

Erkki Liikanen: Digitalisation – old game, new rules or an entirely new game?

Remarks by Mr Erkki Liikanen, Governor of the Bank of Finland, at the Payments Forum, Helsinki 10 May 2016.

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Digitalisation and the economy

Digitalisation means wide-ranging use of information and communications technology in the renewal of business models. Digitalisation is a technological change that both enables new ways of doing things and introduces new instruments to all the sectors of the economy. Long-term economic growth and the rise in the standard of living are based on improvements in labour productivity. Digitalisation can be an important factor in this equation.

Productivity growth means that we achieve more with the same resources. Digitalisation may also help create entirely new products and services in which productivity is higher than before. At the same time, new players will challenge traditional ones. That is precisely why digitalisation and related innovations have great potential.

There are positive expectations associated with digitalisation, but also concerns. On the one hand, it is expected that digitalisation will increase productivity and improve competitiveness. On the other hand, there are fears that digitalisation will increase income disparities and inequality.

Among economists, there are two prevailing views on the opportunities and significance of digitalisation. The pessimists consider that digitalisation's accelerating effect on economic growth is already fading. The best is already behind us.

The optimists, in turn, predict that new technologies will trigger a sharp increase in productivity in the near future. They point out that development often pleasantly surprises us in the long term.

Why would we now be on the threshold of a new breakthrough in digitalisation? After all, we have been using computers and digital technology for a long time now, and the financial sector has already experienced a revolution as a result of digitalisation in the 1990s.

We are living in a very different technological environment than a decade ago. Use of information and communications technology, or ICT, has increased massively and the price of communications has plunged as a result of competition and technological development.

ICT has become such an inseparable part of everyday life that it is often difficult to notice the speed and scope of change. A decade ago, one quarter of Finns had never used the internet. Today, the corresponding figure is a few per cent. In 2003 40% of Finns used the internet daily. Last year, over 85% of them were doing so.¹

Use of smartphones and tablets in particular has grown rapidly. The amount of data transferred on mobile networks has nearly doubled every year for the last decade.²

At the same, real consumer prices for information and communications technology have fallen steeply. During the past two decades in Finland, prices of communication services

¹ Source: Eurostat, Information Society Statistics, accessed 2 May 2016.

² Source: Finnish Communications Regulatory Authority, Mobile data transmission volume, accessed 2 May 2016.

have fallen by a half and prices of information processing devices have tumbled to less than one tenth of their former level.³

Moore's Law is a familiar concept. In 1965, Intel founder Gordon Moore observed an important trend in the efficiency of computers. Moore's Law, which is named after him, states in its present form that the number of transistors in a dense integrated circuit doubles approximately every two years. Although the breakdown of the trend has been anticipated for a long time, Moore's Law has described development surprisingly accurately over the last few decades.

Economists are fairly unanimous that the most significant impact on economic and productivity growth arises from so-called general-purpose technologies. The steam engine, electricity, and computers have been inventions that could be utilised widely in different sectors of the economy. They have enabled the organisation of production in completely new ways, and accelerated productivity growth enormously.

ICT also fits the definition of a general-purpose technology very well. It is possible to use information and communications technology in nearly every sector of the economy. Digitalisation, too, is all about the harnessing of new technologies for use throughout the economy. The financial sector is no exception in this.

In recent years, digital platforms and the platform economy have become an integral part of the current technological revolution. Many of the world's most valuable companies in terms of market capitalisation have been in business for only a few years. Of course, when examining market values it's worth remembering that they can change very quickly, as happened in the dot-com bubble around the turn of the millennium.

In any case, the success of many companies that have grown rapidly in recent years has been based precisely on platforms. Uber, Facebook, Alibaba and Airbnb are all companies whose business is based on a digital platform. A platform is an operating model that facilitates value-creating interaction between external producers and consumers.

A platform has two functions: it provides a framework for interaction, and it sets the ground rules for interaction. The aim of a platform is to create a favourable environment for various parties where they are free to innovate and generate added value from which everyone benefits.

It's said that Uber is the world's biggest taxi company, even though it doesn't own a single taxi. Facebook is the world's most popular media company, even though it produces no content itself. Alibaba is the world's most valuable retailer, even though it has no inventory. And Airbnb is world's biggest accommodation provider, even though its owns no real estate.⁴

Underlying the enormous growing power of platforms are network effects. The value of a platform for its users grows as the platform grows. Each new user also increases the value of the platform for old users.

Successful platforms have succeeded in creating a virtuous circle, which feeds on itself. New digital technologies have removed constraints on growth, enabling rapid scaling of business operations.

The significance of platforms is emphasised in sectors where information is a key production factor. That's why platforms are closely associated with payments, because payments are essentially exchanges of information.

In many sectors, new digital platforms have not only accelerated development; they have shaped the nature of an entire activity in a fundamental way. Digitalisation has brought new

³ Source: Statistics Finland, Consumer Price Index, accessed 2 May 2016.

⁴ Source: Tom Goodwin, The Battle Is For The Customer Interface, Techcrunch, 2015.

players on to the field and changed the rules of the game. Like many other sectors, the financial sector also has a major issue to confront: Will digitalisation simply bring speed to an old game, or will it be a totally new game?

It is important that Finns are involved in the development of the platform economy – not just using existing platforms, but also developing new ones.

The EU has done much towards the development of a digital single market. Technological standards, freedom of movement, uniform copyright and information security legislation, and the availability of affordable broadband connections are prerequisites for an innovative and competitive digital economy in Europe.

It should be remembered that Finland has not been without success. In its time, Nokia succeeded in creating the largest platform in its sector, and this was highly significant for the entire economy.

When we consider the role of the central bank as digitalisation changes the financial sector, in this we can also see some characteristics of a platform. As a member of the Eurosystem, it is the Bank of Finland's task to maintain price stability. Price stability is an important prerequisite for sustainable economic development. People and companies can focus on innovations and creating wellbeing, instead of wasting their energy protecting themselves against inflation.

With regard to financial stability, the Bank of Finland's task is to ensure the credibility and efficiency of the financial system and to participate in its development. The central bank is the bankers' bank. The services that the central bank provides are a platform for interaction between banks.

The central bank and the financial supervisory authority also participate in setting common ground rules. The ultimate role of ground rules – and regulation in general – is to create for the interaction of the various economic actors a setting in which a stable financial system contributes to promoting growth and wellbeing.

An important characteristic of a platform is that it brings different actors together to interact with each other. That's why the Bank of Finland has convened the Payments Forum today, for the tenth time. Its aim is to promote cooperation between Finnish actors and the formation of a shared vision on the development of payments.

Digitalisation in the financial sector

Digitalisation also facilitates completely new kinds of operating practices in the financial sector. Are we now at an inflection point where digitalisation will change much of, or even the whole, sector decisively? To assess this, it's worth looking back in time.

Banks invested heavily in information and communications technology in the 1980s. In this, Finnish banks were in the vanguard of development. Internal processes were modernised and ATMs appeared everywhere.

In the second half of the 1980s, deregulation gained momentum. Capital imports were liberalised. Bank lending increased sharply and the indebtedness of citizens and businesses grew. Then the bubble burst and was followed by a banking crisis. Among other things, it forced the bloated banking sector to increase its productivity rapidly. Utilising the ICT investments made under the protection of regulation, operations were rationalised, the branch network was pruned and productivity was increased.

Shortly after the banking crisis came the breakthrough of the internet. Customers began to access online banking services from home. Banks provided services in branches, via ATMs, by telephone and with online banking. Finnish banks soon succeeded in persuading their customers to use online banking services, and as a result the number of bank branches in Finland is now low by European standards.

What are the effects of digitalisation today? The smartphone, open APIs, open source codes, cooperation and platforms are the key words of digitalisation. Digital financial services are generally obtained just as easily or even more conveniently than from a branch. In some countries, branchless banks have also appeared alongside the multi-channel banks.

What kind of change is the financial sector now facing? Can it be compared with the transformation seen in the 1990s?

In addition to traditional competition, those operating in the financial sector are now also being challenged from many new directions. On the one hand, the big players, such as Apple, Google, Amazon, Facebook and Alibaba, are exerting pressure on traditional providers of financial services. They are operators whose success is based on the intelligent harnessing of digital platforms and networks. When it comes to payments or trade financing, they are already operating in the field.

On the other hand, there are also small start-up companies that are developing specialised financial services. They focus on some specific area of expertise, and strive to make competitive products there. Ease of use is often a competitive advantage.

In the new competitive situation, some of the traditional operators have forged new partnerships with each other or have started cooperating with new players. Many banks have established start-up accelerators and incubators for Fintech businesses or have made significant private equity investments in start-up companies.

We will hear more on these topics in the morning presentations of this Payments Forum.

In digital markets, expertise and speed play key roles. In competition, among the strongest players are those who are able to develop innovations and disseminate them rapidly. Development costs are high, distribution costs are generally low.

Finland's population is small, even though the country is large. In relation to our size, however, we have a lot of technological know-how and a highly developed infrastructure. Other important factors are access to capital and financing at different stages of the life cycle as well as an innovation-friendly business environment.

What are the visible expressions of platforms and networks in the digitalisation of today's financial sector?

Notable financial market platform phenomena include, for example, peer-to-peer lending and crowdfunding platforms. In peer-to-peer lending, the financing mediator, such as a bank, is replaced with a peer-to-peer lending platform, and lenders provide finance directly to borrowers.

Platforms also offer equity-based and other rewards-based crowdfunding. Investors may be private individuals in addition to institutional investors. In Finland, loan- and investment-based crowdfunding for business activity will be regulated through the coming Crowdfunding Act.

Platforms and networks are also at the heart of blockchain technology. Blockchain technology, which drives Bitcoin, for example, also facilitates transactions as well as the saving and distribution of information without a trusted third party. The technology can be applied in many different ways. Thus there are already plans to store securities, contracts and transactions using blockchain principles.

If blockchains are used only for more efficient storage of information and ensuring consistency, the change will not be revolutionary. But if blockchains result in a redefinition of the role of trusted parties, the changes may be potentially very great.

Digitalisation in the payments market

Digitalisation in its various forms has already been a theme at previous Payments Forums. The effects of digitalisation have been powerfully reflected in the payments market in recent years. Many new actors, offering their own new payment applications, have appeared.

It should be noted, however, that these applications often make use of traditional payment instruments, notably card payments and credit transfers, operating in the background. As a result, changes in the background payment systems, have been quite limited.

In the future, the situation may be different if numerous studies under way, for example to exploit blockchain technology, prove to be successful.

One essential driver of digitalisation is young people who are accustomed to doing everything via the internet, often on a mobile device. In their view, payments must be convenient and easy for the user and available 24 hours a day.

New players entering the market have created operating models that place the user at the centre of payment services. This challenges traditional operators, who must respond to the challenge.

Perspectives on future payment trends are provided by a Payments Council electronic booklet published today: *How will we pay in the 2020s?* [In Finnish only]. The subject will also be discussed in the panel that ends this Payments Forum.

Ease and convenience are the features required of payments in the future. From a monetary authority's perspective, security and reliability should be added to the list. Without trust, even the easiest to use payment method will not survive in the market.

Real-time payment transmission will be an essential element of the digitalisation of payments in the future, as will 24/7 availability of services. This is also an area of focus in the Eurosystem. The Euro Retail Payments Board, in turn, is promoting the introduction of pan-European instant payment solutions.

Technological advances and the entry into the market of new actors and practices are also a challenge to regulation. It is important to strike a balance: on the one hand regulation must ensure the reliability and safety of payment services, but on the other hand, it must also enable the introduction of new innovations.

In Finland, many important payment-related projects are under way, such as utilising the data content of electronic invoices, bank statement information and information contained in purchase transactions, and also the construction of an income register. The projects may, if successful, bring significant benefits and cost savings to consumers, businesses, financial service providers and also to the public sector.

Reliable and secure payment systems are vital for the financial system and the functioning of society as a whole. Reliable, secure and efficient payment services that openly and extensively utilise the opportunities of digitalisation may also help stimulate productivity growth in the economy.