

The Progress of Digital Financial Services

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The growth of internet banking is decelerating. This deceleration is also occurring in online trading and internet insurance criteria, indicating that digital financial services as a whole are losing momentum.

However, new types of financial services, including paying with points or e-money as well as payment services offered by convenience stores, are accelerating. Characteristics of these services include lower usage risks (a sense of security) and easy operations (high convenience).

The popularity of FinTech services, which financial institutions have been focusing on in recent years, could be disrupted by a sense of insecurity as well as inconvenient operations just like those perceived in digital financial services. These issues are not easily overcome, because the flip side of strengthening security to alleviate users' worries, including information leakage, could further complicate. In other words, these two aspects are in a trade-off relationship.

Broader uses of digital financial services require resolving Japan's Galapagos Syndrome regarding financial services, which points to excessively developed ATM services and the cash settlement society. To resolve such issues, we require breakthrough measures to develop financial services that guarantee users' comfort in accordance to the financial literacy of the Japanese people, to develop services focused on the next generation customers, and to seek prices that compensate customer convenience.

This paper overviews the way Japan’s future financial services should be around, while analyzing changes in financial awareness and behavior of Japanese people, based on the “NRI seikatsusha ichiman nin anketo chosa (Kin’yu ban)” [NRI Questionnaire Survey of 10,000 Consumers (Financial Edition)] conducted by Nomura Research Institute (NRI).^{note1}

I Digital Financial Services are Slowing

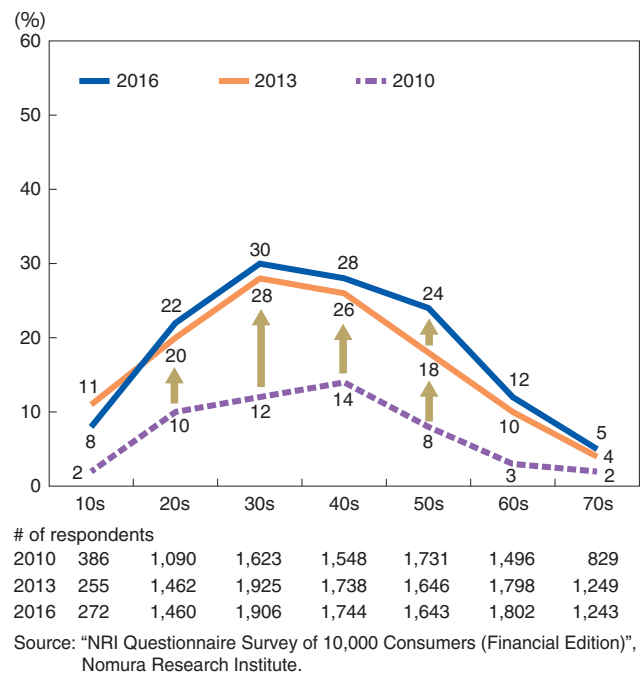
Majority of people are using smartphones when we look around at train platforms or in trains. Today, it is ordinary to see not just young people but older people also communicating with their children or grandchildren through email or LINE. All Japanese people, regardless of their age and gender are becoming increasingly involved in the wave of digitization.

Let us explore this through data. The percentage of people using one of personal computers, tablets, or smartphones to access the Internet almost every day has grown from 58% in 2013 to 65% in 2016. In particular, for those in their 50s and 60s, this ratio has risen by 10 percentage points over the 3 years. So, what is going on in terms of the digitization of financial services?

1 Growth of Online Banking Use is Slowing

The utilization rate of online banking was almost unchanged over the 3-year period from 2013 to 2016 (Figure 1). The proportion of people using banks’ online banking services through logins rose from 9% in 2010 to 18% in 2013; however, after that, it grew only slightly

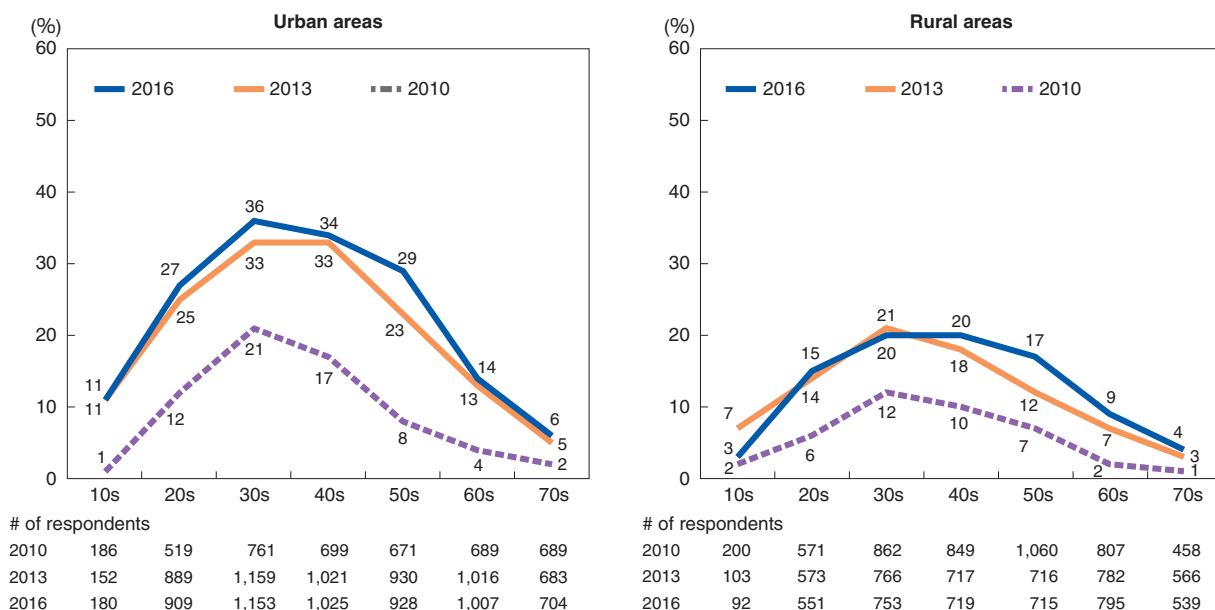
Figure 1. Trend in Using Internet Banking (% of uses through access to Internet Banking Services)



to 21% in 2016.

In terms of age group and region (size of municipality), usage rates are stagnating in almost all age groups and regions (Figure 2). The use of online banking in special wards, government-designated cities, and cities with populations of 200,000 or more (urban areas) has gone up from 11% in 2010 to 23% in 2013 and 25% in 2016; conversely, in towns, villages, and cities with populations of less than 200,000 (rural areas), it has gone from 7% in 2010 to 12% in 2013 to 14% in 2016.

Figure 2. Trends in Use of Internet Banking in Urban and Rural Areas



Note: Urban areas are government-designated cities and cities with populations of 200,000 or more. Rural areas are cities with populations of less than 200,000, towns, and villages.

Source: NRI Questionnaire Survey of 10,000 Consumers (Financial Edition), Nomura Research Institute.

In the past, the author pointed out that judging from the trend in online banking between 2010 and 2013, rural areas were about 3 years behind the urban areas. If this trend were to continue, rural areas' use of online banking should have risen to about 23% by 2016. However, as mentioned previously, it only went up to 14% in 2016. This stagnation is not occurring only in certain age groups or regions. It is a common phenomenon being experienced in all age groups and regions.

Let us now examine public data from financial institutions to summarize the state of online banking usage.

The total number of accounts disclosed in the investor relations materials of six specialized internet banks added up to 8.08 million in 2010, 11.51 million in 2013, and 15.53 million in 2016 (as of March 31 for all). Although the 3-year growth rate slowed somewhat, from 42.4% between 2010 and 2013 to 34.9% between 2013 and 2016, growth remained in the double digits annualized. Since not many megabanks or regional banks also with brick and mortar branches regularly disclose their number of online accounts, it is not possible to ascertain the total number. However, these banks are certainly putting much effort into strengthening the functions of and promoting banking through online channels, including smartphone banking.

There are possibly two reasons why the number of people logging on to online banking services is barely increasing even though the number of online accounts is growing.

First, more people may have been opening online accounts at more than one bank. The number of accounts per person is likely to increase as opening online accounts has becoming easier and quicker through smartphones. Second, even though people are opening online accounts, the number of customers not logging in could be increasing. The reason for this phenomenon will be discussed later.

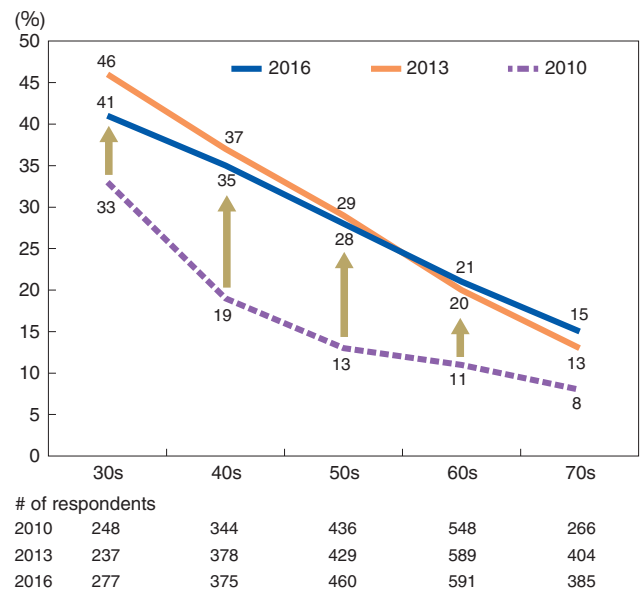
Therefore, even though financial institutions are enthusiastically embracing and promoting digitization, only online accounts without logins seem to be accumulating. Here, despite increased daily uses of the Internet, a phenomenon where uses of online banking services are not growing is emerging.

2 Online Trading and Life Insurance are Also Struggling

Online banking is not the only one experiencing slower growth. Brokerage firms' online trading is following a similar trajectory (Figure 3).

The percentage of users with investment experience using brokerage firms' online trading services went from 16% in 2010 to 26% in 2013 and to 27% in 2016. Despite the large increase from 2010 to 2013, usage plateaued between 2013 and 2016. Other metrics also

Figure 3. Trend in Use of Online Trading (as a Percent of Experienced Investors)



Note: The 10s and 20s age groups not shown because of the low numbers.
Source: "NRI Questionnaire Survey of 10,000 Consumers (Financial Edition)," Nomura Research Institute.

illustrate the sluggishness of online trading. Although the share of internet brokerage firms among financial institutions opening new accounts for investor's first investments rose from 10% of the accounts in 2000-2004 to 16% in 2005-2009, it has trended downward to 13% since 2010.

Online trading businesses are now presumably at a turning point, which is indicated by the moves of Internet specialist brokerage houses. SBI Securities focuses on offering consultation services at its money plazas, which are the group's face-to-face outlets, while Rakuten Securities is aiming at becoming a platform for face-to-face services by hiring a number of independent financial advisors.

Now we turn to Internet insurers. Popularity of Internet insurances remains low while online trading users account for certain percentage of investors with investment experiences. Those who selected Internet life insurers for their most recent contracts remain few, accounting for less than 1% of the total, at 0.4% in 2013 and 0.5% in 2016. While uses of Internet banking and online trading services once increased sharply and then slackened, online life insurance has never taken off. Why do life insurances not sell online? According to consumers, life insurance is the most complex among all the financial services and difficult to keep up with the latest trends. In the survey, it was noted that even those with high financial literacy say they "would like to buy after consulting with insurance salespersons" as far as life insurance is concerned.

3 Only Direct Auto Insurance is Showing Solid Growth

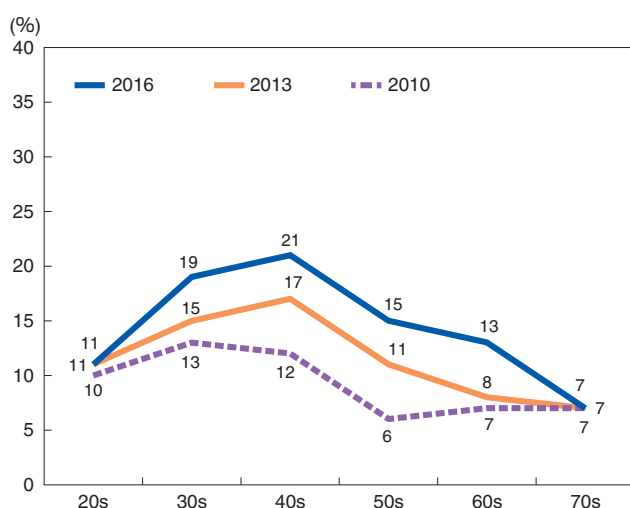
Direct auto insurances are the only segment that has been sustaining growth among uses of digital financial services. Those buying policies from the eight direct auto insurers are increasing consistently from 9% of all auto insurance contracts in 2010 to 12% in 2013 and 15% in 2016 (Figure 4).

During the 6-year period, the percentage of those in their 20s and 70s buying direct auto insurances was almost unchanged while for those in the 30-60s, the proportion rose by 6-9 percentage points. In particular, the increases in 40- and 50-year-olds were highest (each up by 9 percentage points in the 6 years). Due to low accident rates in people aged 40-50, direct auto insurances offer attractive discounts on their premiums compared to agency channels and thus are more advantageous.

Higher use of direct auto insurances is not only seen in urban areas but also in rural areas. Between 2010 and 2013, while use in urban areas grew from 11% to 16%, use in rural areas only rose from 7% to 8%. In 2016, however, with the urban areas at 19% (up 3 percentage points from 3 years before) and the rural areas at 11% (up 3 percentage points similarly), usage rates are rising similarly in both categories.

So, why is only direct auto insurance growing consistently? Namely, what has caused such a difference between life and non-life (auto) insurances? The reason

Figure 4. Usage of Direct Auto Insurance (as a Percent of Total Auto Insurance Policy Holders)



# of respondents	2010	2013	2016
2010	491	1,054	1,045
2013	451	954	967
2016	387	872	959

Notes: 1. The 10s age group is not shown due to low numbers.
 2. Direct auto insurers: Mitsui Direct, Zurich, AXA General Insurance (AXA Direct), Sony Assurance, American Home Assurance (American Home Direct), Saison Automobile & Fire Insurance, E.design Insurance, SBI Insurance.

Source: "NRI Questionnaire Survey of 10,000 Consumers (Financial Edition)," Nomura Research Institute.

that direct auto insurances are popular is that most customers believe auto insurance to be a simple product. Compared with life insurance, there are such opinions as one can examine auto insurance by oneself (on the Internet) or auto insurance is not complex and does not necessitate salesperson consultation.

While those with such responses do not necessarily properly understand auto insurance, a sense of no difficulty may significantly affect purchase decisions on the Internet. In addition, as auto insurances are mostly one-year contracts, they can be replaced one year later when they expire, should any problems arise. This line of thought could be working as a positive factor for the popularity of direct auto insurances.

Although popularity differs among financial services, growth in usages of digital financial services such as online banking and online trading are slowing, with an exception of direct auto insurances. At the same time, the slowing growth is not happening only in certain age groups or regions (sizes of municipalities) but virtually in all segments.

II Traps Waiting for New Financial Services Led by Fintech

This chapter overviews the differences in usage trends and diffusion pace of new financial services that became popular largely in 2000s and their similarities and differences compared to Internet banking and the likes. The aim is to explore why digital financial services represented by Internet banking are now plateauing.

In addition, we consider key aspects which allow digital financial services to break through current slowdowns by examining people's interest levels and images of the FinTech services deemed as next generation digital financial services.

1 Payments in Points are Sharply Increasing

Uses of points as a measure of payment are sharply increasing in contrast to the slowing of online banking and online trading uses.

There are largely two kinds of payments in points: proprietary points or shared points.

Proprietary points are those that are only allowed to be used at issuer stores or companies such as those issued by mass appliance stores or drugstores. Conversely, shared points such as T Points and Ponta can be earned and used at a variety of stores and companies.

Surveyed consumers who transacted in points in the past 6 months rose from 21% in 2013 to 40% in 2016.

Usage rates according to age group almost doubled universally among all generations including senior people (Figure 5). Usages are particularly high in the 30-year-old age group, and although there were some variance among age groups, it is rare for a financial service to see the rates rising among all the age groups.

The sharp increase was caused by diffusion of shared points. For instance, T Points have approximately 560,000 participant with roughly 60 million unique members as of the end of September 30, 2016. Points can be awarded by and spent for a wide variety of products and services: credit cards, mass appliance stores, mobile phones, gas stations, convenience stores, and utility bills. In one sense, these points are becoming quasi-currencies.

Consumers want to use earned points, while issuer companies want points to be used to a certain extent rather than accumulating reserves for issued points.

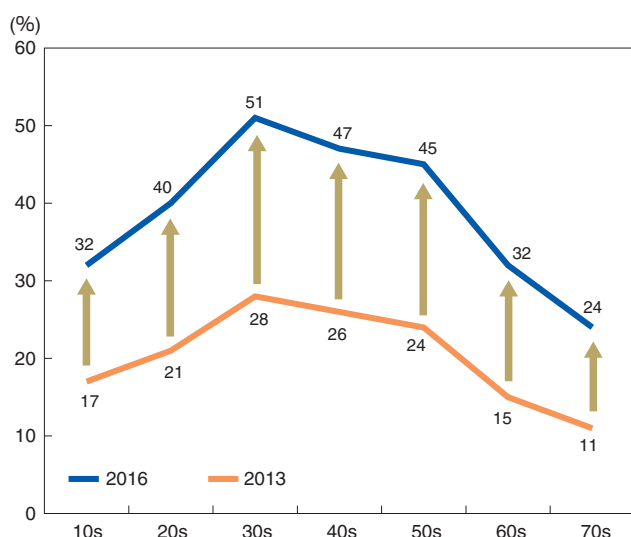
We expect points transactions will continue to increase as people accumulate them little by little and then readily use them.

2 Use of Electronic Money is Accelerating

Like paying with points, use of electronic money is also growing rapidly. The percentage of people who used electronic money at least once in the previous six months has risen rapidly, from 11% in 2010 to 18% in 2013 and 29% in 2016.

Electronic money has been pioneered by transport cards, such as Suica and PASMO, and then joined by retail cards including nanaco and WAON and further by such Internet-driven ones as the LINE prepaid card and the Amazon Shopping Card.

Figure 5. Trends in Use of Paying with Points



# of respondents	2013	2016
10s	255	272
20s	1,462	1,460
30s	1,925	1,906
40s	1,738	1,744
50s	1,646	1,643
60s	1,798	1,802
70s	1,249	1,243

Source: "NRI Questionnaire Survey of 10,000 Consumers (Financial Edition)," Nomura Research Institute.

Although the use of electronic money is increasing, similarly to payments with points, these two are different in terms of usages by age group. While paying with points peaks among those in their 30s with a mount-shaped line chart, the use of electronic money is fairly similar among age groups from those in their teens through their 50s and then declines sharply among those in their 60s and 70s, forming a semi-trapezoid line chart (Figure 6).

This is probably because retail- and transport-related electronic money is mainly used by the working generation.

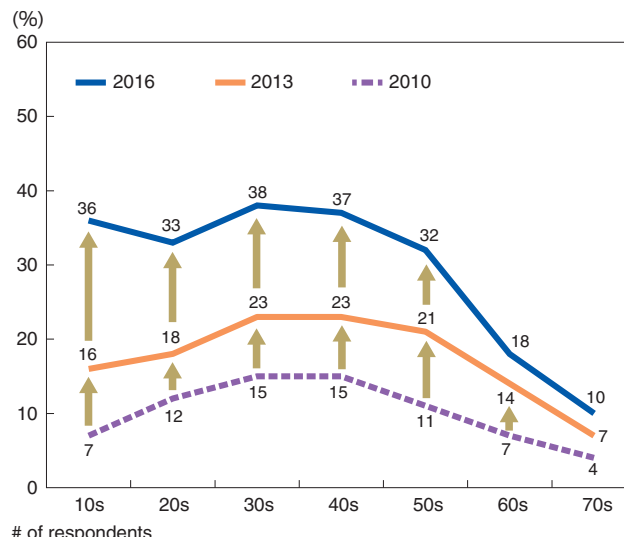
3 Convenience Store Financial Services: Pros and Cons

Next, let us investigate use of convenience store financial services, which is growing rapidly in Japan. Although the use of convenience store ATMs and convenience store payment services as of 2016 is fairly high, at 37% and 34%, respectively, the growth rates are mixed. Convenience store ATM usage jumped from 28% in 2010 to 36% in 2013, but then stagnated at 37% in 2016. In contrast, the use of convenience stores' payment services is accelerating, from 24% to 27% and then to 34%, over the same period.

The reason for the slowdown in ATM usage growth can be that the gigantic share of cash payments has finally started declining.

According to the Ministry of Internal Affairs and Communications' National Survey of Family Income and Expenditure, the share of cash payments among households of two or more persons was steady at around 95% from 1994 to 2004, but dropped to 88.8% in 2009

Figure 6. Trend in Use of Electronic Money



# of respondents	2010	2013	2016
10s	386	255	272
20s	1,090	1,462	1,460
30s	1,623	1,925	1,906
40s	1,548	1,738	1,744
50s	1,731	1,646	1,643
60s	1,496	1,798	1,802
70s	829	1,249	1,243

Source: "NRI Questionnaire Survey of 10,000 Consumers (Financial Edition)," Nomura Research Institute.

and to 82.5% in 2014.^{note2} At the same time, the skyrocketing popularity of online shopping led to an increase in usage of convenience store payment services. This is probably because people who hesitate for entering their credit card numbers for online purchases prefer the secure and foolproof payment services offered by convenience stores.

According to the NRI Questionnaire Survey of 10,000 Consumers focusing on uses of non-financial consumer goods, the use of convenience stores is on the rise. This is especially true among those in their 50s (from 54% in 2009 to 64% in 2015) and 60s (from 40% in 2009 to 46% in 2015). However, while the use of convenience stores is increasing, the use of convenience store ATMs is not. This shows that people's consumption behavior and financial behavior do not necessarily correlate. Further, the co-existence of accelerating services (convenience store payment services) and shrinking services (ATM usage) within convenience store financial services shows that the pace of expansion depends not only on places offering the services but on changing consumer behavior.

4 Changes in Primary Credit Cards

So far, we have been examining the trends in use of relatively new financial services, but conventional financial services are also undergoing certain changes.

Although there have been no significant changes in the rates of credit card use, the share of primary cards has been changing.

Credit card use has been mostly flat, at 61% in 2010,

58% in 2013, and 61% in 2016. According to the Japan Consumer Credit Association, credit granting value for credit card shopping rose by an average of 9.2% per annum from 2013 to 2016, but the number of cards rose only slightly. Thus, the range of users is not expanding. However, the share of main cards (the share of the card used most frequently) by issuer (credit card issuer company) shows that the Rakuten Card and other Internet-driven cards increased their share from 5% in 2013 to 8% in 2016, while the share of bank affiliate cards declined from 38% to 31% over the same period. This may be because people's attitudes toward no annual membership fees and points earned from their cards are shifting from status-oriented to focus-oriented.

5 Trade-offs Around FinTech

Next, let us discuss the FinTech services, which are considered the next generation digital financial services. Since many FinTech services have not yet been commercialized or have been started only recently, we compared the degree of interest in them, rather than their usage rates.

FinTech, born in the United States, has been a focus of interest in the financial industries in the past 2-3 years. Many FinTech companies have been founded and major financial institutions have also started research, experiments (trials), and launching new businesses. We therefore focused on eight typical services and compared the degree of interest in them (Table 1). Among the eight, a household account application attracted the greatest degree of interest, at 29%, but all others were

Table 1. Degree of Interest in FinTech Services

	# of response (person)	Household acct apps	Telematics insurance	Account aggregation	Robo-advisory services	Crowd funding	Wearable insurance	Virtual currency	P2P loans
10s	272	25%	9%	6%	4%	5%	5%	11%	3%
20s	1,460	41%	13%	9%	8%	8%	6%	12%	4%
30s	1,906	42%	16%	10%	9%	11%	9%	7%	3%
40s	1,744	35%	15%	8%	7%	6%	7%	5%	2%
50s	1,643	26%	15%	7%	6%	5%	7%	4%	1%
60s	1,802	15%	9%	3%	4%	2%	2%	1.2%	0.4%
70s	1,243	9%	5%	2%	2%	1%	2%	0.8%	0.4%
Total	10,070	29%	12%	7%	6%	6%	6%	5%	2%

Notes: 1. "Degree of interest" is the sum of "using," "interested," and "somewhat interested."

2. FinTech-related services are as follows.

Household account app: Smartphone household account application or household account management software.

Telematic insurance: Voluntary auto insurance for which premiums are determined in line with driving data collected from in-vehicle devices.

Account aggregation: A service that aggregates one's account balances and other information from several financial institutions.

Robo-advisory services: Automated services providing investment opinions, investment recommendations, etc. through online chat rather than customized advice from a salesperson or account representative.

Crowd funding: Funding for a person or organization via the Internet.

Wearable insurance: Life insurance in which premiums are determined from health information obtained from wearable devices.

Virtual currency: A settlement method such as Bitcoin, where there is no central bank involvement and no physical assets to back it.

P2P loans: A medium for lending between individuals over the Internet and the likes.

Source: "NRI Questionnaire Survey of 10,000 Consumers (Financial Edition)," Nomura Research Institute.

only around 10% with telematic insurance at 12%, account aggregation at 7%, and robo-advisory services at 6%. In other words, despite the financial industry's enthusiasm, consumers are either not familiar with FinTech services or they have little interest in them.

Why is it so? When asked about impressions of FinTech services, consumers provided two responses: a sense of insecurity and the complexity of using them.

First, as for a sense of insecurity about FinTech services, there are opinions such as “worries about leakages of personal information caused by registering information on household accounts” (male in the 50s), “feels resistant to disclose health-related information” (male in his 50s), and “is unsure about who compensates him if Bitcoin (exchanges) goes bankrupt” (male in his 60s). These opinions indicate people are more worried about information leakages or frauds than the anticipated advantages such as insurance discounts or lower transaction fees.

As for the complexity of using FinTech services, some say “entering passwords are bothersome” (male in his 40s), “[household account apps are] in fact more complex than simply keeping ordinary accounts” (female in her 30s), and “[account aggregation is] hard to get through the security locks” (female in her 20s). Thus, although technology is supposed to make FinTech services convenient, ID and password requirements are forcing complex operations on users.

It would be difficult to simultaneously resolve a sense of insecurity about and operational inconvenience of FinTech services. These two problems are in a trade-off relationship. Demanding to set up more complicated passwords and change them frequently in order to alleviate concerns about information leakages and cheat/fraud only ends up further complicating the usage. Meanwhile, allowing automatic logins and shared IDs to ease usage could result in greater damages if users are struck by any cheat/fraud.

Let us examine consumers' views about FinTech services in more details. Impressions of household account apps are somewhat evenly divided. Positive comments include “may be useful in finding more efficient husbandry and wasteful spending” (38% of respondents) and “may encourage household savings” (26%), while naysayers complain “using apps and software is bothersome” (36%) and “would worry about data losses and leakages” (31%).

With respect to robo-advisory services, while 30% said “could easily obtain advice,” and 20% said “seems cheaper than getting advice from salespersons or counter representatives,” about 34% say they are, “uncomfortable about whether it sufficiently reflects my needs.”

Success and failure of FinTech services depends on whether technologies can resolve the trade-off between people's worries and the complexity of using these services.

Now, let us reexamine the digital financial services

and new financial services discussed in Chapters I and II from two standpoints: a sense of insecurity and complexity of use.

The stagnation of digital financial services, i.e. online banking and online trading, involve IDs and passwords. Like in FinTech services, they are also in a vicious circle where strengthening security to prevent heavy information leakages and cheat/fraud eventually results in increased complexity of using these services. Given this, we can see that the trade-off between a sense of insecurity and complexity of use around FinTech services also universally applies to any digital financial services.

Meanwhile, paying with points or electronic money, which is accelerating, requires neither IDs nor passwords. While they also have a risk of losing saved points or charged money if the card is lost or struck by cheat/fraud, such damage is far minor compared to the risk of losing all the money in one's bank account. Therefore, use of digital financial services could reaccelerate if any knowledge or ideas emerge to overcome the two stumbling blocks: a sense of insecurity and complexity of use.

III Breakthroughs in Galapagos Syndrome of Japan's New Retail Financial Services

What makes Japanese people feel insecure about and burdened with use of digital financial services? This chapter focuses on environments surrounding digital financial services and shows that Galapagos Syndrome of Japan's retail financial services and lower financial literacy compared to major Western nations work against the expansion of digital financial services. Moreover, we suggest breakthrough measures to overcome these two obstacles for digital financial services.

1 Japan's Too Convenient and Safe Cash Payment Environments

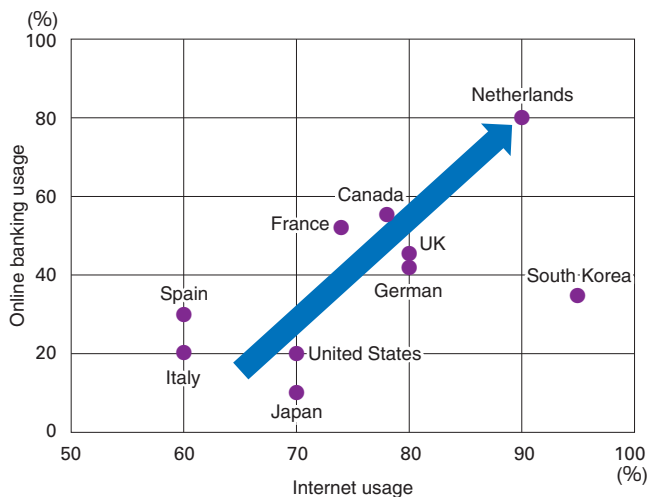
Let us look at international comparisons of use of online banking, the most representative example of digital financial services.

According to OECD surveys, use of online banking (used at least once a year) is high in such nations as the Netherlands, Canada, and France, while Japan stays at exceptionally low level (Figure 7).

Figure 7 indicates a positive correlation between use of Internet and online banking, hence predicting higher usage rates of Internet to lead to higher usage rates of online banking.

Given this, use of online banking in Japan has not yet

Figure 7. Comparison of Internet Usage and Online Banking Usage in Major Countries



Notes: 1. For US only, as of 2007. For others, as of 2012.
 2. Internet usage and online banking usage mean the percent of individuals who used them at least once during the year.
 Source: OECD materials.

hit a “ceiling” but is rather at a “temporary lull” stage now. As mentioned earlier in this paper, Internet use in Japan is showing healthy growth and digital financial services are steadily expanding their base. There is enough room for channel shifts from bank branches and ATMs to online banking to take place.

However, such a channel shift depends on the degree of usability compared to peer channels. Japan’s extensive ATM network is the very reason that has been hindering such a channel shift.

For example, Japan has 1,281 units of ATMs for every one million people while the Netherlands, where more than 80% of the population use online banking, has less than a half or 532 ATMs per million. If ATMs are available everywhere, people will not go out of their way to use online banking, which demands inputs of IDs and passwords.

In Japan, a safe country, there is not much risk in depositing cash in or withdrawing cash from ATMs and carrying it around. Ironically, Japan’s ability for convenient and safe cash payments have been disrupting expansion of online banking and other new financial services.

2 What Diversification of ATM Functions Can Do

Diversification of ATM functions is progressing in Japan. ATMs let people not only withdraw cash but also transfer funds, update their passbooks, and buy lottery tickets. This is an outgrowth of banks’ streamlining their operations by inducing customers to use ATMs instead of going to a teller. Bank tellers used to be inundated with people doing paperwork and withdrawing cash. However, to survive during the deflationary economy

following the economic bubble burst, many banks induced customers to use ATMs (to shift channels from the branch to the ATM) by giving them fee discounts and other incentives. ATM functions were increased so that ATMs could substitute for branch tellers. In contrast, not only were ATM functions in major Western countries very simple, but after the 2008 collapse of Lehman Bros., banks severely cut back on their branch and ATM services so that customers would switch channels to online banking.

Because Japan’s channel-shifting strategy differed from those of major Western countries, ATM services in Japan followed their own distinct path of development. This situation was the same as that which occurred with mobile phones. Japan followed its own path of development and lost international competitiveness due to its island mentality. Of course, multifunctional ATMs are convenient for customers. However, adding and improving such functions are very expensive. Finally, in retrospect, financial institutions in the West, which prioritized the channel shift from branch banking to online banking, were better positioned for digitization.

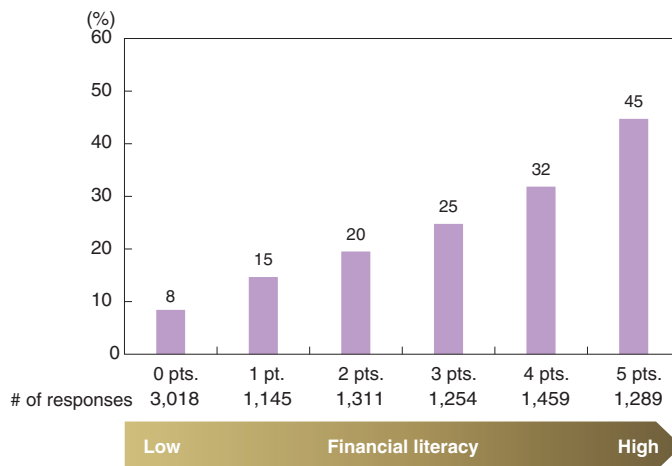
3 Japan’s Low Level of Financial Literacy Compared with Major Western Countries

The second factor hindering digital financial services is the Japanese people’s low level of financial literacy. We use five questions on interest rates, compound interest, inflations, risk and return, and portfolio diversification commonly used to measure financial literacy to compare financial literacy in the United Kingdom, Germany (both using OECD data), and Japan (NRI data).

The average score on these five questions was 65% in the United Kingdom and 67% in Germany, but only 39% in Japan. For the individual questions, Japan scored lowest on inflation (40% correct in Japan, while 94% in correct in the United Kingdom and 87% in Germany), risk and return (47% correct in Japan, while 77% in the United Kingdom and 79% in Germany), and portfolio diversification (30% correct in Japan, while 55% in the UK and 60% in Germany). The results clearly reflect the situation in Japan, where deflation has continued for so long that most people have never experienced inflation, and household financial assets are held mostly in cash and bank deposits. Japanese people’s financial literacy is also low because Japanese culture frowns on talking about money and people receive no formal education about finance.

The level of financial literacy is correlated with the use of many digital financial services (Figure 8). For instance, usage of online banking was 45% among those who got a perfect score but only 8% among those who answered all five of the questions incorrectly. Increasing Japanese people’s level of financial literacy would be a quick way to accelerate the spread of digital financial services.

Figure 8. Use of Online Banking by Level of Financial Literacy



Five questions for measuring financial literacy

Question	Correct answer
Interest rates You have deposited ¥1 million in a bank account at an interest rate of 2% per annum. Assuming there are no other deposits or withdrawals from this account, what would the account balance be in one year? Do not include taxation of interest in your response.	→ ¥1.02 million
Compound interest So then, what would the account balance be in five years? Do not include taxation of interest in your response. 1. More than ¥1.10 million 2. Exactly ¥1.10 million 3. Less than ¥1.10 million 4. Not enough information to respond 5. Don't know	→ More than ¥1.10 million
Inflation During periods of high inflation, the overall prices of daily necessities and services rise rapidly.	→ True
Risk & return An investment with an above-average return also has an above-average risk.	→ True
Portfolio diversification Buying the shares of one company is a safer investment than buying an equity investment trust (a financial product that invests in the shares of many companies).	→ False

Note: The financial literacy score (divided into five areas) is computed by adding up the number of correct answers to the above questions.
Sources: NRI Questionnaire Survey of 10,000 Consumers (Financial Edition), Nomura Research Institute; For the questions measuring financial literacy, compiled from the "2016 Financial Literacy Survey," Central Council for Financial Services Information.

4 Three Ways to Overcome Island Mentality

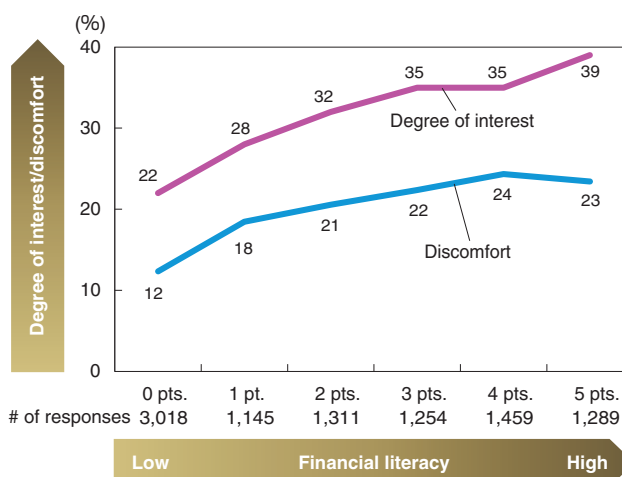
The spread of digital financial services has been hampered by an island mentality toward financial services as epitomized by ATM services and by the Japanese people's low level of financial literacy. These can be overcome in three ways.

(1) Developing Worry-free Financial Services

Government effort is needed to improve Japanese people's financial literacy. This paper does not discuss particular measures or ways for the government to promote financial literacy, but it does suggest that financial institutions can take the approach of adding insurance.

Let us explain how this would work with the household budget app. The degree of interest and discomfort regarding this service is closely connected with financial literacy (Figure 9). This can be inferred from understanding that people are uncomfortable that their information might be leaked or lost if they use the household budget knowledge about the app leading to more worry about it.

Figure 9. Degree of Interest/Discomfort with the Household Budget App (by Level of Financial Literacy)



Notes: 1. Degree of interest is the share of those who responded "using," "interested," and "somewhat interested."
2. Discomfort is the share of those who responded, "I worry that my information might get lost or leaked."
3. The financial literacy score (divided into five areas) was computed by adding up the number of correct answers to the five questions asked on interest rates, compound interest, inflations, risk and return, and portfolio diversification to measure financial literacy.
Source: NRI Questionnaire Survey of 10,000 Consumers (Financial Edition), Nomura Research Institute.

To eliminate these worries, in November 2016, Mitsui Sumitomo Insurance and bitFlyer jointly developed “cyber insurance” for Bitcoin businesses that use the virtual currency Bitcoin. This insurance indemnifies against the theft or loss of Bitcoins due to cyberattacks and the like, as well as covers various expenses incurred in dealing with incidents (compensatory expenses, expenses incurred in containing damage, and others.)

To advance the use of virtual currency, giving people a sense of comfort that “if something unfortunate happens, insurance will cover it” is more in accordance with the Japanese people’s current level of financial literacy than to give people a detailed explanation of how virtual currency transactions work. Giving customers information and explanations is well and good, but such explanations need to match the financial literacy level of the customer so that he/she can understand them and be persuaded.

(2) Developing Financial Services Geared for the Next Generation

By age group, the use of online banking is highest among those in their 30s (30% of those in the 30s age group in 2016). Online trading is also highest among those in their 30s (used by 46% of experienced investors in their 30s in 2013). Interestingly, in Table 1, those in their 30s had the highest degree of interest in FinTech services. Among the eight FinTech services listed, six (excluding virtual currency and P2P lending^{note3}) had the highest degree of interest among those in their 30s. Although it seems that the younger age groups should be more accepting of new services and technologies, young people in their teens and 20s are quick to manifest a desire for such financial services as home loans, investments, and insurance policies. It seems that when people get to their 30s, they become more interested in new financial services so that they can be more financially active.

However, virtual currency and P2P lending elicited the most interest among those in their 20s. Seeing this, we speculate the next-generation customers, who are now in their 20s and 30s, hold the key to the dissemination of digital financial services.

(3) Shall We Make Customers Pay for Convenience, or Shall We Propose Inconvenience?

There are many examples of how Japanese customer’s demand for high-quality services has resulted in high social costs.

Same-day and time-designated deliveries by home delivery services have recently hit a wall with the growing popularity of online sales. Behind this is Japanese people’s insistence on free shipping for online purchases, even though delivery services are safe and convenient. It turns out that the system will fail if no one is willing to pay for safety and convenience.

Comparing this situation with Japan’s financial

services, if safe and convenient ATM services are free of charge, they are bound to fail at some point. At the same time, customer attitudes such as, “Anyone can easily open a bank account, but I refuse to pay account maintenance fees.” and “Even though I rarely go into a bank branch, I’ll choose a bank that has a branch close to my commuting station.” are contributing to an increase in banks’ costs. If one considers that it is the customer (or the citizenry) who will ultimately bear these costs, then financial institutions should seek appropriate compensation from their customers. If not, they need to give customers alternatives that will keep costs down.

Financial institutions in Western countries are undergoing a comprehensive overhaul to reduce the number of branches, ATMs, and the services they provide. If Japanese financial institutions are afraid to take such measure for the fear of customer dissatisfaction in a country with a declining population, these financial institutions and their customers (communities) will fail together.

In our opinion, Japanese financial institutions are approaching a decision point about whether they should seek appropriate compensation from customers for the cost of customer convenience or whether they should conduct a major overhaul of their cost structures.

Note:

- 1 Hereinafter, any source not cited will be NRI Questionnaire Survey of 10,000 Consumers (Financial Edition), Nomura Research Institute.
 - 2 Figures are the share of payments recognized as household expenses. The share of cash payments for domestic household consumption expenses, including withdrawals from bank accounts, was more than 40% as of 2015.
 - 3 Peer-to-peer lending: A medium for lending between individuals, primarily via the internet.
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