

Payment and Settlement Trends in 2013(March 2014)

I. Overview

Payment settlements are divided according to the types of settlement into the retail payment system for payment instruments used by the financial consumers and the large-value payment system for funds transfers between financial institutions. During 2013, the average daily settlements amounts for non-cash payment instruments stood at 300 trillion won, displaying a significant slowdown in their year-on-year growth (64% in 2012 → 1.9% in 2013). Of these, retail payment settlements such as checks and bills, funds transfers and payment cards, decreased by 1.6% to 678 trillion won and large-value payment settlements through BOK Wire+ increased by 2.9% to 2327 trillion won.

〈Table 1〉 Payment and Settlement Value by Payment Instrument (daily average)

(trillions of won, %)

	2011	2012	2013 Yearly	Changes ³⁾
Retail Payment	70.5	68.8	67.8	-1.6
Checks and Bills	33.2	29.3	26.0	-11.3
Fund Transfers ¹⁾	35.9	38.0	40.1	5.7
Payment Cards ²⁾	1.5	1.6	1.6	4.8
Large-Value Payment	206.8	226.1	232.7	2.9
Total	277.3	295.0	300.5	1.9

Note: 1) includes Giro system, E - banking system, Interbank shared network, CD system, CMS system, Local bank shared system, E - commerce system

2) Credit cards (except cash advance), Debit cards, Check cards, Pre - paid cards, IC debit cards, E - money

3) Year - on - year rates of change (the same throughout)

II. Retail Payment System Trends

1. Checks and Bills

During 2013, the average daily clearings of checks and bills amounted to 26.0 trillion won, continuing a steep downward trend following last year(△,11.8% → △,11.3%), influenced by the increased use of electronic payment media.

〈Table 2〉 Checks and Bills Cleared (daily average, value basis)

(billions of won, %)

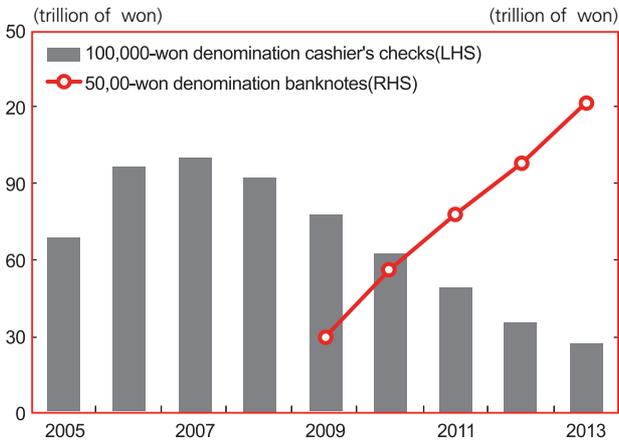
	2011	2012	2013 Yearly	Changes
Cashier's Check (100,000 - won denomination)	3,877 199	3,051 147	2,669 113	-12.5 -23.0
Promissory Notes (Promissory Notes)	25,785 11,295	23,190 8,454	20,799 7,212	-10.3 -14.7
(Current account checks)	13,943	14,134	13,018	-7.9
(E - bills)	339	411	397	-3.5
Others ¹⁾	3,533	3,046	2,508	-17.6
Total	33,195	29,287	25,977	-11.3

Note : 1) includes Postal money orders, notices for call fund settlement, receipts for principal of securities, etc

Source : KFTC

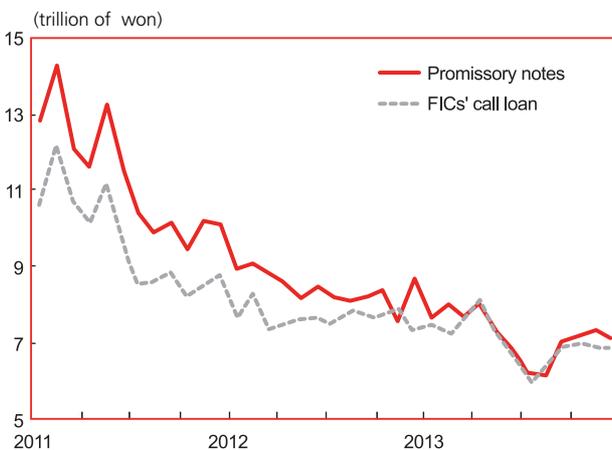
Clearings of cashier's checks maintained their declining trend, led downward by 100,000 won cashier's checks owing to the increased use of electronic payment media and 50,000 won banknotes.

〈Chart 1〉 Use of 50,000 - won Denomination Banknotes and 100,000 - won Cashier's Checks



The average daily clearing volume of promissory notes also decreased as the issuance of call bills fell owing to the decline in the call transactions of financial investment companies and an increase¹⁾ in the use of BOK Wire+.

〈Chart 2〉 Settlement by Promissory Notes and FICs' Call Loan (daily average)



2. Funds Transfers

During 2013, average daily settlements through funds transfers between financial institutions witnessed a rate of increase similar to that of last year(5.8% → 57%), led by electronic

banking systems such as Internet banking and Firm banking.

〈Table 3〉 Value of Payments via Fund Transfers¹⁾ (daily average)

(trillion of won, %)

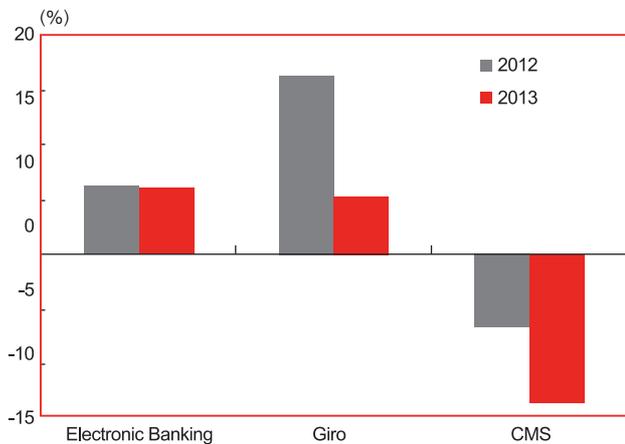
	2011	2012	2013	
			Yearly	Changes
Electronic Banking System	30.5	32.4	34.4	6.1
(Internet banking)	16.1	16.9	17.4	3.1
(Firm banking)	11.1	12.1	13.5	11.0
(Mobile banking)	0.1	0.1	0.1	39.4
Giro credit transfer	0.8	0.9	1.0	5.3
CMS system	0.5	0.4	0.4	-13.5
IFT system, etc ²⁾	4.1	4.2	4.4	4.7
Total	35.9	38.0	40.1	5.7

Notes : 1) Excludes BOK - Wire+

2) Includes CD system, Local bank shared system, E - commerce system, and EFTPOS system

Source : KFTC

〈Chart 3〉 Growth Rate Of Major Funds Transfers By Instrument(Year - on - Year)



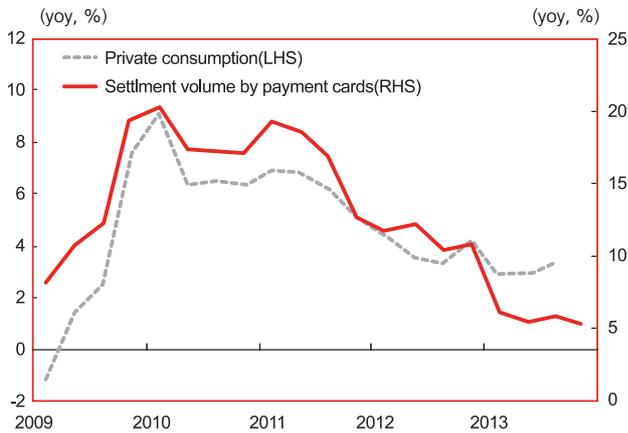
Funds transfers through the Giro system increased by just 5.3% owing to sluggish automatic transfers of payments for sales of goods, insurance premiums and telecommunication charges. CMS transfers, meanwhile, declined by 13.5% as some institutions using the system frequently switch to the Firm banking whose transfer commissions are relatively cheap.

1) Financial investment companies had issued promissory notes to guarantee redemption in the case of call transactions. As the BOK Wire+ call settlement batch system was built in 2010, however, the share of electronic redemption has been on a steady rise(Share of financial investment companies' call redemption through the BOK Wire+ : 16.3% in 2010 → 24.9% in 2011 → 39.5% in 2012→ 47.7% in 2013)

3. Payment Cards

In 2013, daily average transactions involving payment card use (approval basis) stood at 1.6 trillion won, marking a slowing of their annual growth (7% → 4.8%) owing to the government's credit card control policy, the lackluster trend of improvement in consumption-related transac-

〈Chart 4〉 Settlement Value¹ by Payment Cards and Nominal Private Consumption



Note : 1) Individuals' purchase of goods and services

〈Table 4〉 Use of Payment Cards¹⁾ (daily average)

	(billions of won, %)			
	2011	2012	2013 Yearly	Changes ⁴⁾
Credit cards ²⁾	1,255	1,328	1,373	3.4
Individuals	898	983	1,022	3.9
Corporations	357	345	351	1.8
Check cards ³⁾	191	232	263	13.7
Prepaid cards ⁴⁾	5.5	4.3	3.3	-24.4
Debit cards	0.1	0.1	0.0	-30.7
IC debit cards ⁵⁾	-	0.0	0.1	5,715.5
Total	1,452	1,564	1,639	4.8

Notes: 1) Based on transaction authorizations.

2) Excludes cash advances.

3) Includes only cards issued by stand - alone payment card companies, and by banks and bank subsidiaries that issue payment cards.

4) Represents usage of KFTC's EFT/POS system.

5) Newly included in the payment card statistics during this period, as a sort of debit card.

Sources: Stand - alone payment card companies, banks and bank subsidiaries issuing payment cards, KFTC

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However, the rate of increase was slightly higher than that of private consumption and the proportion it accounted for of private consumption rose by 1.0%p from 65.5% in 2012 to 66.5% in 2013.

The weight of payment cards in total payment instruments, including cash receipts, increased by 3.2%p to 49.0% in 2013 from the previous year's 45.8% in terms of frequency of use.

〈Table 5〉 Comparative Weights in Transaction Volume by Payment Instruments

	(%, %p)		
	2012(A)	2013(B)	B - A
Cash receipt ¹⁾	24.0	22.4	△1.6
Credit cards	34.0	34.3	0.3
Debit cards	11.8	14.7	2.9
Fund transfer	27.1	26.4	△0.7
Checks and Bills	3.1	2.2	△0.9

Note : 1) As of 2012

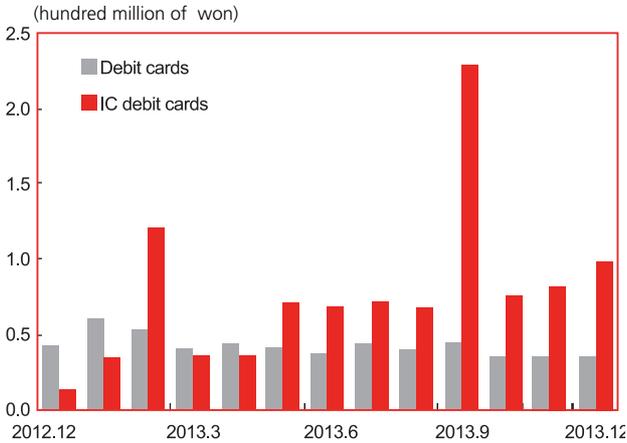
By type of card, the average settlement amount of check cards increased by 137% in 2013 from a year earlier, affected by a reduction in tax benefits for credit cards, the promotion²⁾ of the use of hybrid cards and card companies' efforts to boost their business. Meanwhile, the average settlement amount of credit cards recorded a mere 34% rise.

Cash IC cards³⁾ surpassed debit cards in terms of card use in 2013, helped by the low commission rate (1.0%) levied on merchants accepting them. The number of merchants accepting cash IC cards also increased at a rapid pace, led by large retailers.

2) Since October 2012, the issuance of check cards that provide people having a low credit rating with credit of up to 300,000 won has been allowed.

3) Korea Financial Telecommunications & Clearings Institute and domestic banks jointly developed a method whereby the existing cash cards used exclusively in CD/ATMs could be used at shops that had installed IC card terminals and launched this service from November 2012.

〈Chart 5〉 Use of IC Debit Cards and Debit Cards (daily average)



The daily average use of prepaid cards and debit cards decreased gradually as customers' demand was diverted toward ordinary gift certificates and check cards.

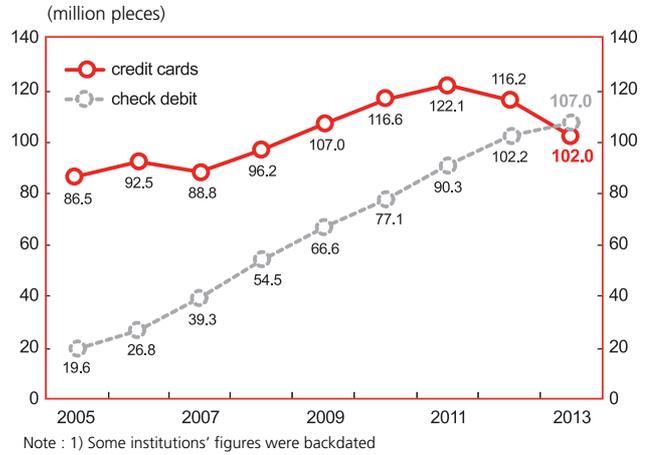
〈Table 6〉 Comparison of Different Types of Debit Cards

	Debit cards	Check cards	IC debit cards
Network	Debit card (KFTC)	Individual credit card	CD(KFTC)
Issuer	Bank	Credit card company	Bank
Transaction	PIN	Signature	PIN
Storage devices	MS	MS	IC
Terminal	Dedicated debit card terminal	Credit card terminal (MS)	Credit card terminal (IC)

The number of check cards issued came to 10701 million at the end of 2013, surpassing that of credit cards(102.02 million) for the first time since their introduction. Meanwhile, the combined number of check cards and credit cards decreased last year for the first time.

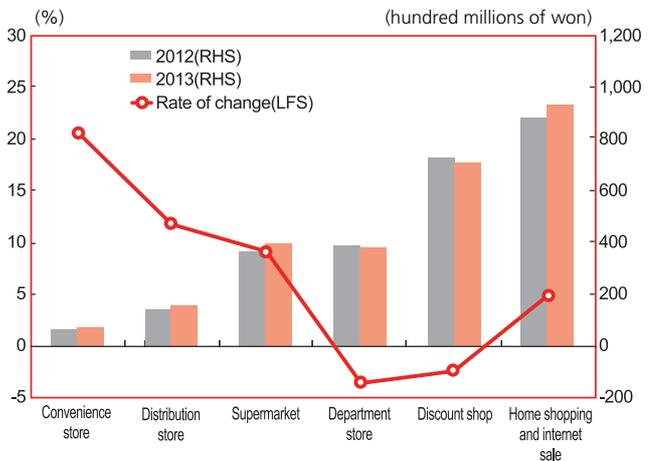
The average settlement amount of credit cards (individuals' purchase of goods and services) and check cards decreased from 53,000 won and 33,000 won per transaction in 2012 to

〈Chart 6〉 Issuance Numbers of Credit Cards and Check Cards¹⁾ (as of year - end)



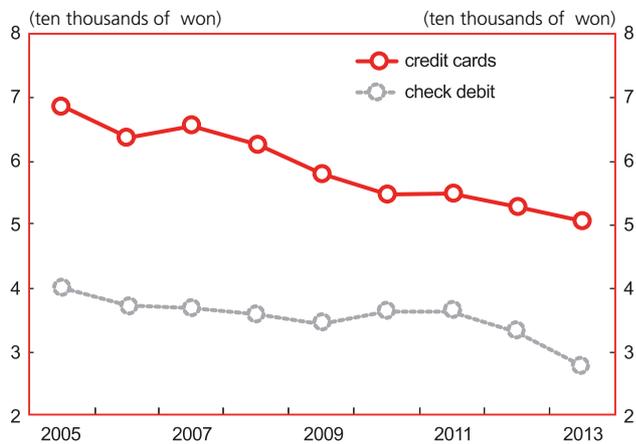
50,000 won and 28,000 won in 2013, respectively, as card use became generalized at small shops accepting them, showing a continuation of the downward trend of the average card spend.

〈Chart 7〉 The Amount of Use and Growth of Credit Cards in the Distribution Industry (daily average)



The use of mobile cards increased sharply owing to the more widespread use of smartphones and the introduction of app-style cards. In 2013, the settlement amount(2.6 billion won on a daily average basis) of mobile cards and the number of cards issued(4.5 million) account-

〈Chart 8〉 Average Value per Settlement¹⁾



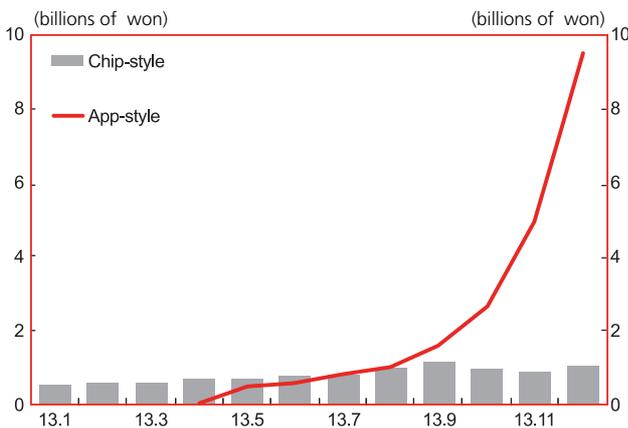
Note : 1) Individual's purchases of goods and services

ed for 0.16% and 2.15% of the total for all cards, respectively.

〈Table 7〉 Types of Mobile Cardsa

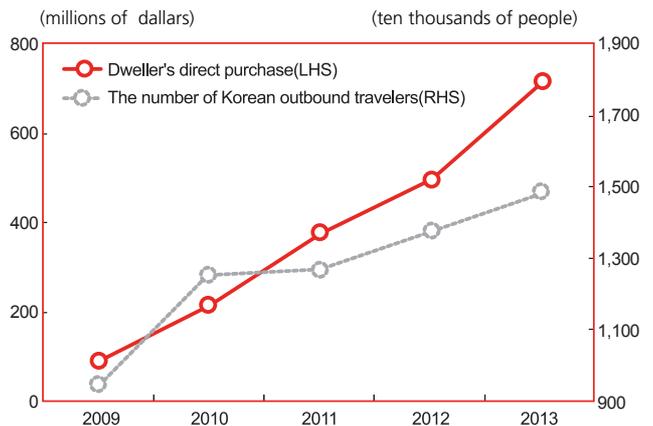
	IC - type	App(server) - type
Card information storage	Mobile devices (USIM, Micro SD)	Server(PG agent)
Settlement method	NFC terminal	QR, Bar code, Terminal
Pros	Possible to use in the case of power supply off	No need for cooperation with telecom services
Cons	Need cooperation with telecom, services and dedicated terminals	operating Apps before use

〈Chart 9〉 Settlement Value by Types of Mobile Cards (daily average)



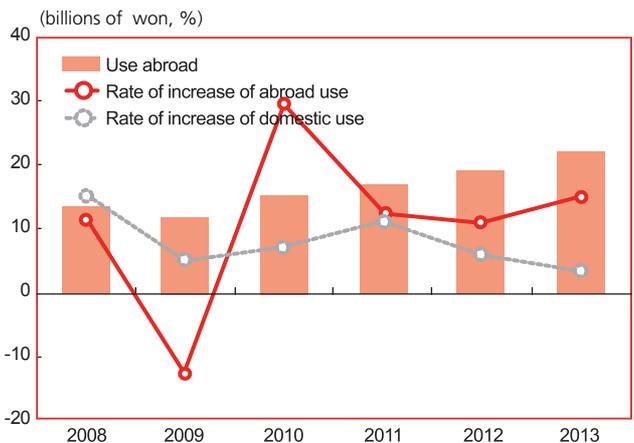
Meanwhile, the use of credit cards abroad rose by 154% in 2013 from a year earlier, far surpassing the increase(3.2%) in the use of the cards at home, owing to an increase in the number⁴⁾ of Korean outbound travelers and a hike in local residents' direct purchase⁵⁾ of goods from abroad.

〈Chart 10〉 Settlement Value by Residents' Direct Purchase and the Number of Korean Outbound Travelers



Sources : KITA, KCTI

〈Chart 11〉 Amount of Credit Card Use at Home and Abroad(daily average)



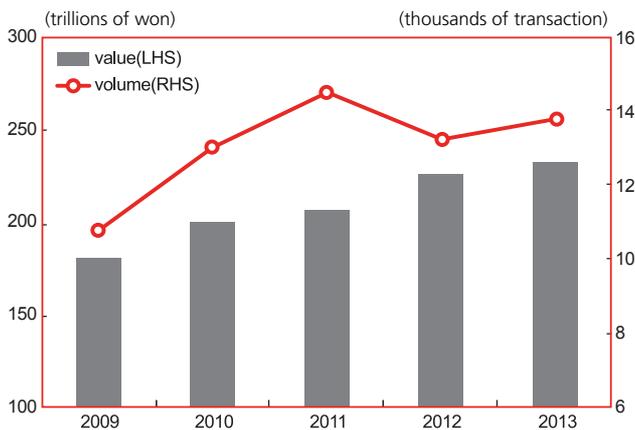
4) The number of Korean outbound travelers: 12.69 million in 2011 → 13.74 million in 2012 → 14.85 million in 2013

5) The amount of goods purchased directly from abroad: \$380 million in 2011 → \$490 million in 2012 → \$710 million in 2013

III. Large - value Payment System Trends

Large-value settlements are made through BOK-Wire+ and they cover funds transfers between participating institutions and the BOK, including transfers of call funds between financial institutions, general customers' transfers of large amount of funds, net settlements for the retail payment system and supply and demand of Treasury funds.

〈Chart 12〉 Payment via BOK - Wire+ (daily average)



〈Table 8〉 Payments via BOK - Wire+ (daily average)

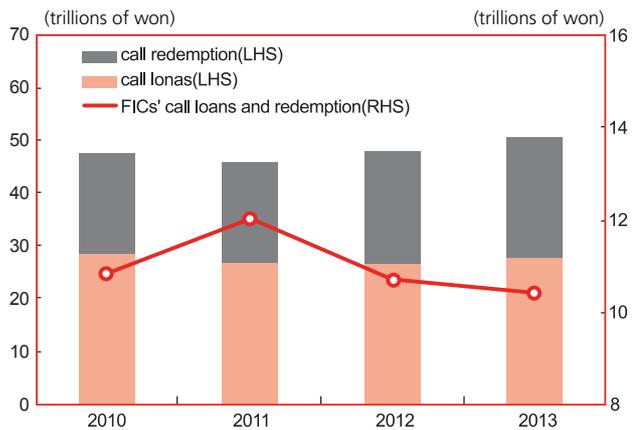
	(trillion of won)			
	2011	2012	2013 Yearly	2013 Changes
Fund transfers among participants	193.9	213.5	220.0	6.5
Call funds	46.2	48.2	50.8	5.5
Securities funds	52.5	69.9	79.8	14.2
FX funds	17.2	15.9	15.7	-1.2
Customer funds	30.7	30.2	30.8	2.0
Transfer ¹⁾	30.7	30.2	30.8	2.0
Net settlements	19.7	18.8	13.3	-29.4
Others	27.7	30.4	29.5	-3.1
Fund transfers between BOK and participants ²⁾	12.9	12.6	12.7	0.8
Domestic currency funds transfers total	206.8	226.1	232.7	2.9

Notes : 1) Large value funds that corporate send to receiver institute by using BOK - Wire+ participants
 2) Transactions including government and public bonds, Treasury funds transfers, and BOK loans
 Source : BOK

During 2013, the daily average transfers of domestic currency funds through BOK-Wire+ stood at 2327 trillion won, displaying a slower growth than the previous year(9.3% → 2.9%).

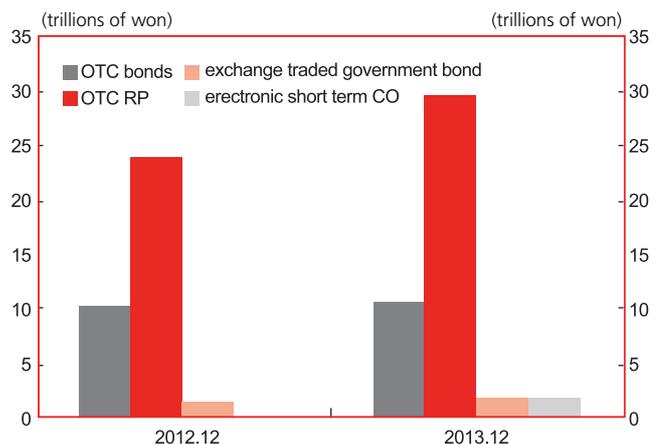
Call funds transfers increased by 5.5% in 2013 from a year earlier, affected by a hike in foreign bank branches' call loans⁶⁾ in the Korean market.

〈Chart 13〉 Call Funds Transfers¹⁾ (daily average)



Securities settlement funds transfers increased by 14.2 percent in 2013, influenced by the electronic short-term bonds⁷⁾ introduced in January that year. However, the 2013 growth rate slowed down considerably from the previous year's 33.1% rise upon the easing of the effect of a

〈Chart 14〉 Major Securities Funds¹⁾ Transfers (daily average)



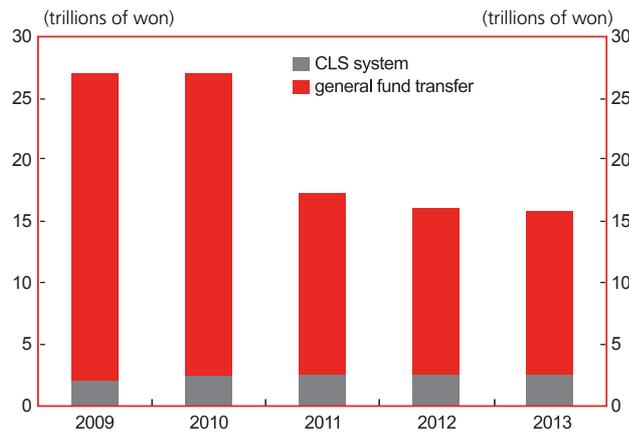
6) The daily average of foreign bank branches' call loans stood at 4.7 trillion won in 2013, up 51.5% from the previous year, as their fund - raising at home became favorable owing to a rise in swap rate.

7) Through the revision(April 5, 2013) of the Enforcement Decree of the Capital Market Act, steps were taken for the more active trading of short - term money markets securities including the exemption from submission of a securities report on short - term products and the easing of the limit on MMFs' investment in electronic short - term bonds. As a result, the issuance of electronic short - term bonds in January 2014 shot up to the level of 60% of corporate bills

surge in RP transactions between institutions following the reform of the short-term financial market.

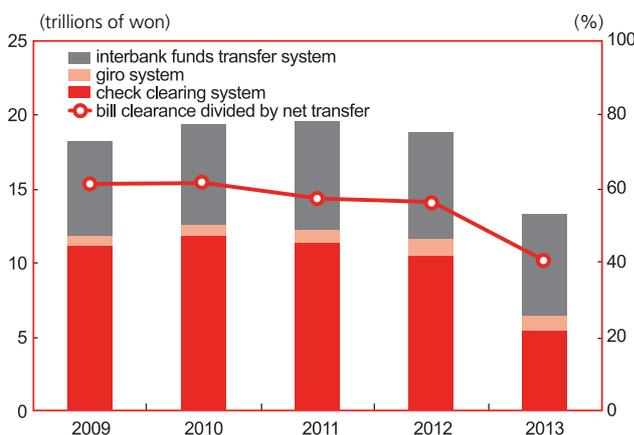
Foreign exchange funds transfers⁸⁾ declined by 1.2% owing to a reduction in foreign exchange transactions between banks. Of those, the settlement volume through the CLS system dropped by 3.3%.

〈Chart 15〉 Foreign Exchange Funds Transfer (daily average)



Claims and obligations occurred between financial institutions by financial consumers' use⁹⁾ of payment instruments are settled through BOK-Wire+ at a designated time on the next business day after setoff. Net settlements

〈Chart 16〉 Net Funds Transfers (daily average)



between institutions participating in the retail payment system in 2013 decreased by 29.4% from the previous year, owing to a reduction in bills clearings and a rise in multilateral netting.

Meanwhile, daily average funds transfers between participating institutions and the BOK, including transactions of government and public bonds, the demand and supply of Treasury funds and BOK loans, increased by 0.8% from the previous year to stand at 127 trillion won in 2013

IV. Developments in Payment and Settlement Systems

(Intraday liquidity assistance)

In 2013, the Bank of Korea extended funding support to institutions participating in BOK - Wire+ suffering from a shortage of intraday liquidity on the condition of repayment on the same day to prevent a temporary delay in settlements from developing into a spread of settlement risk. Daily average intraday overdrafts came to 629.1 billion won in 2013, down 10.1% from the previous year. On the other hand, intraday RP supply¹⁰⁾ to financial investment companies and Korea Exchange amounted to 2.3 trillion won, up 67% from a year earlier.

〈Table 9〉 Volume of temporary intraday liquidity assistance (daily average)

	2011	2012	2013	
			Yearly	Changes
Intraday overdrafts ¹⁾	676.4	699.9	629.1	-10.1
Intraday RP	-	2,116.5	2,257.5	6.7
Total	676.4	2,816.4	2,886.6	2.5

Note : 1) Intraday overdrafts are calculated on an average net intraday overdraft basis by subtracting the balance of payment - dedicated deposits from that of the daily intraday overdraft amount(daily average balance basis)

8) In the case of foreign exchange settlements through the exchange transaction network and the CLS system, won - denominated funds transfers are made through BOK - Wire+. In particular, the CLS system handles payments of currency sold and the receipts of currency purchased simultaneously without time difference between countries by connecting the computer systems of the various central banks.

9) Retail payment instruments are settled through the bills clearing system, Giro system and financial joint networks operated by Korea Financial Telecommunications & Clearings Institute and card companies' individual card settlement systems. The bills clearing system takes responsibility for bills and checks; the Giro system for Giro; and the financial joint networks for accounts transfers of electronic financing, interbank funds, CD and CMS. Meanwhile, the primary settlements of payment cards are made through individual card settlement systems, but inter - bank funds settlements for payment to merchants accepting these cards are made through the bills clearing system.

10) In the case of a shortage of settlement funds, a participant acquiring a claim offers the claim as collateral to the BOK from which it then receives the settlement funds.

(Surveillance of the payment and settlement system)

The BOK strengthened its surveillance of the payment and settlement system through carrying out the evaluation of the major payment and settlement systems and augmenting the statistics on payment cards.

As an initial step, the BOK applied the new set of international standards, PFMI¹¹⁾(Principles for Financial Market Infrastructures), for the first time to evaluate Korea Exchange (CCP) and Korea Securities Depository(CSD). According to the appraisal results the, both institutions satisfied PFMI in general, but some improvements were required in terms of risk management. As a result, the BOK recommended them to take steps for improvement.

To effectively grasp the flow of real business activity and settlements, it expanded its card statistics region by region. To bolster its monitoring of new payment instruments, it also augmented its statistics on mobile cards, cash IC cards and hybrid cards.

As there is a growing need for the surveillance of financial systems' interconnectedness, the BOK improved the intraday liquidity monitoring system by applying network indicators and visualization techniques that can give us a comprehensive grasp of settlement flows between financial institutions and their knock-on effects.

(Additional systems in which settlement finality is guaranteed)

As the recognition of safety of the payment settlement system is becoming higher, spurred on by the global financial crisis, and stricter standards on settlement finality¹²⁾ are being applied following the establishment of the

PFMI, the Bank in January 2014 additionally designated the bills clearing system, the Giro system and the Cash Management Service (CMS) joint network as payment and settlement systems whose settlement finality was guaranteed. With this step, the total number of payment and settlement systems guaranteeing settlement finality rose from five¹³⁾ to eight.

(Enhancement of safety and convenience of e-finance)

The previously bank-centered Committee for the Promotion of Financial Informatization¹⁴⁾(Chairman: BOK Senior Deputy Governor) was reorganized and enlarged to become a consultative body that also embraced non-bank financial institutions and efforts were directed toward enhancing the safety and convenience of e-finance. It advocated the commercialization of financial micro SD that can encode financial information for its safe management. It also discussed plans to build a third joint financial sector backup center for the safety and security of important financial sector information and its prompt recovery in the event of an emergency. The committee also developed a standard to improve accessibility for those now largely excluded from E-financing, including disabled persons and the old and weak, while seeking the general adoption throughout the financial sector of services based on these standards.

(Manager Yoon Tae -kil and Deputy Manager Oh Tae -hee, Settlement Stability Team, Financial Settlement Department)

11) 'Principles for Financial Market Infrastructures' refers to a set of 24 principles that financial market infrastructures(FMI) should take as standards, including the payment and settlement system, the securities settlement system, central counterparty(CCP) and central securities depository(CSD). They were jointly established by the BIS CPSS and the International Organization of Securities Commissions(IOSCO) in April 2012.

12) This means that even if a participating institution fails, the payment instruction, liquidation and settlement made through the payment settlement system are not cancelled ,but completed according to the operational rules of the relevant payment settlement system.

13) These are BOK - Wire+, the CD joint networks, the interbank funds transfer system, the electronic financial joint networks, and the CLS system..

14) The council, which was launched by the BOK and private financial institutions in November 2009, is a body that promotes informatization projects throughout the financial sector, including pressing forward with a joint project for financial informatization and the standardization of financial informatization - related businesses and safety measures.