

Inaugural AMRO-ASEAN+3 Finance Think-tank Network (AFTN) Seminar
“Dawn of a New Age in the ASEAN+3?”

Research Panel I: “Population Aging - Productivity and Digitalization”

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Overcoming the Digital Divide in Finance for the Aging Population in South Korea on the Path toward CBDCs




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Overview

1. Intro: Digital finance & Aging
2. ASEAN+3 & South Korea
3. Case Study: South Korea
 - BOK: National Surveys
 - FSS+FSC: Guidelines
 - Private Banks: Services
4. Takeaways: Policy Recommendations



The infographic features a hand holding a smartphone displaying '모바일 뱅킹' (Mobile Banking). In the background, a computer monitor shows '인터넷 뱅킹' (Internet Banking) and a stack of colorful bank cards. A large red prohibition sign is overlaid on the cards. The text below discusses the convenience of digital banking for younger generations.

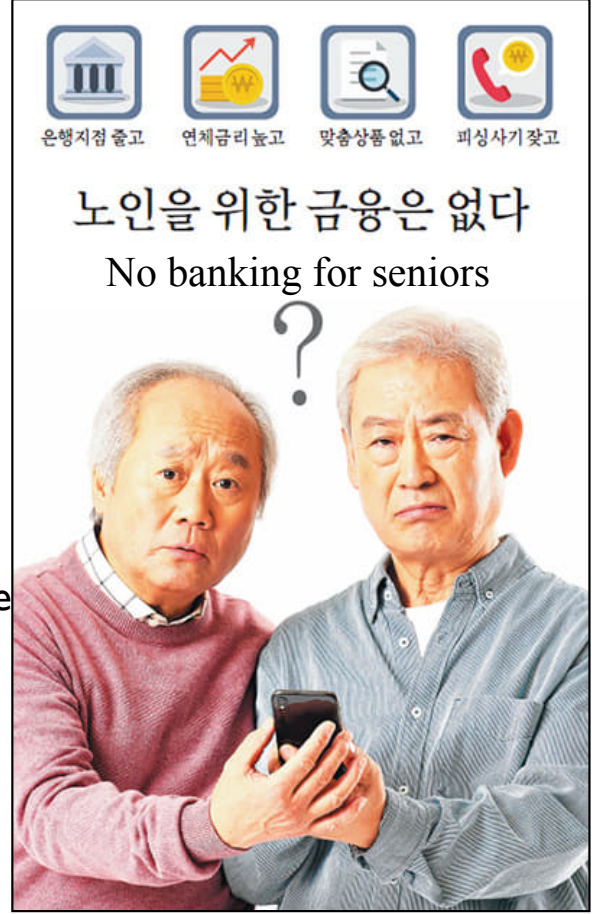
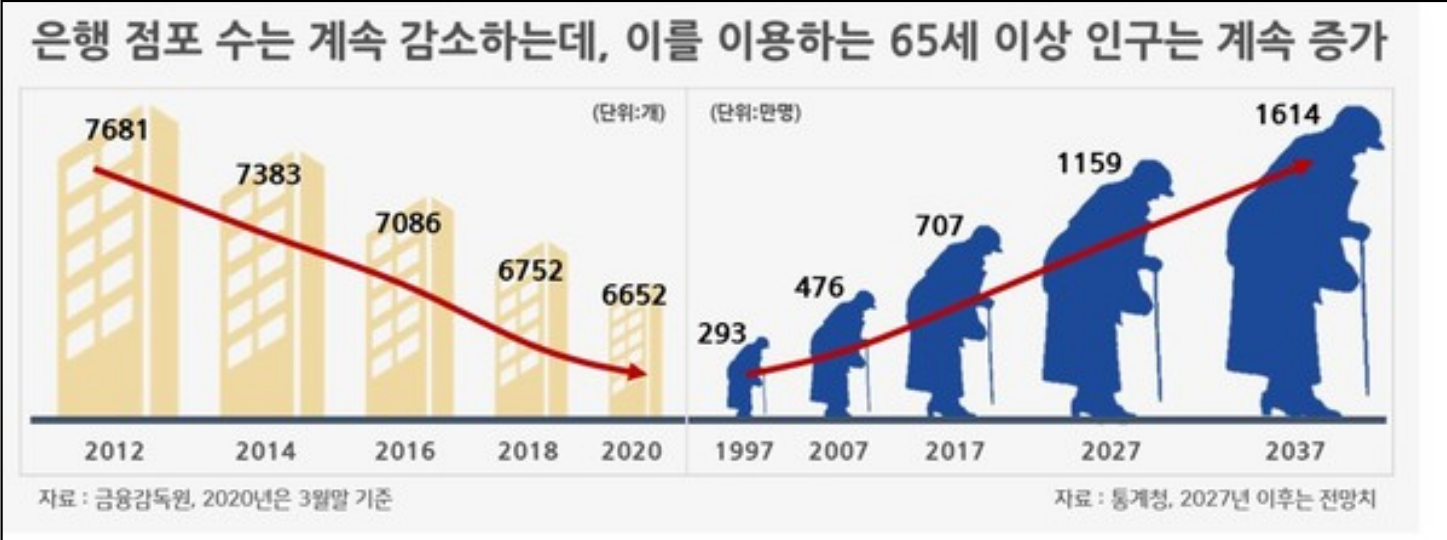
연암뉴스 #D 디지털뉴스

젊은 세대에게는 생활의 일부가 된
인터넷뱅킹과 모바일뱅킹.
지난해에는 인터넷전문은행까지 출범하면서
스마트폰만 있다면 언제 어디서나
금융거래를 하기가 더욱 쉬워졌습니다.

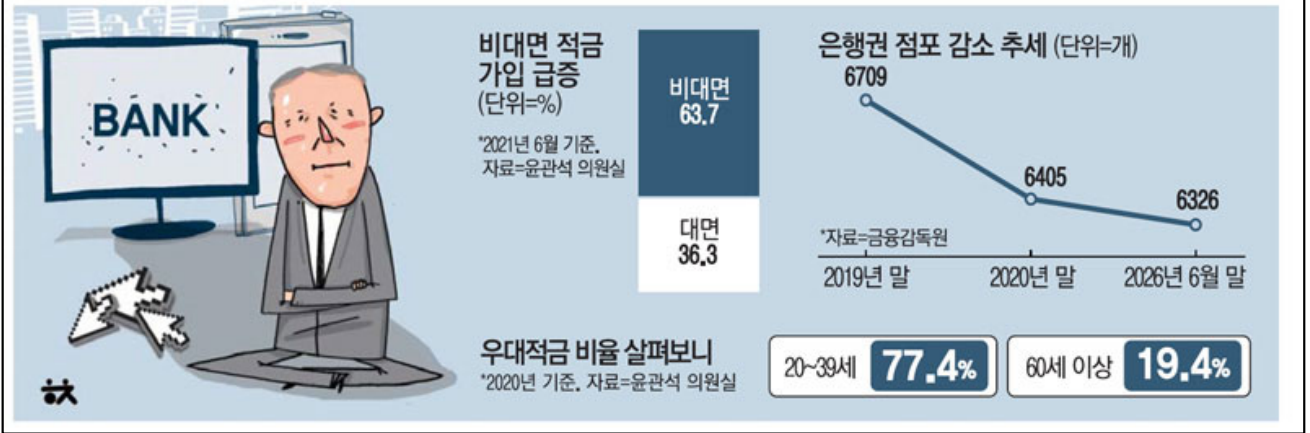
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Intro: Digital Finance & Aging

Bank branch closures on the rise but population aged 65+ (that needs face-to-face banking) increasing (FSS)



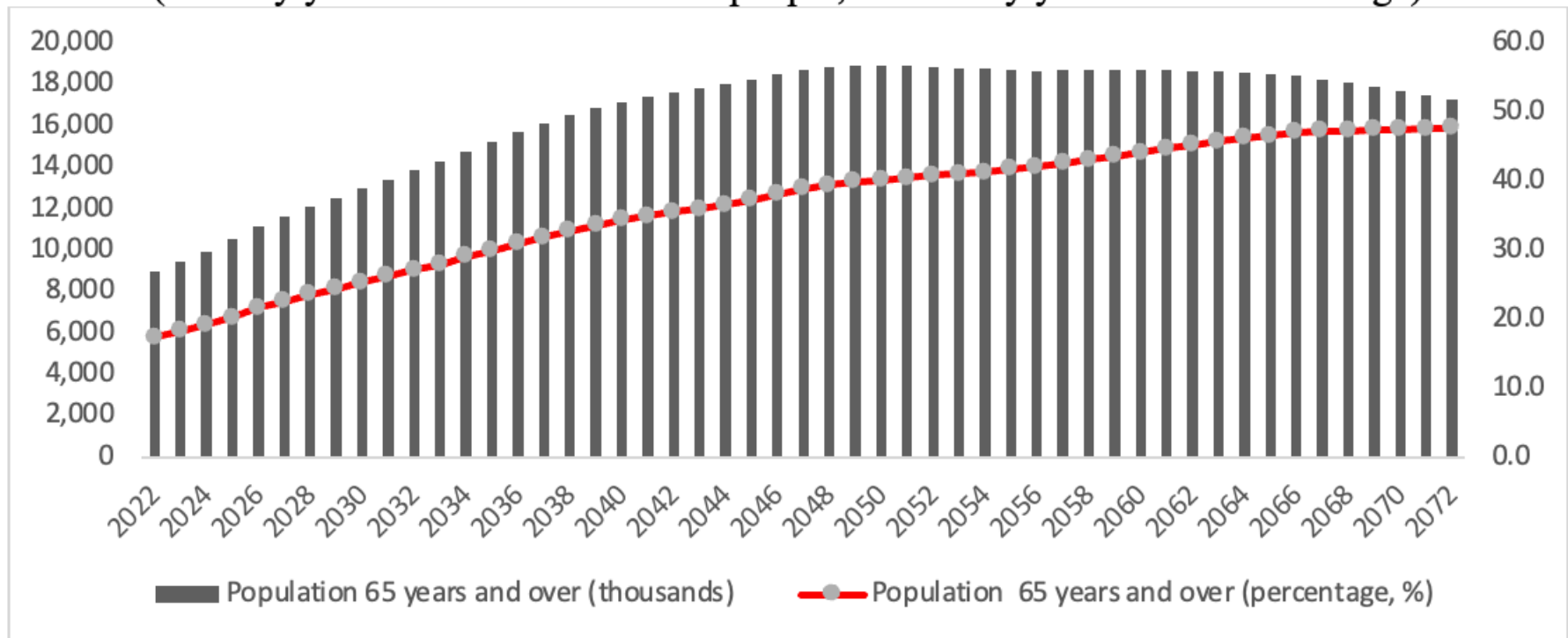
Contactless savings products application on the rise, but returns rate differ by age range



Branch closures / high rate for late payments / no targeted products / voice phishing

Aging, Fertility Rate, Telecom and Smartphones ASEAN+3

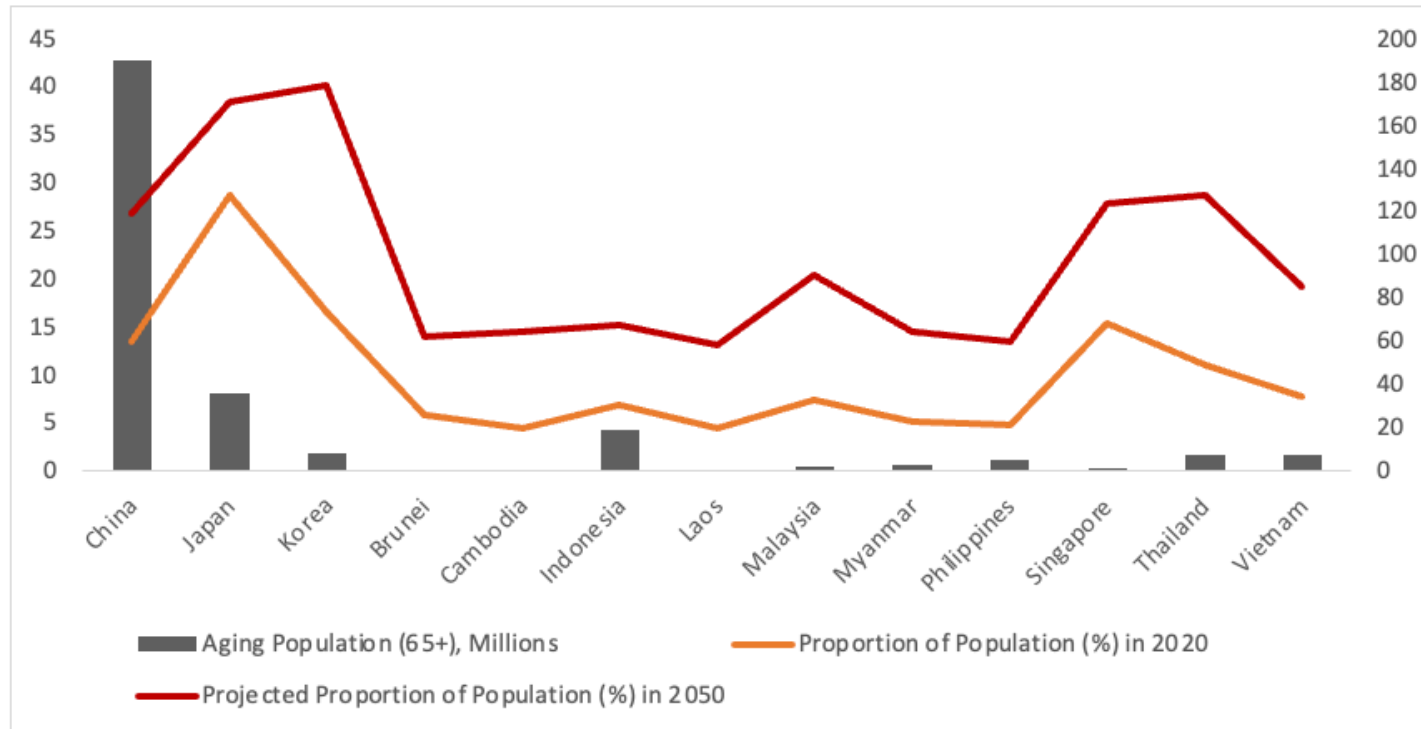
Figure 1. South Korea's Rapidly Aging Population (2022-2072, projected)
 (Primary y-axis Unit: Thousands of people, Secondary y-axis Unit: Percentage)



Source: Compiled by author based on KOSIS, Statistics Korea (accessed and downloaded on February 27, 2027)

Figure 2. ASEAN+3 Economies: Aging Population (65 years and over) and their proportions in 2020 and 2050 (projected)

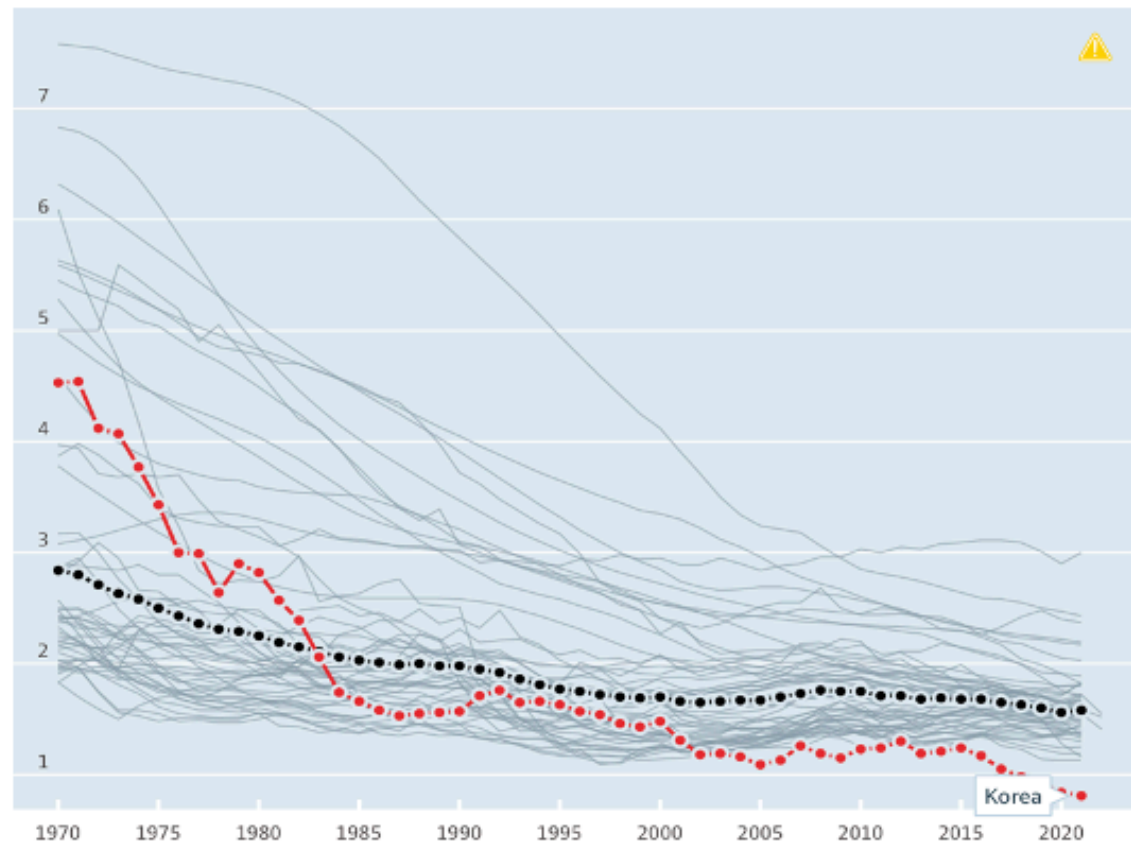
(Primary y-axis Unit: percentage of population, Secondary y-axis Unit: Millions of people)



Source: Compiled by author based on World Bank Data, United Nations Population Division, ASEANstats

Notes: These figures are based on data available up to 2020. Projections for 2050 are estimates and subject to change based on demographic trends and policy interventions. The aging population in many of these countries is expected to increase significantly by 2050, posing challenges and opportunities for healthcare, social services, and the labor force. The orange line (2020) indicating proportion (%) of those 65+ of the total population will shift to the red line (2050), with each jurisdiction's figure indicated in the primary y-axis (left pane).

Figure 3. Fertility Rates: Total, Children/Woman (1970-2022)

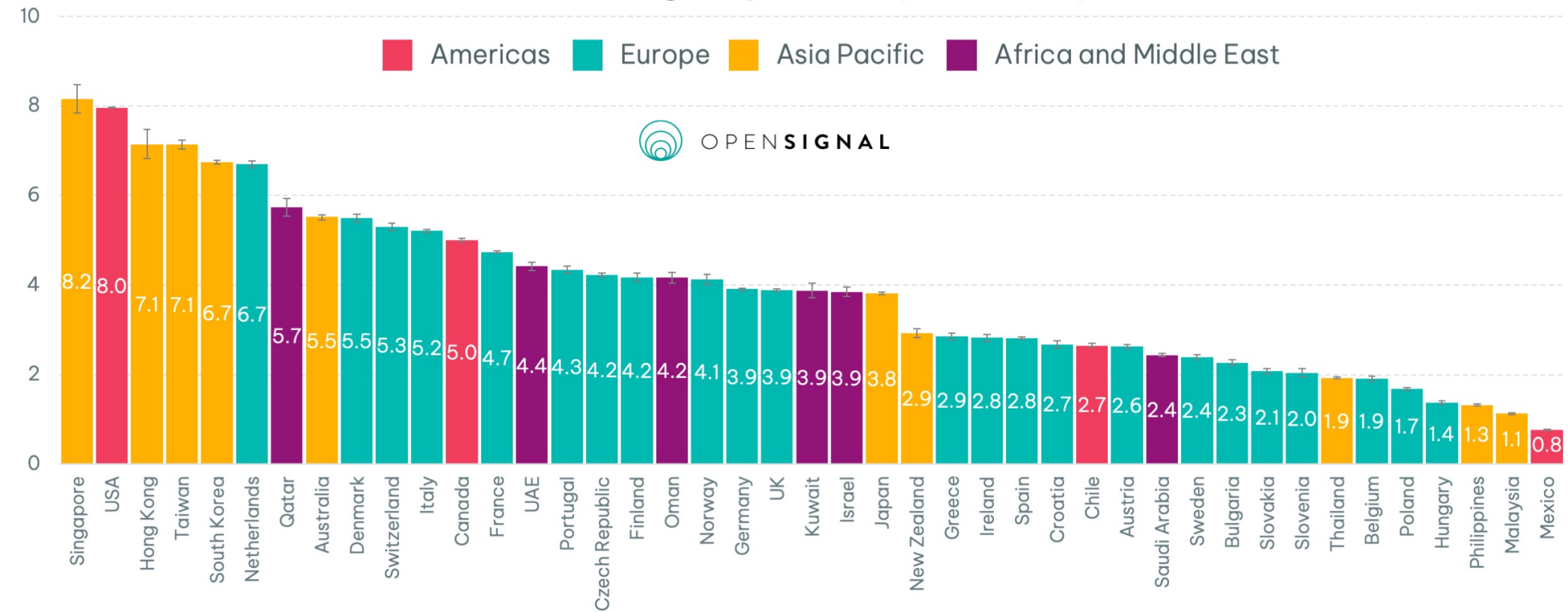


Source: OECD Labour Force Statistics, 2023. The dotted black line is the OECD average.

<https://data.oecd.org/pop/fertility-rates.htm>

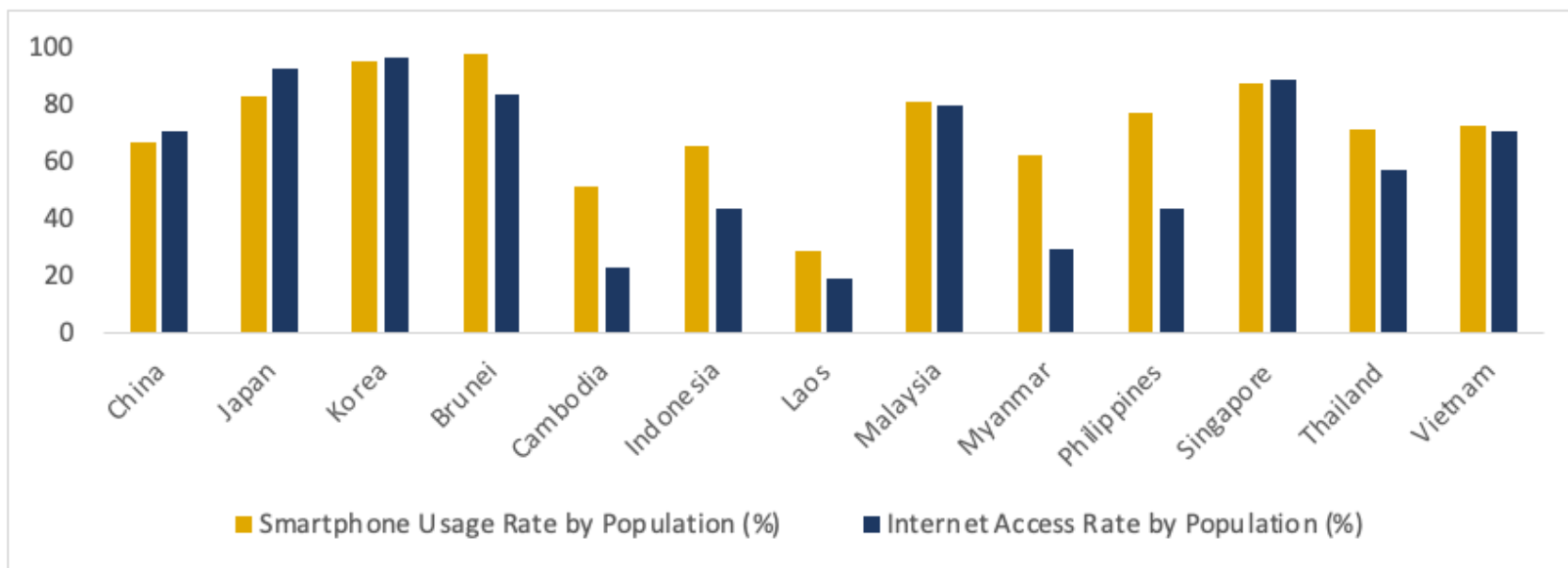
APAC markets and US are top for 5G Coverage Experience

5G Coverage Experience (0-10 score)



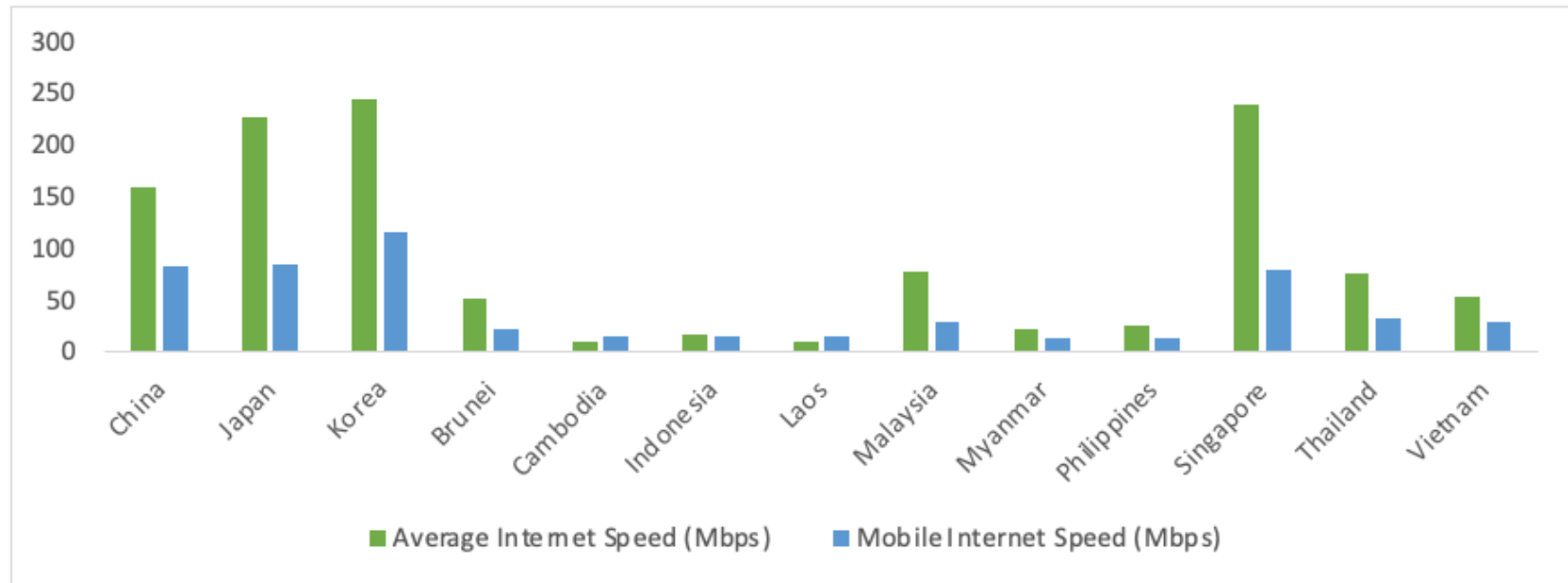
Source: © Opensignal Ltd 2023 | 43 selected 5G markets listed

Figure 4. Smartphone Usage Rate (Percent) and Internet Access Rate by Population (Percent), ASEAN+3 Economies, 2021 present



Sources: Compiled by author based on We Are Social & Hootsuite Digital Reports, Statista, World Bank Data
 Note: These figures are based on various sources including surveys, market research reports, and government data. Internet access rates can fluctuate over time due to factors such as infrastructure development, affordability, and technological advancements. While countries like Japan, South Korea, and Singapore have high internet access rates, some ASEAN countries are still working on improving access, especially in rural areas. The data for some countries may vary slightly between sources, and these numbers are estimates based on available data.

Figure 5. Average Internet Speed (Mbps) and Mobile Internet Speed (Mbps), ASEAN+3 Economies, 2021 present



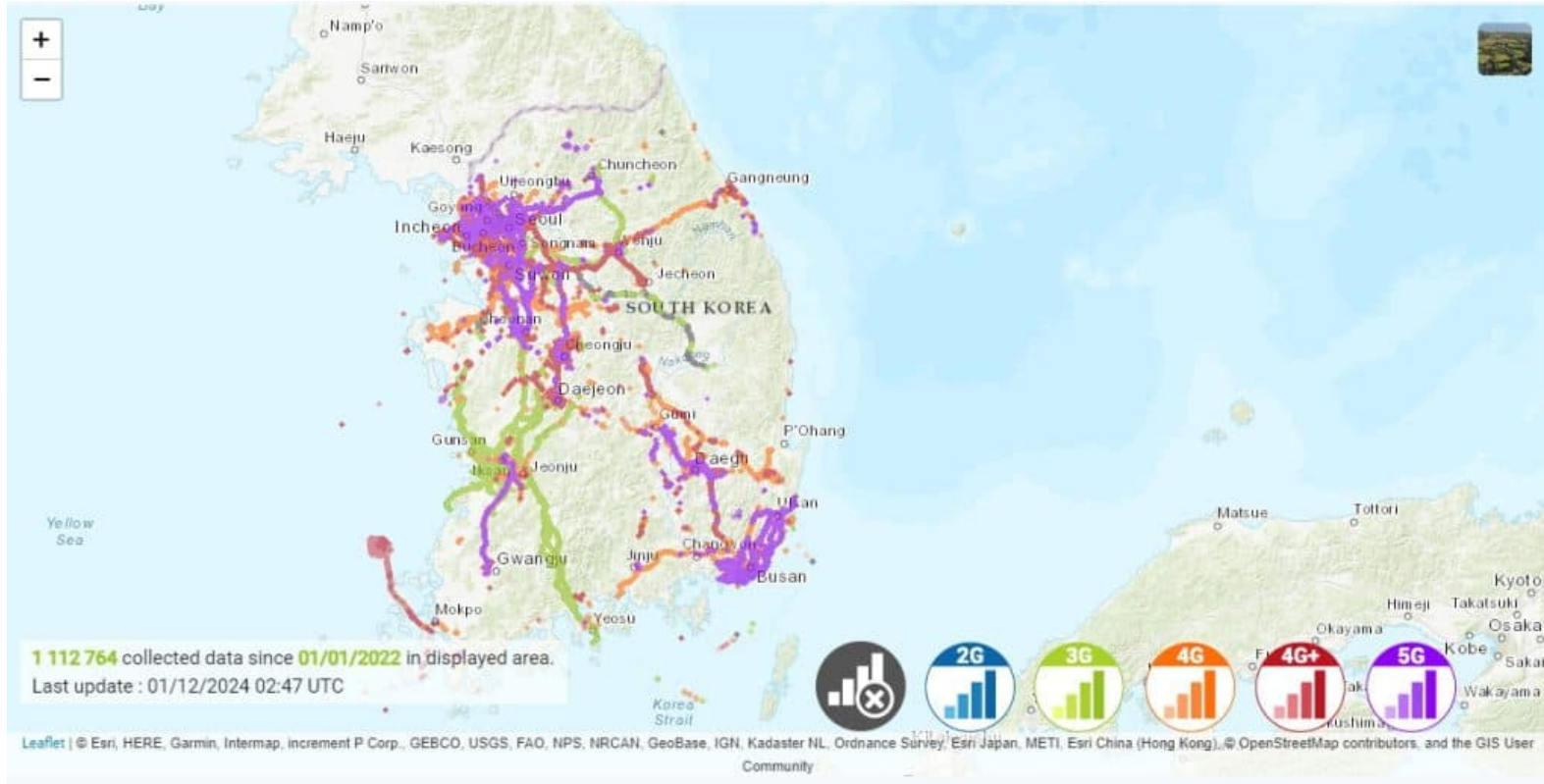
Sources: Compiled by author based on Ookla's Speedtest Global Index, OpenSignal, Local Reports

Notes: These figures are based on various sources including Ookla's Speedtest Global Index, OpenSignal, and local reports. Average internet speeds can vary within a country based on location and infrastructure. South Korea, Japan, and Singapore typically have some of the fastest internet speeds globally, while some ASEAN countries are working to improve infrastructure and speeds. Mobile internet speeds are included for comparison, as mobile devices are often the primary means of internet access in many regions.

Case Study: Digital Finance in Aging South Korea

Coverage

Network Coverage by SK Telecom in South Korea



**Smartphone
Plan
Affordability**

**Table 1. Smartphone Plans for Seniors by Major 3 Telecom Companies in South Korea
(Unit: KRW for plan price, Gigabytes for data amount and Megabytes per second for speed)**

Monthly Rate	Additional Discount	SK Telecom (SKT)		Korea Telecom (KT)		LG U+ (LG U Plus)	
39,000	17,150					80 yrs +	10GB +1Mbps
41,000	18,650			80 yrs +	8GB +1Mbps		
42,000	19,450	80 yrs +	8GB +1Mbps	75 yrs +	9GB		
43,000	20,150					70 yrs +	10GB +1Mbps
44,000	20,900	70 yrs +	9GB +1Mbps	65 yrs +	10GB +1Mbps		
45,000	21,650	65 yrs +	10GB +1Mbps			65 yrs +	10GB +1Mbps
49,000	24,650			65 yrs +	15GB +1Mbps		

Source: The three telecom service providers in South Korea: SK Telecom¹⁹, KT²⁰, LG U+²¹

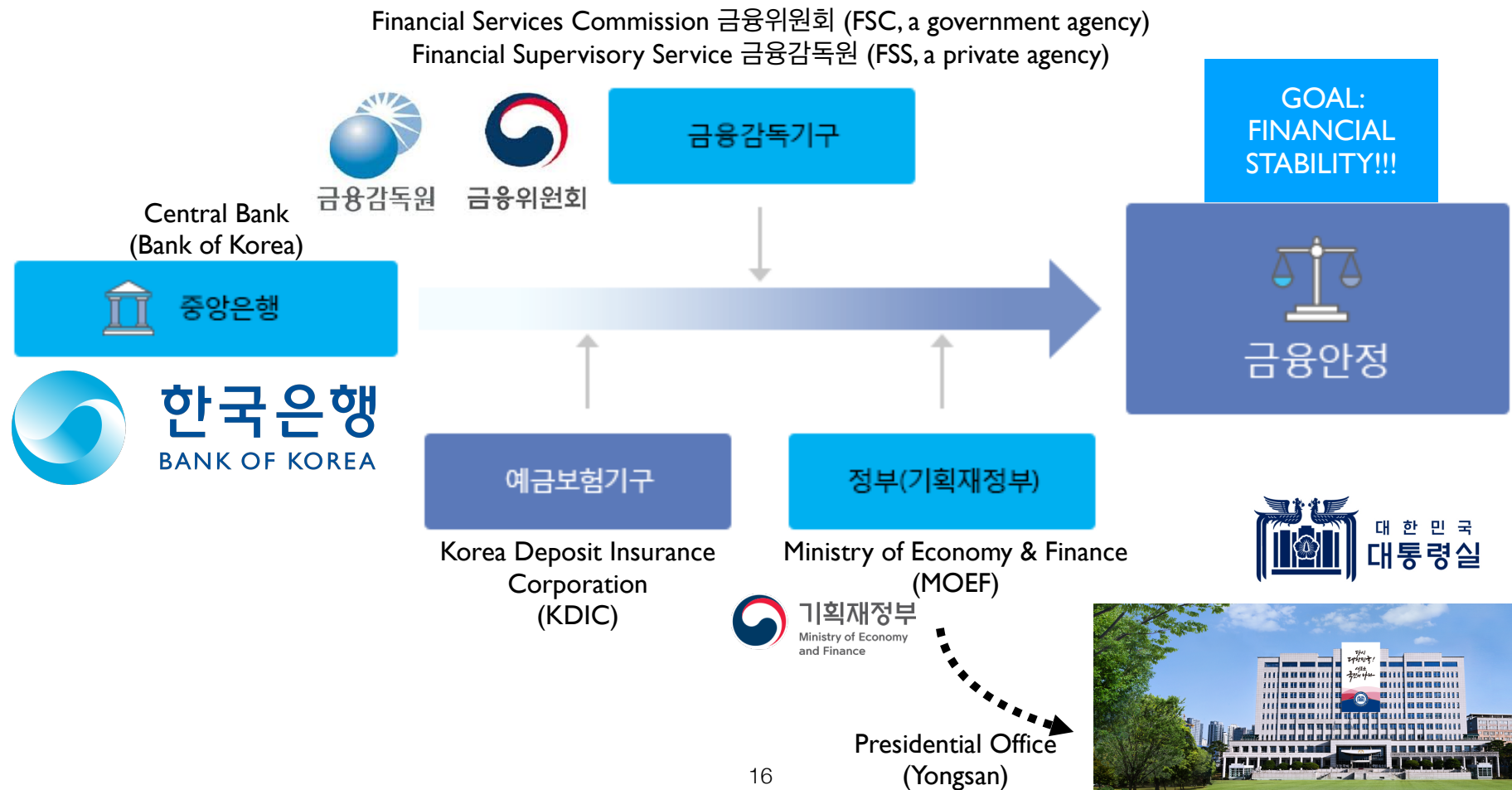
Table 2. Proportion of Population with Experience of Usage, by Payment Methods (Unit: Percent)

Category (Payment Methods)		Cash	Credit Cards	Debit Cards	Account Transfer	Prepaid Cards/ Digital currencies	Etc.	Mobile Cards
Total		96.6	82.6	56.0	40.9	9.2	12.2	24.0
Venue	Offline	96.6	82.0	54.1	-	8.4	8.2	21.4
	Online	-	65.7	29.0	40.9	3.6	8.3	18.0
Gender	Male	96.5	82.6	57.2	38.8	8.9	13.1	25.1
	Female	96.7	82.5	54.9	43.1	9.5	11.4	22.9
Age	20s	93.8	63.0	75.9	39.9	17.1	26.7	36.5
	30s	95.7	93.6	64.6	46.4	12.2	18.4	47.1
	40s	96.0	94.5	58.0	46.5	7.9	14.8	31.2
	50s	97.7	94.0	52.6	47.3	7.5	8.7	18.6
	60s	97.8	84.8	47.7	37.6	5.0	2.6	6.6
	70s	98.8	57.3	34.1	22.7	5.7	0.7	1.3

Note: Proportion of Respondents that have said yes to having used certain payment methods in the past month. The cells highlighted in blue show the variance of most frequently used payment methods by age groups.

Source: 지급결제조사자료: '2021년 지급수단 및 모바일금융서비스 이용행태 조사결과,' Financial Transactions Bureau, Bank of Korea, May 2022.

Monetary & Fiscal Policy - Governance Structure in Korea





To grasp the mobile payment trends and usage patterns of ROK citizens in detail (beyond payment app stats), BOK conducted a series of surveys on payment systems in Korea in 2019 and 2021, and published them in 2020 and 2022, respectively.

Methodology

2019 Report: Stratified sampling by province, age range, gender / Random sampling of 2,650 adults (19+) by proportional distribution method for questionnaire

2020 Report: Stratified sampling by province, age range, gender / Random sampling of 3,536 adults (19+) by proportional distribution method for questionnaire revised and based on 2019 Qs





금융감독원



금융위원회

Table 1. Principles of Guidelines on Creating Elderly-Friendly Mobile Banking Apps

Category	Principles
I. Regarding Elderly User Mode Creation and Access	1) Provide a “Elderly User Mode” for easy access for the elderly.
	2) Minimize the routes for the user to enter “Elderly User Mode”.
	3) Allow for the “Elderly User” (or customer) to choose “Elderly User Mode” autonomously.
	4) Minimize changes in the interface in the “Elderly User Mode” to maintain consistency of service in consideration of the elderly user’s characteristics.
II. Regarding the Convenient Usage of Elderly User Mode	1) Construct the “Elderly User Mode” interface with consistency in structure and design for the convenient usage of the elderly user.
	2) Allow for the elderly user to easily perceive and understand meanings of words used in the mobile banking transaction.
	3) “Elderly User Mode” should consist of transactions that are frequently used by the elderly user.
	4) Allow for the elderly user to perceive and understand the current stage of process in the mobile banking transaction.
	5) Allow enough time and explanation for the elderly user in each mobile banking transaction stage.
	6) Avoid providing too much information at once for the elderly user.
III. Miscellaneous	1) Provide educational materials for the elderly user to easily access and use mobile banking apps.
	2) Prepare a system to prevent financial fraud on the elderly user and fortify their access to a reporting mechanism of such financial crimes. the access for report of such financial crimes.
	3) Continue to consistently improve “Elderly User Mode”.

Source: ‘고령자 친화적 금융앱 구성지침,’ Seoul Financial Hub, June 22, 2022.

Easy Banking
App Mode

Main screen (General Banking vs. Easy Banking)



Senior
Digital
Training
(Shinhan)

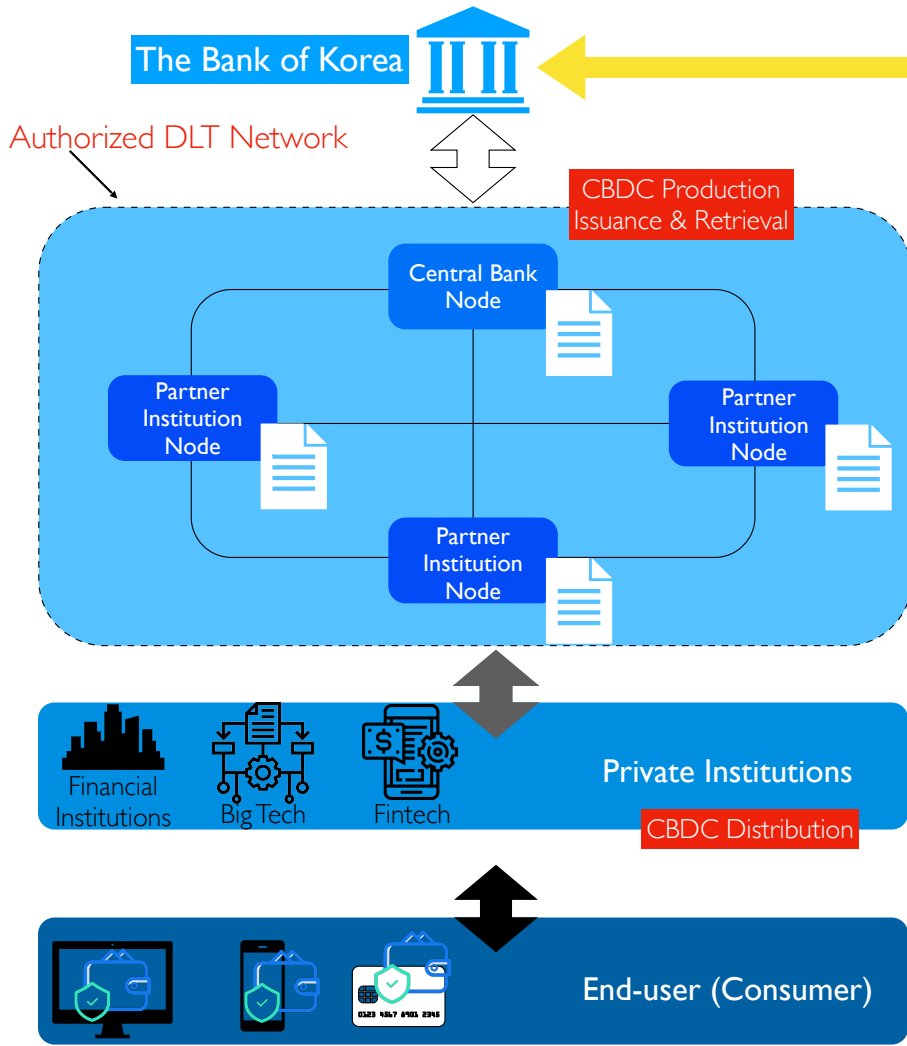


Traveling
Senior
Lounge
(KB)



Case Study (continued): South Korea on the Path to CBDCs

CBDC Pilot Test Design



1st Stage (August 2021-June 2022) Test Results

- System Architectures Constructed:
- CBDC Production/Disposal
 - CBDC Issuance

- ETHEREUM Open-Source Based DLT Network Constructed

- CBDC Distribution System Constructed (Varies by partnering institution)

- User Interface on Mobile Apps Constructed (Varies by partnering institution)

2nd Stage (July-December 2022)

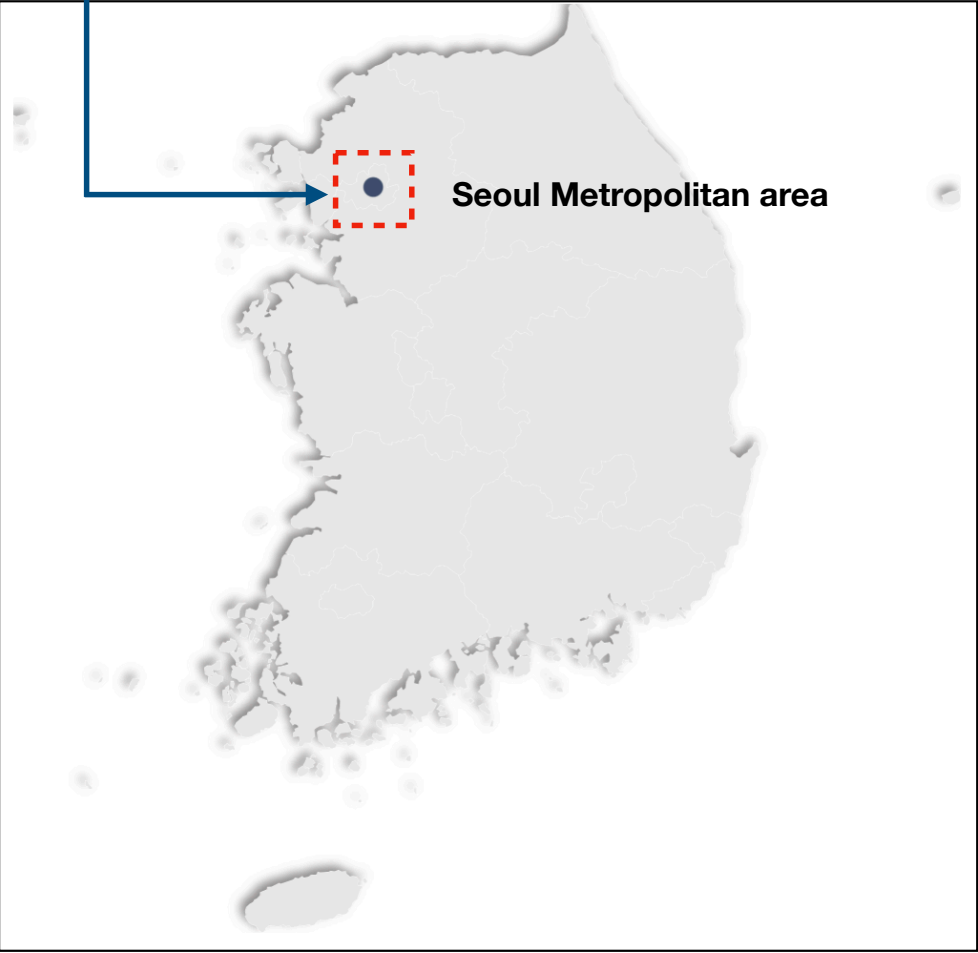
- Central Bank Node Authorization Management
- CBDC System Management + Operation
- In coordination with FSS and FSC

- Heterogenous DLT
- Foreign CBDC DLT

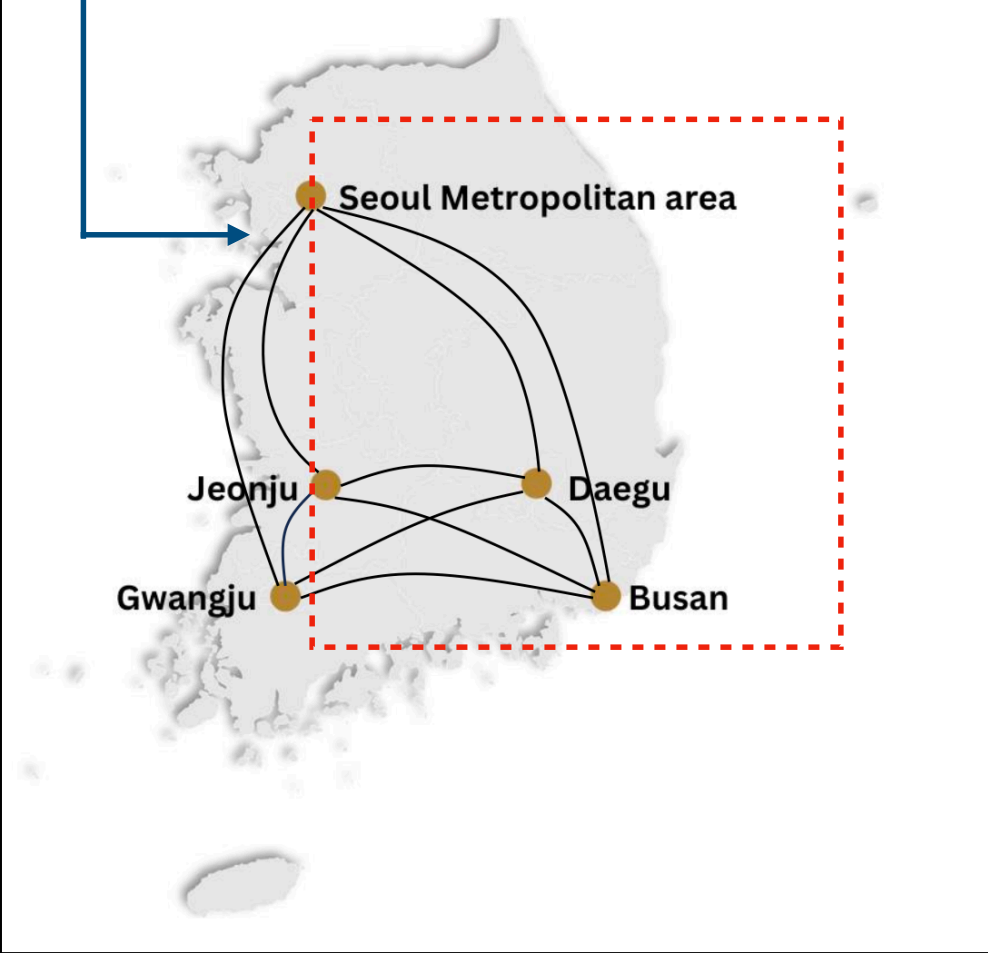
- CBDC Offline Transaction Operations
- Digital Asset Transactions (i.e., NFTs)
- CBDC System Management & Operations

- CBDC Offline Transactions (payment, transfers, settlements) for consumers and partner institutions

- One IT center (Cloud Service Provider 1)
- Consists of 6 nodes (BOK 1, Virtual Participants 5)



- 12 IT centers (Cloud Service Provider 3, Financial Institutions 9)
- Consists of 18 nodes (BOK 1, Virtual Participants 2, Financial Institutions 15)



2nd Stage pilot (Wholesale CBDCs)



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TECH

Samsung is exploring an 'offline' digital currency that works with Galaxy phones

PUBLISHED TUE, MAY 16 2023-6:50 AM EDT

Ryan Browne
@RYAN_BROWNE_ WATCH LIVE

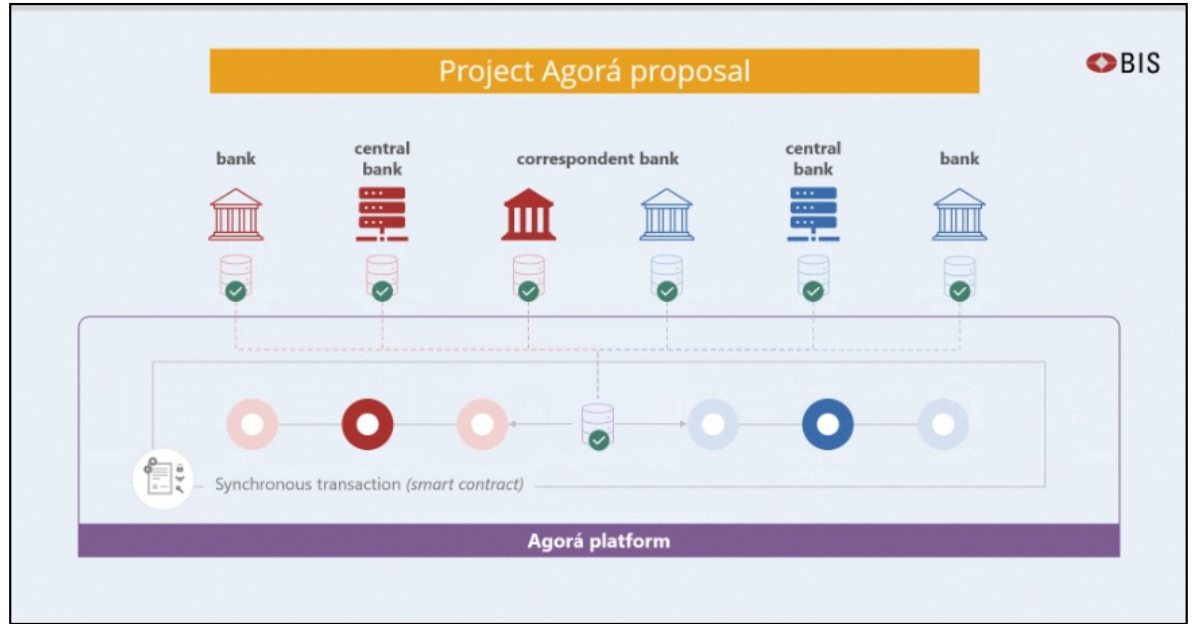
KEY POINTS

- Samsung said it has signed a memorandum of understanding with South Korea's central bank to conduct technical research on a central bank



Interoperability Tests at BIS

(Project Mandala, Project Agorá)



Takeaways: Policy Recommendations

1. National Survey of Digital Payment Methods per Jurisdiction in ASEAN+3
2. Improvement of Digital Payment Methods for the Elderly based on the National Survey
3. Digital Financial Inclusion of the Elderly in CBDC Pilot Tests (or Adoption)

“I am 78 years old and I feel left out by the banks.
ATTENTION TO PEOPLE IN BANK BRANCHES”

**Tengo 78 años y me siento apartado por los bancos.
ATENCIÓN HUMANA EN SUCURSALES BANCARIAS**

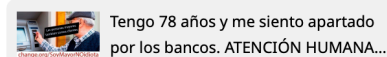


change.org/SoyMayorNOidiota

Started December 16, 2021
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Victory

This petition made change with 647,720 supporters!



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Thank you for listening.

감사합니다.

ありがとうございました。

謝謝。