing by adopting a specific exchange rate at a certain time. While institutions traditionally relied on the MAR for fixing, the importance of the closing rate for fixing may increase due to the prevalence of global companies using the London closing rate. If there is a division between institutions adopting the existing closing rate (15:30 Korean time) and those seeking to adopt the new closing rate (2 a.m. Korean time, London closing time), market disruption could intensify. Although current FX market innovation plans aim to calculate MAR based on trading within existing trading hours, there is no specific standard provided for the closing rate. As the FX market is influenced by every detail and moves according to the intentions of market participants, it seems necessary to consider more specific details.

The onshore market has adopted the MAR system, which is more widely used as the fixing exchange rate for various derivative products and assets compared to the closing rate. Consequently, even if the closing rate is determined somewhat abnormally within the onshore market, its resulting effects remain limited. However, for trading involving major currencies, the closing rate holds significant importance. The majority of major currencies utilize the WMR (WM/Refinitiv) exchange rate as the fixing rate. WMR calculates exchange rates at specific times, such as 4 p.m. London time, serving as a benchmark exchange rate against which currency assets are evaluated. Given its status as the benchmark rate, transactions affecting the WMR fixing (those traded during the 5 minutes before closing) exert substantial influence over the overall market. Indeed, past instances of FX manipulation by global banks have involved collusion among certain traders, who concentrated trades in a particular direction to influence Fixing rates in their favor (Oh, 2022).

Foreign investors advocating for the expansion of convenience in KRW/USD spot FX trading are pushing for the adoption of the London 16:00. Fixing rate, which is widely preferred worldwide. Korea's decision to extend trading hours to match the London 16:00 (2:00 Korean time) is also made in consideration of these demands as part of its FX innovation efforts (Oh, 2022). While a Fixing calculation system similar to that of major currencies has not yet been established domestically, the absence of a benchmark for the closing rate could potentially lead to market confusion. The existing closing rate time (15:30 Korean time) has exhibited some disparities with global standards thus far. However, with the prospect of RFIs participation during the newly extended onshore trading hours, there may be a growing demand for a clear benchmark for Fixing rates. At this juncture, it is also imperative to contemplate whether the current MAR will continue to function as a useful reference point in the future.

1-3. Market Accessibility and Competitiveness

The FX market innovation plan does not encompass the complete liberalization of the KRW in the offshore market. Despite the perception of significant openness of the onshore market to offshore institutions, the reality is that offshore institutions still need to undergo RFI registration procedures to engage in domestic trading. As detailed in Chapter 2, stringent evaluation criteria must be satisfied for registration via RFI. Moreover, RFIs are exclusively permitted to participate in spot FX and FX swap market transactions within interbank markets. The expansion of other FX derivative markets will be contingent upon market conditions and trading demand. Transactions are also limited to FX intermediaries authorized by the government. There are distinctions with other advanced currency markets where trading is freely accessible through any FX intermediary.

FX dealer “C” in Foreign Bank Branch : When assessing the success of currency internationalization and innovation, notable examples such as the offshore Chinese yuan (CNH) and the Singapore dollar often come to mind. These currencies facilitate unrestricted trading by overseas institutions through offshore currency accounts, with minimal restrictions on counterparties, intermediaries, transaction sizes, and trading hours. Achieving a similar level of autonomy for offshore traders with the KRW could signify its internationalization and innovation. However, the current advancement plan seems to be hindered by the lingering effects of past FX crises in Korea. While the cautious and gradual approach to market restructuring is commendable as a first step, it appears that the government is still hesitant to fully relinquish its monitoring role. Despite the government's assertion that the RFI system will mitigate risks associated with opening the onshore market, RFIs could potentially create additional barriers for offshore market participants. Essentially, it seems as though the government is inviting traders into the onshore market while simultaneously monitoring their activities closely, akin to surveillance cameras in operation.

The Korean government is contemplating a strategy to independently compute and oversee the proportion of forward FX trading positions involving onshore financial institutions as counterparties for RFIs. This measure is designed for monitoring purposes during normal market conditions, with provisions for implementing temporary regulatory ratios in response to concerns regarding market instability. Additionally, RFIs are mandated to establish credit line agreements with specified leading banks designated by the government. They are also required to validate the legality of transactions with customers and report their business activities. Even subsequent to RFI registration, regular suitability assessments will be conducted every three years. Furthermore, plans are underway to develop direct control measures for RFI capital transactions in precarious circumstances. These regulatory initiatives by the government are perceived as endeavors to bolster macro-prudential safeguards and corresponding contingency measures, thereby instituting effective supervisory protocols to avert RFI participation from potentially triggering market instability.

Nevertheless, these regulations may not fully align with the objective of enhancing accessibility to the onshore market for overseas traders and further elevating the status of the KRW among advanced currencies. Continuous transaction monitoring and intricate regulations could potentially deter participation in the onshore market. The notable growth of the NDF market can be attributed to its convenience and ample liquidity. The NDF market facilitates settlement based solely on price differentials, thereby reducing transaction costs and providing greater flexibility in leveraging, thus rendering it highly active. Considering this convenience, offshore traders may find little incentive to incur the expenses associated with RFI registration for engaging in onshore FX transactions. Indeed, upon the announcement of the advancement plan, there were reports of over 30 institutions expressing interest in the RFI system and a readiness to engage in the onshore market. However, with just two months remaining before the full opening of the onshore market, only 19 offshore institutions have registered as RFIs (Table 4). The extent to which the number of RFI institutions will expand in the future remains uncertain.

Table 4 Status of Registered Foreign Institution (RFI) as of April 24, 2024

No.	Institution Name	SWIFT Code
1	State Street Bank and Trust Company, Hong Kong Branch	SBOSHKHXXXX
2	State Street Bank and Trust Company, London Branch	SBOSGB2XXXX
3	Hongkong and Shanghai Banking Corporation Limited, Singapore Branch	HSBCSGSG
4	Credit Agricole Corporate and Investment Bank, Paris(Head office)	BSUIFRPPXXX
5	MUFG Bank, Ltd(Head office)	BOTKJPJT
6	Standard Chartered Bank(Head office)	SCBLGB2LTSY
7	Kookmin Bank Co., Ltd. Singapore Branch	CZNBSGSGXXX
8	Kookmin Bank Co., Ltd. London Branch	CZNBGB2LXXX
9	Mizuho Bank, Ltd (Head office)	MHCBJPJT
10	Deutsche Bank AG Frankfurt	DEUTDEFFSIP
11	Deutsche Bank AG, London Branch	DEUTGB2L
12	Deutsche Bank AG, Singapore Branch	DEUTSGSG
13	KEB Hana Bank, London Branch	KOEXGB2L
14	The Bank of New York Mellon(Head office)	IRVTUS3N
15	Bank of America, N.A.(Head office)	BOFAUS6NGFX
16	DBS Bank LTD.(Head office)	DBSSSGSG
17	KEB Hana Bank, Singapore Branch	KOEXSGSG
18	BNP Paribas SA(Head office)	BNPAFRPP
19	BNP Paribas SA(London Branch)	BNPAGB22

Source : Recomposed by Author based on Bank of Korea data

2. Supplementary Approaches

There is a blend of optimism and apprehension surrounding Korea's proposed enhancements to the structure of its onshore FX market. However, the decision to open up this market holds significant symbolic value as the initial stride towards the internationalization of the Korean currency. Korea has long pursued the ambition of establishing its currency on the global stage. Despite the nation's economic growth paralleling that of other developed economies, the standing of the KRW in international markets has remained suboptimal. Korea aims to fortify stability within its onshore FX market by diminishing dependency on the USD through the internationalization of its currency, thereby transcending the hardships of past FX crises. In this section, we will delve into the essence of currency internationalization, examine successful precedents, and ultimately contemplate how Korea can elevate its agenda for the advancement of its FX market.

2-1. Currency Internationalization

2-1-1. Definition and Benefits of Currency Internationalization

Currency internationalization refers to the process by which a national currency becomes widely used and accepted beyond its borders for international transactions, investment, and as a reserve currency held by central banks. It involves increasing the currency's role in global trade and finance, thereby enhancing its status as a medium of exchange, a unit of account, and a store of value in international markets. The internationalization of currencies can be divided into full internationalization and partial internationalization depending on their functions and scope of use (Hyun & Lee, 2012 ; Genberg, 2012). From a functional perspective, a currency that possesses all three functions of international currencies (transactions, investment, and reserve) without any restrictions on transactions between third parties is considered fully internationalized. A currency that only has the functions of transactions and investment among the three functions of international currencies is defined as partially internationalized (Hyun & Lee, 2013). If we consider the scope of use instead of functions, full internationalization and partial internationalization are distinguished by whether transactions between third parties are allowed. When transactions between third parties are allowed in a currency that has all three functions of international currencies, it is defined as fully internationalized, whereas when transactions between third parties are restricted, it is defined as partially internationalized (Genberg, 2012). Numerous researchers have delved into the advantages and costs of currency internationalization, highlighting that these vary contingent upon the economic and political development of the nation whose currency undergoes internationalization. For the sake of brevity and efficacy in our discourse, this study opts to primarily address the widely acknowledged benefits of currency internationalization.

1) First, significant benefit of currency internationalization lies in its role as a trade intermediary. By facilitating international transactions, an internationally recognized currency can help reduce transaction costs for businesses engaged in cross-border trade. These reduced costs include savings on bid-ask spreads, commissions, hedging expenses, fees, and taxes associated with international payments (Cohen, 2012 ; Orsi, Alves, & Modenesi, 2023).

2) Second, domestic companies and financial institutions can access the international market without exchange rate risk. Internationalization provides new revenue opportunities for domestic financial institutions, but at the same time, it may offset those benefits by allowing foreign financial institutions to enter the domestic market (Cohen, 2012 ; Kenen, 2009).

3) Third, currency internationalization enables the issuing country to gain Seigniorage gains. This refers to the profit the issuing country earns by subtracting the issuance cost from the face value when issuing currency (Cohen, 2012 ; Kenen, 2009 ; Orsi, Alves, & Modenesi, 2023).

4) Fourth, an internationalized currency can be used to address balance of international payments imbalances on its own, providing benefits to the issuing country in terms of macroeconomic flexibility (Cohen, 2012 ; Orsi, Alves, & Modenesi, 2023).

5) Finally, possessing an internationalized currency gives the issuing country a status in the international financial markets, reputation and corresponding power. The issuing country can have independent autonomy by having an internationalized currency without relying on other countries (Cohen, 2012 ; Orsi, Alves, & Modenesi, 2023).

As evidenced by multiple studies, currency internationalization offers a multitude of economic, political, and social benefits to the issuing country. It is not uncommon for various countries, including South Korea, to contemplate their own currency's internationalization as a fundamental policy objective. However, history demonstrates that achieving currency internationalization requires meeting several essential conditions, a feat not accomplished by every nation despite aspirations throughout the ages.

2-1-2. How to achieve the Currency Internationalization?

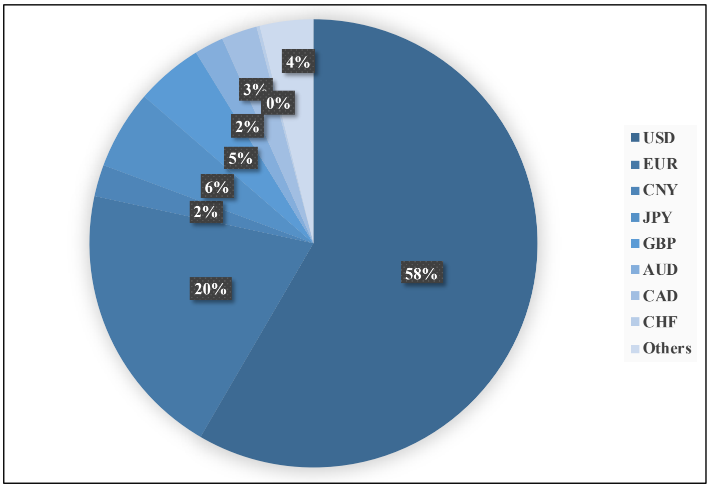
The prerequisites for the currency internationalization typically involve factors such as liberalizing capital controls, economic scale, enhancing the currency value for reserves, and fostering confidence in the stability and reliability of the currency.

First, the factor that determines currency internationalization is the size of the issuing country’s economy (Papaioannou & Portes, 2008 ; Smaghi, 2008). Following the Second World War, the United States underwent a period of rapid economic expansion, emerging as a pivotal trading partner for numerous nations globally and boasting a formidable market presence. Consequently, the US dollar has maintained its preeminent status as the foremost international currency to date (Papaioannou & Portes, 2008). Does this suggest that any nation with an economy commensurate to that of the US can achieve currency internationalization? What distinguished the US from other nations was its expeditious relaxation of regulations governing goods, labor, and capital markets, facilitating swift resource reallocation within domestic enterprises and private sectors, thereby substantially enhancing productivity (Papaioannou & Portes, 2008). Among the array of factors influencing internationalization, the economic scale of the issuing nation has been extensively corroborated as pivotal in scholarly literature. Indicators such as a nation's GDP, trade prominence, stock market valuation, and the proportion of foreign bond issuance denominated in its domestic currency all play a constructive role in fostering currency internationalization (Hyun & Lee, 2013). Larger economies tend to witness expanded productivity and investment prospects, thereby organically boosting demand for their currency. Likewise, as stock market valuations ascend, there is a corresponding surge in investors seeking to acquire the domestic currency requisite for investment in these markets, reflecting a similar underlying principle.

Second, another factor to consider is the easing of currency restrictions. In order to promote the internationalization of a domestic currency, it is crucial to establish an environment conducive to free currency trading for both domestic and foreign enterprises, encompassing spot and futures markets. To elaborate further, it entails ensuring that the government provides assurance to domestic as well as foreign businesses, granting them the freedom to hold domestic currency and various financial instruments, including participation in spot and futures markets (Kenen, 2009).

Third, economic entities should have the autonomy to hold internationally recognized currencies in quantities they find advantageous. This implies their ability to serve as significant reserve currencies (Kenen, 2009). According to official data from the IMF, as of the fourth quarter of 2023, the currency composition of official FX reserves indicates that the US dollar leads at 58.4%, followed by the Euro at 19.9%, the Japanese yen at 5.7%, the British pound sterling at 4.8%, with other currencies comprising approximately 3.8% (Figure 14). As evident from this statistic, the currently most internationalized currency, the US dollar, serves a significant role as a reserve currency on a global scale.

Figure 14 Currency Composition of Official FX Reserves (2023 Q4)



Source : International Monetary Fund

Finally, it is imperative that both domestic and foreign institutions operate without constraints when issuing financial products denominated in internationalized currencies. This requirement aligned with the second condition for currency internationalization. Importantly, international institutions, including entities like the World Bank and regional development banks, are encompassed within these institution range. These international bodies must retain the autonomy to issue debt instruments in national markets as deemed necessary and utilize internationally recognized currencies in their operations (Kenen, 2009).

2-2. Topics for Consideration

While numerous studies have delved into the components necessary for currency internationalization, the presence of these prerequisites does not guarantee the automatic emergence of currency internationalization. Nations worldwide are confronted with distinct challenges dictated by the currents of time, each leveraging its unique capacities and cultural aspects to address them. Historically, even when confronted with identical circumstances, nations have demonstrated varied responses. Moreover, the process of opening onshore markets to foreign entities and fostering economic growth must be tailored to each nation's distinct characteristics and developmental stage. Hence, what trajectory should Korea pursue for currency internationalization? What challenges must be tackled following the recent initiation of FX market liberalization, and how should they be navigated? In this part, the author will undertake an examination of the challenges confronting Korea by integrating insights from the recent policy on FX market innovation, pertinent market opinions, and the prerequisites for currency internationalization previously analyzed.

2-2-1. Considerations for the Detailed Plans and Regulations

Why does South Korea so fervently desire the internationalization of the Korean currency? The recent initiative to innovate the FX market holds great significance as South Korea's inaugural decision to open its FX market. It signifies efforts to move beyond the experience of the Asian financial crisis and align the FX market with the current economic growth. While South Korea's economic stature has reached levels comparable to other advanced nations, its growth potential remains constrained without an open FX market and a reliable domestic currency. Presently, the KRW exhibits significant dependency on other international currencies, notably the US dollar. For instance, domestic interest rates, pivotal to the economy, are determined by referencing rates in other countries, including the United States. The substantial reliance on foreign currencies originates from South Korea's role as a trading nation, with its growth predominantly driven by trade with overseas countries. Given South

Korea's limited domestic production capacity, trade with other nations has been the primary avenue for rapid growth. However, the inability to freely utilize the KRW, a non-internationalized currency, in trade transactions has heightened reliance on other international currencies. This ongoing situation poses significant costs to trade transactions and acts as a hindrance to economic growth.

Despite South Korea's impressive growth thus far, the internationalization of the KRW has become not just a strategic option but an imperative to expand its future growth potential. However, the recent introduction of the FX market innovation plan leaves room for improvement in its specific provisions. While the initiative to open up the FX market and synchronize trading hours with offshore markets is commendable, the introduction of the RFI system, which mandates government approval for trading by offshore financial institutions to uphold market stability amid the market opening, somewhat undermines the proactive spirit of openness. The restrictive nature of this system paradoxically diverges from the overarching goal of transitioning to an international market structure and achieving the internationalized currency. It reflects a somewhat ambivalent stance of aspiring for KRW internationalization while facing challenges in permitting transactions beyond domestic authorities' regulatory and supervisory frameworks. South Korea's FX authorities have stated that the RFI authorization requirements align with global standards. However, clauses necessitating confirmation of home country regulations and structures for institutions seeking RFI registration, alongside compliance with regular reporting and supervision by the FX authorities, appear difficult to justify. Furthermore, even after undergoing various intricate procedures to register for RFI, the requirement to conduct transactions solely through government-approved FX intermediaries seems to erect another barrier atop existing ones.

South Korea must go beyond merely maintaining the regulations outlined in the recent FX market advancement plan. Instead, it should adopt a gradual approach of revising and refining policies to facilitate more audacious regulatory relaxations. Among the essential prerequisites for currency internationalization lies the degree of market openness. It is imperative for the government to ensure unrestricted trading environment with mitigated regulations for a diverse array of offshore traders. However, uncertainty persists regarding whether the current intricate and rigorous RFI system can be perceived as relaxed regulation by offshore traders. Nonetheless, the reason why gradual approach, rather than abrupt policy changes, warranted is due to the lingering possibility of speculative trading by influential and anonymous entities if onshore market is opened to all traders amidst the current ambiguity surrounding the actual offshore demand and potential liquidity for the KRW. This hints at the cautious perspective of the Korean government in evaluating the implications of its initial FX market opening. Further elaboration on actual trading demand and liquidity will be provided in subsequent discussions.

2-2-2. Factors to Consider from a Macro-Perspective

In the end, the primary concern lies in the actual demand for the Korean currency, which essentially propels liquidity within the FX market. The rationale behind authorities' deliberation over various policy options ultimately aims at augmenting liquidity in the FX market to yield positive outcomes. Robust liquidity in the FX market not only acts as a stabilizing force against external shocks but also stimulates additional demand by providing market participants with more efficient trading prices. Furthermore, swift transaction execution within the market expands opportunities for speculators seeking profitable trades. Volatility, a pivotal criterion for the Korean government when managing the FX market, can be effectively mitigated with significant trading volumes and diverse participant involvement. Increased trading volume in FX market leads to tighter bid-ask spreads, fostering a more active market with narrower bid-ask differentials. Efficient trading prices and ample liquidity mitigate the volatility on the FX market. Consequently, market liquidity addresses the fundamental challenges authorities seek to resolve and fosters a more robust market environment.

One aspect of South Korea's recent plan to advance the FX market is somewhat disappointing: the assumption that merely opening the onshore market will automatically absorb offshore demand and generate liquidity. This analogy is akin to expecting customers to flood into a store simply because its doors are open. Had there been prior research on the motives behind offshore Korean currency transactions and whether those motives could be met domestically, more effective policies might have been devised before deciding to liberalize the FX market. Much of the current market apprehension stems from uncertainty about the level of liquidity that will actually materialize upon opening the onshore market. Both arguments—that opening the onshore market would indeed offer greater trading opportunities at more favorable prices, and that the participation of offshore traders in the onshore market would ultimately reduce KRW volatility—depend on adequate liquidity. While the perennial debate over what comes first, the chicken or the egg, may persist, it is clear that conducting more meticulous research on actual demand alongside the experience of not realizing expected liquidity upon opening the KRW/CNY market in the past would have been advantageous.

After the opening of the FX market, South Korea must assess liquidity and promptly engage in research and strategies to attract demand if liquidity falls short of expectations. Particularly during extended trading hours, when domestic business hours have ended, it is crucial to identify alternatives to replace actual FX demand for domestic import-export businesses or stock market investments. The fundamental condition mentioned for the smooth internationalization of a currency is the economic size of the issuing country. In reality, as the economy grows larger and becomes more open to diverse offshore investors and institutions, currency demand increases. South Korea should not simply adopt policies focused solely on the FX market but should rather consider bold economic policies aimed at overall economic growth and the expansion of opportunities in the financial market to achieve the ultimate goal of Korean currency internationalization.

V. Summary and Conclusion

In this study, author has revisited South Korea's recent policy initiative aimed at enhancing its FX market structure and accessibility. The author has conducted an analysis encompassing both the optimistic outlook and market apprehensions accompanying this advancement. Moreover, author has scrutinized potential rooms for enhancement and explored avenues for supplementing the current policy, considering currency internationalization as the ultimate objective.

South Korea has taken its initial stride towards the internationalization of the KRW through the recent opening of its FX market. Expected outcomes include heightened sophistication in the financial market, an improved trading environment, ample liquidity, and bolstered market stability. Conversely, concerns have been raised regarding the twofold nature of the new system, which, in practice, embraces complex regulations and supervision. Additionally, concerns have also been raised about a noted deficit in comprehending market demand for liquidity adequately.

If the South Korean government aims to achieve further economic growth and attain currency independence through the internationalization of the KRW, it must adopt more audacious measures to improve market accessibility and pave the way for fundamental economic expansion to ensure adequate liquidity.

Although opinions differ, there is a consensus recognizing this intervention in the FX market as a progressive endeavor with positive implications from various perspectives. Looking ahead, proactive responses and growth are anticipated in South Korea's onshore FX market, complemented by the government's active involvement.

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국문 초록

한국 외환시장은 1997년 아시아 외환위기 이후 약 20년 동안 폐쇄적인 외환 시장 상태를 유지해 왔습니다. 한국 정부는 이러한 낡은 외환시장 형태 및 규제가 환율 안정성을 위협하고, 자본과 금융시장의 성장을 저해한다고 평가했습니다. 이에 따라 정부는 올해 하반기 (2024년 7월)부터 외환시장 선진화에 착수하겠다는 의사를 밝히고 이러한 구조 개선을 통하여 한국 외환시장 및 금융시장을 글로벌 수준의 선진 시장으로 이끌겠다는 목표를 발표했습니다.

선진화 계획의 주요한 사항으로는 외환시장 거래 시간 연장과 등록된 외국 기관 ("RFI")의 국내 외환시장 직접 참여 허가 등이 있습니다. 정부는 이러한 구조적 선진화가 국내 외환시장을 이전보다 더 개방적이고 경쟁적인 환경으로 전환해 줄 것으로 기대하고 있습니다. 그러나 금번 국내 외환시장의 선진화는 기대되는 긍정적 효과들과 함께 잠재적인 우려의 목소리를 일으키고 있습니다. 본 연구에서는 국내 외환시장의 개방 및 선진화 계획 도입이 임박한 시점에서 금번 구조 개선의 예상 효과와 잠재적 위험 요인들을 분석하고, 향후 한국이 선진 금융허브이자 국제화된 통화의 발행국으로써 부상하기 위해 필요한 방향성을 제시하고자 합니다.