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The Structural Improvement for Korea's Foreign Exchange Market and Its Implications on Korean Economy

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I. Introduction

The Korean government has identified the need to 'improve the structure of the foreign exchange market' as a pivotal step in aligning the accessibility of the foreign exchange market with global standards that foster a more open and competitive market structure. This plan can be summarized in the following two ways. One is to overhaul foreign exchange laws and regulations. The foreign exchange transactions of domestic individuals, enterprises, and financial institutions are governed by the Foreign Exchange Transaction Act, which was enacted in 1999, and the government intends to reform it in line with the changes in the domestic and external economic environment. The other is to strengthen the foreign exchange market infrastructure. The government plans to introduce electronic trading methods in the foreign exchange market, allow foreigners to participate in the interbank market and extend the trading hours of the foreign exchange market.

By improving the foreign exchange market structure, Korea will be more in line with the trend of financial globalization that began in the 1970s. Financial globalization refers to the process by which global financial markets are becoming more interconnected and integrated, although assessments of financial globalization are mixed. Financial globalization has contributed to expanding access to capital at the national level, reducing the cost of capital, and diversifying external portfolios through international risk-sharing, although it has also led to increased volatility in domestic financial markets and the transmission of external shocks through international financial markets, sometimes resulting in financial crises in some countries. The benefits of financial globalization have been different for advanced and emerging economies. Emerging economies can raise scarce capital through international financial markets, while developed economies can earn higher returns by deploying their capital abroad. In the process, a Pareto improvement could be achieved worldwide.

Given Korea's economic circumstances with its rapidly aging population, it is necessary to further improve the foreign exchange market. In Korea's export-led growth economy, the government's foreign exchange market policy may have contributed to improving the trade balance by ensuring financial stability and bolstering competitiveness through currency depreciation. However, it is necessary to transform Korea's external economic structure into a more advanced one in preparation for the weakening of structural growth engines and a future trade balance slowdown. Improving the foreign exchange market could be a milestone in expanding the capacity and scale of the financial market in the long term by expanding financial openness and further securing the engine of economic growth.

The structure of the paper is as follows. The current status of Korea's foreign exchange market and the government's plans to improve the foreign exchange market are presented in Chapter 2. Chapter 3 examines the impact of expanding trading hours in the foreign exchange market on the exchange rate volatility using an agent-based market model. Chapter 4 analyzes the impact of financial globalization on economic growth and volatility, especially for advanced economies, and Chapter 5 concludes.

II. Korea’s Foreign Exchange Market: Current Status and Government Plans

The Foreign Exchange Transactions Act, which replaced the Foreign Exchange Management Act, was enacted in April 1999, shortly after the Asian financial crisis. It made significant advances in foreign exchange transactions characterized by a shift from pre-reporting to post-reporting mechanisms and a significant move toward prudential supervision. In essence, this legislative reform represented a shift from the previous emphasis on strict management to a more autonomous approach that reflects domestic and international economic environment.

Following the enactment of the Foreign Exchange Transactions Act, Korea continued on the path of financial liberalization, implementing measures such as the liberalization of foreign exchange transactions for individuals, the abolition of the permit system for capital transactions, and the adoption of negative regulation. In line with this ongoing momentum, a new foreign exchange law was planned to be enacted in 2009. However, the global financial crisis of 2008 disrupted these plans, leading to a suspension of discussions and revisions to the law afterward.

The Foreign Exchange Transactions Act is essentially rooted in two key perspectives. First, it reflects a historical consciousness, shaped by the era of foreign exchange shortages, era, aiming to regulate foreign exchange outflows and encourage foreign exchange inflows. Second, the legislation is underpinned by the recognition that maintaining the stability of the foreign exchange market is of paramount importance, based on the experience during the Asian financial crisis and the subsequent global financial crisis.

At present, however, the Foreign Exchange Transaction Act has limitations in adapting to the evolving domestic and global economic environment. For example, despite the abolition of the licensing system, a substantial portion of capital transactions remains subject to the pre-reporting system. Moreover, the reporting system for capital transactions introduces a layer of complexity, with different reporting requirements depending on transaction size, the counterparty involved, or the occurrence of foreign exchange outflows. This complexity imposes significant inconvenience and administrative costs on the public, thereby compromising the convenience and autonomy of transactions. Moreover, the prevailing structure of the foreign exchange institution system is particularly bank-centric, with domestic banks playing a central role in its operations. Designated as the exclusive channels for foreign currency transactions, except for small remittances, banks enforce a foreign exchange bank centrism. This concentration runs counter to contemporary trends, as non-bank financial institutions gain importance with the introduction of diverse financial products and the expansion of cross-border capital flows.

This regulatory approach may be detrimental to supporting external resilience in the long run. The excessive emphasis on stabilizing the foreign exchange market, particularly the obsessive concerns over exchange rate volatility, has led to a delay in the deregulation and internationalization of the won. Consequently, the development of the foreign exchange system has been relatively overlooked. Despite the remarkable growth of capital markets such as stocks and bonds, Korea is still not treated as a fully developed country in the international arena due to the lack of a 24-hour foreign exchange market and foreign exchange regulations, highlighting the need to address these gaps for comprehensive economic progress and global recognition.

The recent initiatives undertaken by the Korean government to improve the foreign exchange market can be divided into two main components. The first is the comprehensive restructuring of foreign exchange laws and regulations, reflecting the domestic and external economic environmental changes. The second is the systematic improvement of the foreign exchange market infrastructure in order to make the market more accessible to foreign investors.

[Foreign exchange laws and regulations reform] The government unveiled its strategy for reforming the foreign exchange system on February 10, 2023, aiming to modernize regulations and enhance the competitiveness of the financial industry. This comprehensive direction will unfold in two distinct phases, taking into account both the potential economic impacts and the necessity to overhaul longstanding practices. In the initial phase, the government will focus on refining regulations related to transaction procedures and various foreign exchange business areas. This includes streamlining the foreign exchange transaction process for individuals and businesses through revisions to executive orders and regulations. This will be followed by a second phase of deeper structural reforms and legislative changes. This will include the complete liberalization of capital transactions and the abolition of industry-specific business regulations, all guided by careful consideration of the prevailing economic circumstances.

[The FX market infrastructure improvement] On February 7, 2023, the government announced the "Foreign Exchange Market Structure Improvement Plan" with the aim of improving global market access. Its overall goal is to refine the foreign exchange market structure to improve access to the foreign exchange market on a global scale while taking into account external stability. It included a strategy to transform the domestic foreign exchange market into an open and competitive market structure, rather than opening an offshore Korean won market beyond domestic regulatory oversight.

To achieve these goals, the government has outlined three specific improvement measures: first, opening the domestic foreign exchange market to registered foreign institutions (RFIs); second, significantly extending market opening hours of the domestic foreign exchange market from 09:00-15:30 to 09:00-02:00; and third, building an advanced market infrastructure. It includes the adaptation of real-time electronic trading in the client-to-client market. Specifically, the Application Programming Interface (API) currently provided to domestic financial institutions by licensed foreign exchange brokers will be made available to RFIs. Additionally, the government intends to institutionalize and permit foreign exchange electronic brokerage services, commonly known as aggregators, in line with prevalent global market practices.

The government also introduced two complementary measures: establishing cooperative relationships between RFIs and domestic financial institutions and adjusting the regulatory system for a greater external soundness. The first aims to bridge transaction gaps for RFIs and provide administrative support for domestic financial institutions. By facilitating cooperation and adjustment, this measure strengthens the role and competitiveness of domestic financial institutions. The second involves fine-tuning the regulatory system to ensure a greater external soundness. This includes revamping the macroprudential policy, implementing a contingency plan (safeguard), and formulating effective supervisory measures.

Korea, which has already crossed the threshold of an advanced economy. Through this procedure, Korea desires to develop a deeper and more market-oriented foreign exchange market, thereby improving the convenience and efficiency of participants. Also, it helps to internationalize the Korean won in the longer term. Simultaneously, these improvements are expected to support the positioning of the Korean financial market, including in prominent global market indices such as MSCI and WGBI.

III. The Impact of Extending the Trading Window on the Foreign Exchange Market

The Korean government has planned to improve the foreign exchange market due to its concerns that the market needs to respond sufficiently to the growing demand for foreign exchange. The critical points of the improvement are to allow overseas-based financial institutions to participate in and to extend the trading hours of the onshore foreign exchange market. While there can be various forms of enhancing the foreign exchange market structure, we are focusing mainly on the extension of the opening hours and the participation of foreign investors who have been trading the Koran won in the offshore market.

To analyze the effect of extending foreign exchange market hours on exchange rate volatility and foreign exchange transactions, we build an agent-based model of the foreign exchange market. We build a simple model that provides a counterfactual tool. It contributes to the existing literature by providing a methodology to estimate the effect of extended trading hours, given that intraday data and volume information on the foreign exchange market are not available for analysis.

According to the simulation results with randomized parameters, the effect of extending trading hours on exchange rate volatility depends on the proportion of new participants in the market. The extended hours are expected to increase the exchange rate volatility if participants in the extended hours are about half of the participants in the regular trading hours. Meanwhile, it will increase the volatility of the exchange rate somewhat, but not enough to be of concern if the proportion of participants in the extended hours is as high as in the regular hours.

The percentage of investors participating in the extended hours is also critical to the effect of extended trading hours on trading volume. If the investors in the extended hours are half of the size of investors in the regular trading hours, trading in the extended hours appears to be less active than in the regular hours. However, if the number of investors in the extended hours is about the same as the number of investors those in the regular trading hours, trading volume in the extended hours will be similar to that in the regular hours.

Table 1. Simulation Statistics

Statistics	Actual	Simulations		
		$R_e = 0$	$R_e = 0.5$	$R_e = 1$
Won-Dollar Exchange Rate (level)				
Mean	1161.1	1164.1	1161.3	1161.9
Standard deviation	12.25	11.41	19.01	16.93
Maximum	1179.6	1184.4	1195.3	1192
Min	1142.1	1144.1	1128.6	1132.9
Won-Dollar Exchange Rate (Difference)				
Mean	4.65	4.79	8.5	8.4
Standard deviation	2.69	3.51	5.14	5.21
Maximum	8.3	11.25	18.29	18.72
Min	0.1	0.05	1	0.61

Note: The number of simulation iterations totaled 500, and each simulation was performed independently. R_e represents the proportion of investors trading during the extended hours compared to the regular hours. R_e=0 reports the statistic for the simulation results when trading hours are not extended (i.e., FX trading closes at 3:30 pm).

When interpreting the effects of extending trading hours in the forex market predicted by the model, we should keep the following in mind: First of all, the predictions of the model are affected by the assumptions imposed to simplify the complex foreign exchange market into a theoretical model. Thus, changes in the assumptions may lead to changes in the exchange rate volatility and trading volume predicted by the model to a greater or lesser extent. Second, due to data limitations, many of the parameters used are borrowed from existing studies and calibrated to fit some moments of the Korean foreign exchange market. Finally, we ignore the possibility that the extension of trading hours may lead to changes in the parameters.

In summary, we use an agent-based model to assess the potential effects of extending trading hours in response to the Korean government's plan to improve the foreign exchange market. The simulation results show that the impact of extended hours on exchange rate volatility and trade volume hinges on the proportion of new participants during these hours, which, consistent with the key facets of improvement, involves enabling overseas financial institutions' participation and extending the hours of the onshore foreign exchange market hours.

IV. Financial Globalization on Economic Growth

The objective of reforming the foreign exchange system and improving the foreign exchange market structure is to increase financial openness by expanding the market functioning of the foreign exchange market. This implies that Korea wants to be in a position that increases de facto financial openness and is more in line with the trend of financial globalization that has been accelerated over the past three decades. This chapter analyzes the impact of increased financial openness on economic growth and volatility. In particular, we examine how the impact differs across economic conditions as Korea has become an advanced and a net foreign asset economy.

Korea has been classified as an advanced economy and transformed into a net foreign asset country in 2014, thanks to a prolonged current account surplus. Notably, its ability to respond to financial instability through the external sector has improved remarkably. Despite these achievements, the traumas of the 1997 Asian financial crisis and the 2008 global financial crisis have led it to prioritize maintaining external soundness over fully opening its financial market. As a result, Korea's financial openness, as measured by the size of external assets and liabilities, remains relatively low at 86.9% of GDP in 2021, compared to the average of advanced economies (370.1% of GDP).

The analysis examines the impact of financial openness and other measures on economic growth and volatility. It defines economic growth and volatility as the mean and standard deviation of real per capita GDP growth over the next five years. We consider trade and financial openness as the main explanatory variables: trade openness is measured as the sum of exports and imports as a percentage of GDP, and financial openness as the sum of external assets and liabilities as a percentage of GDP.

The empirical analysis underscores that increasing financial openness in advanced and net external creditor economies contributes to economic growth with minimal impact on economic volatility. However, the effect of financial openness may be insignificant in emerging economies and net external debtor economies. It could even lead to increased economic volatility, even if trade openness significantly boosts economic growth. These results suggest that, trade openness can support economic growth in the early stages, given the stage of economic development. However, after the economy reaches a certain level of development, financial openness may be essential for economic growth.

In addition, we find that foreign exchange reserves positively affect economic growth and reduce volatility for net external debtors, while these effects diminish for net external creditors. These results suggest that when a country is a net external debtor in the early stages of economic growth, the accumulation of foreign exchange reserves has a positive impact on economic growth. In contrast, the impact diminishes when a country becomes a net external creditor. These results have implications for Korea's policy trajectory, which has historically focused on trade-driven growth and reserve accumulation to ensure external stability.

Table 2. The Effects of Trade and Financial Openness on Economic Growth

Dependent Variable: Economic Growth	(1) All	(2) Net Creditors	(3) Net Debtors	(4) Advanced	(5) Emerging
Trade Openness	0.0178*** (0.00500)	-0.0238** (0.0104)	0.0243*** (0.00557)	-0.00933 (0.00835)	0.0304*** (0.00647)
Financial Openness	0.000497 (0.00324)	0.0218*** (0.00652)	-0.00369 (0.00364)	0.00800* (0.00463)	-0.00570 (0.00453)
Country fixed Effects	Yes	Yes	Yes	Yes	Yes
Time fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	1,564	257	1,307	779	785
R-squared	0.488	0.843	0.426	0.593	0.568
Number of Countries	49	22	47	24	25

Note: Driscoll-Kraay (1998) standard errors are reported in parenthesis.

Table 3 The Effects of Trade and Financial Openness on Economic Volatility

Dependent Variable: Economic Volatility	(1) All	(2) Net Creditors	(3) Net Debtors	(4) Advanced	(5) Emerging
Trade Openness	-0.0207*** (0.00697)	-0.00672 (0.0108)	-0.0231*** (0.00659)	0.00192 (0.00918)	-0.0284*** (0.00600)
Financial Openness	0.00836** (0.00320)	0.00558 (0.00437)	0.00776** (0.00356)	0.00203 (0.00363)	0.0113*** (0.00287)
Country fixed Effects	Yes	Yes	Yes	Yes	Yes
Time fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	1,564	257	1,307	779	785
R-squared	0.440	0.717	0.427	0.466	0.475
Number of Countries	49	22	47	24	25

Note: Driscoll-Kraay (1998) standard errors are reported in parenthesis.

V. Policy Proposals and Conclusion

Under Korea's economic conditions, it is necessary to continue to promote the improvement of the foreign exchange market from the perspective of promoting economic growth. On the other hand, the improvement of the foreign exchange market should be implemented gradually in line with market conditions, taking into account the global economy and international financial market conditions. In the second half of 2022, interest rates in many countries sharply increased in response to high inflation. Under such a tight monetary policy framework, there is a high probability of capital flight, triggering financial turmoil that could lead to a crisis. Therefore, it is difficult to say whether this is the best time to promote the improvement of the foreign exchange market. However, the fact that there was little likelihood of a financial crisis even during the sharp depreciation of the won/dollar exchange rate, which exceeded 1,400 won in the second half of 2022, suggests that Korea's economic fundamentals have strengthened considerably.

Based on the results of this study, we suggest several policy implications. First, the adjustment of the scope of business-by-business category in the new foreign exchange law should be promoted in a same-business-same-regulation manner to prevent regulatory arbitrage. If different regulations are applied to the same business, capital flows may be concentrated in relatively less regulated sectors, and risks may accumulate. Therefore, if banks' current foreign exchange business is gradually expanded to non-bank financial companies, supervision and regulation should be gradually expanded symmetrically. Second, when promoting policies to improve foreign investors' access to the foreign exchange market, it is necessary to explore ways to expand the number of foreign exchange market participants in order to reduce exchange rate volatility. In this study, we find that exchange rate volatility increases when the proportion of investors participating in the foreign exchange market decreases when the trading hours of the foreign exchange market are extended. To extend the trading hours of the foreign exchange market, Korea can consider improving trading systems and institutions to allow overseas-based financial institutions to participate in the foreign exchange market or provide incentives for financial institutions to participate. In addition, China's experience in extending the trading hours of its onshore foreign exchange market may be a helpful reference to benchmark to minimize the negative impact of extending trading hours. Finally, it is also necessary to prepare countermeasures against potential risks (such as excessive exchange rate volatility) that may arise from the enactment of the new foreign exchange law and policies to improve foreign investors' access to the foreign exchange market. KIEP