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The Impact of FinTech on the Future of Retirement Systems*

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Julie Agnew – Olivia S. Mitchell:
The Disruptive Impact of FinTech on Retirement Systems
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The book's authors address an important social issue. When preparing for retirement, many people require help with the proper planning and management of their savings and investments during the accumulation period as well as with developing an adequate strategy on how to use the accumulated assets during their years of retirement. In light of current market practices, financial advisors and investment fund managers currently specialising in these issues seem rather expensive and thus unaffordable to many, while their activities fail to cover all the related needs and areas. Moreover, working with financial advisors and investment fund managers is often affected by conflicts.

By contrast, using well-operating algorithms, robo-advisors generated through FinTech are able to manage retirement investments efficiently, transparently and at a much lower cost, making these services affordable to a wide range of people. They employ a personalised approach and take into account the interests and risk appetite of each customer, throughout their lifetime, which may lead to a radical transformation of the retirement savings market. While the most affected generation over the age of 50 has a significant proportion of financial instruments available for investment, so far FinTech innovation has been less targeted at older adults, many of whom are unable to develop an adequate retirement saving strategy due to a relatively low level of financial awareness. FinTech companies and solutions thus have huge market potential worldwide.

Employing broad technological foresight, mapping market developments and stakeholders' expectations, and based on a number of empirical analyses conducted in the US, the collection of studies aims to outline the breakthrough

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impact of FinTech on retirement saving schemes. It assesses in detail the specific characteristics of the target group and takes into account the services that robo-advisors will be able to provide more efficiently in the future. Finally, it puts forth proposals to supervisory bodies for the proper supervision of robo-advisors.

The spread of robo-advisors during the accumulation period

While social confidence regarding the ability of the public pension pillar to generate retirement income over the long term has been undermined (in Hungary, this was accompanied by major transformation of private pension funds), a significant part of the population does not have the savings required to maintain their pre-retirement standard of living. They also lack the minimum amount of investible assets expected by financial advisors and investment fund managers. Therefore, it is not surprising that there is significant market demand for affordable, reliable advice on retirement savings.

As a result of technological development, FinTech now offers data-driven, personalised products that meet customers' evolving expectations. In conjunction with improvements in customer experience, the increasing availability of data sources has paved the way for marketing new, previously unimaginable financial products. Outside the scope of personal advising, customers are now able to use various online channels, including network connections, to seek financial advice, enabling them to compare their financial position and needs with those of similar customers, thus tailoring the financial services and customer experience to their own needs.

Robo-advisors work transparently, based on modern portfolio theory, mathematics, statistics and data mining. The establishment and management of automated investment portfolios are based on empirically tested and adequately validated methods. Robo-advisors offer a digital environment that allows customers to gain a better insight into different investment options, while outlining prospective scenarios, including the likely consequences of each decision.

The authors believe that scientific development in genetics may radically change our decisions on financial planning, since genetic information can now be used to more efficiently diagnose, prevent and manage diseases and to more reliably estimate life expectancy and the factors related to life expectancy at an older age. In view of such information and turning it to proper use, the demand for financial products and services may change substantially, and thus finance, genetics and information technology may interact to transform the market. However, the possession of genetic data raises a number of ethical and data protection issues. In the age of *big data*, data can be easily disclosed and sold without customers being aware of their personal data being used. The data may be used to authorise life insurance contracts or for other illicit purposes, as shown by the film *Gattaca*, among others.

According to the authors, the primary target group of robo-advisors can be defined using the following criteria, without distinguishing between people before retirement and retired persons:

- they accept technology-driven solutions that do not require human intervention;
- lack the minimum amount of assets required by traditional financial advisors;
- are indifferent to and/or have low confidence in the traditional financial intermediary system;
- have a 'do it yourself' attitude;
- have confidence in passive, index-following investment strategies, but mistrust the added value of active portfolio management by humans;
- require less complex and inexpensive 'off-the-shelf' investment solutions.

Robo-advisors are currently a relatively new phenomenon on the investment market. However, the market is highly competitive, with traditional competitors, incumbent robo-advisors and new entrants all present, which leads to significant technological development and innovation throughout the value chain. According to the authors, that trend is expected to increase.

The role of robo-advisors during the decumulation period

There is surprisingly little discussion about the decumulation period in relevant studies and in investment practice, although it may have an even greater potential for FinTech solutions than the accumulation period. The 4 per cent rule of thumb is often applied on the market for defining the amount that can be safely withdrawn from a portfolio each year without jeopardising it. However, this does not quite match the spending patterns of the retired who tend to increase their spending immediately after retirement and then spend less later on, while during the final part of their lives, their spending increases again due to hospital treatment or elderly care.

The use of accumulated financial assets should be subject to a number of decisions, including the following:

- should financial assets be annualised and, if so, when and how;
- preparation for uncertain and unavoidable costs (e.g. hospital treatment);
- how much money can one withdraw each year without risking a premature overdraft of the invested amount;
- the order in which the funds should be drawn from various accounts.

While the right utilisation model would maximise utility throughout a customer's lifetime, it is a complex task based on various factors. While the choice among

alternatives depends on consumer preferences, decision support can offer substantial added value. The authors have identified the following automated robo-advisory services for the decumulation period, noting that no single service provider is currently able to provide these services at the same time:

- allocate the accumulated assets to the expected declining life stages;
- support annualisation decision-making;
- optimise the application for social security pension;
- optimise the choice of a health insurance fund, predict the expected health-related costs;
- rationally select and schedule withdrawals from multiple accounts;
- continuously calculate the amounts that may be spent freely and safely on consumption.

A recent survey of the relevant service providers in the US has shown that these services are currently provided (separately) by human advisors even at companies that operate robo-advisors. That, however, will soon change.

Recommendations for supervisory authorities

Since supervisory authorities intend to ensure financial stability and secure access to financial services, on the whole, the authors clearly recommend that low capital-intensive technologies and the entry of FinTech firms to the retirement savings market should be encouraged. However, based on their conclusions, this does not mean that supervisory authorities should provide forecasts concerning the potentially viable technologies. Similarly, they recommend that no top-down structural changes be imposed on the currently strong market players.

It is recommended that supervisors stipulate that where robo-advisors are employed, the service providers concerned be obliged to record, in a retrievable form similar to black boxes on aircrafts, all decisions and transactions made by robo-advisors in order to enable subsequent assessment. Similarly, supervisory authorities should draw up requirements (not data sources or algorithms!) for robo-advisors, along with the supervisory validation tests verifying their compliance. However, according to the authors, the real test for robo-advisors may be their performance during the next financial crisis.

At the same time, it should be noted that robo-advisors cannot in themselves offer a solution for the low financial awareness of the persons concerned. It must be kept in mind that, even in the 21st century, many people still have no idea why and how the value of a security changes, let alone to make decisions on the basis of modeled probability.