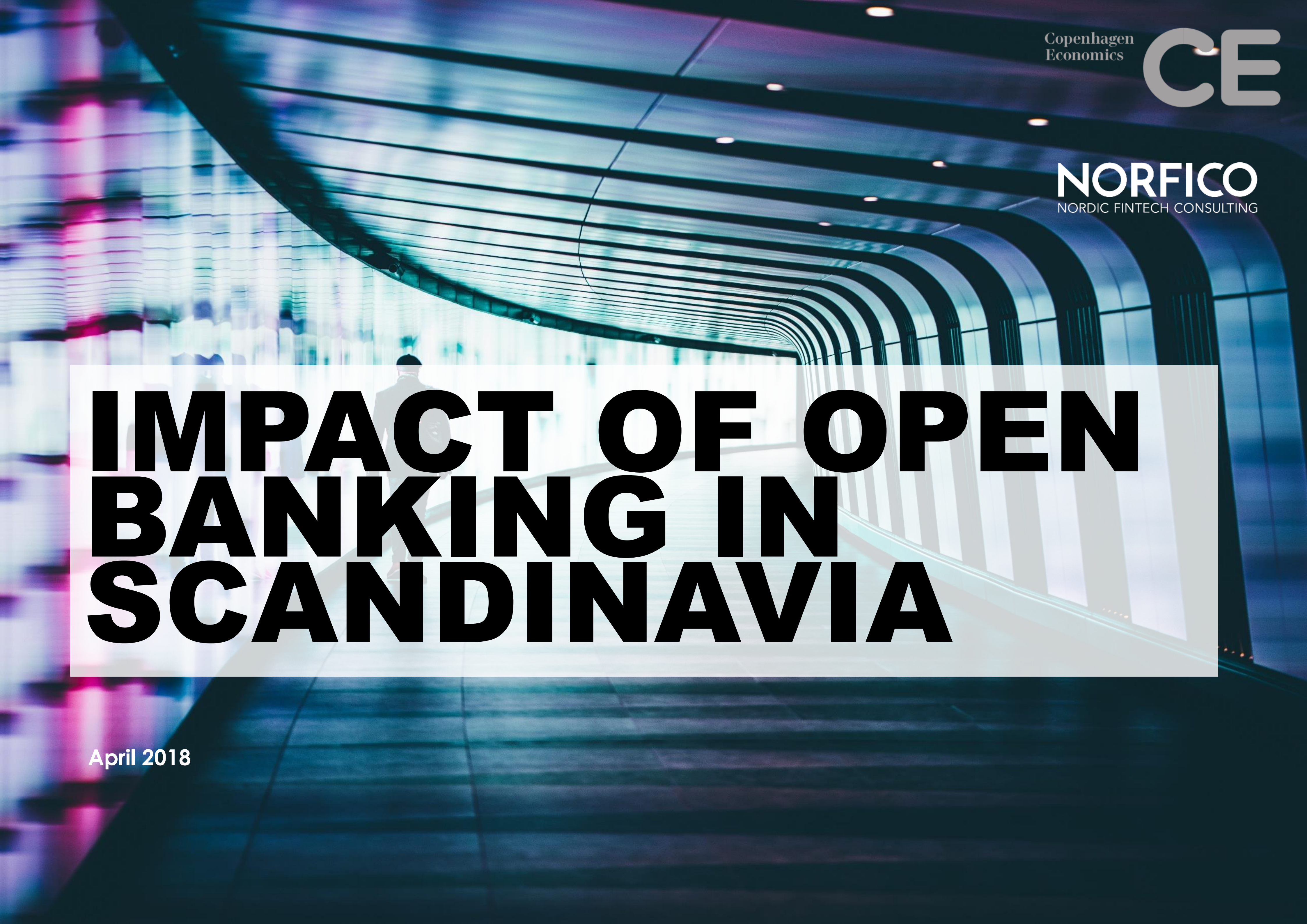

Copenhagen Economics

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IMPACT OF OPEN BANKING IN SCANDINAVIA

April 2018

Is digitisation about to change the value chain in the Scandinavian banking sector?

Digitalisation has already in a number of ways improved customer experience and intensified competition in the Scandinavian banking markets. However, so far, digitisation has left the structures of the banking sector somewhat unchanged. This might be about to change as new regulation and digitisation could open up the value chain in financial services – a process denoted "open banking".

In this paper, we provide our vision on how this could impact the banking markets in Scandinavia and the challenges and opportunities it entails.

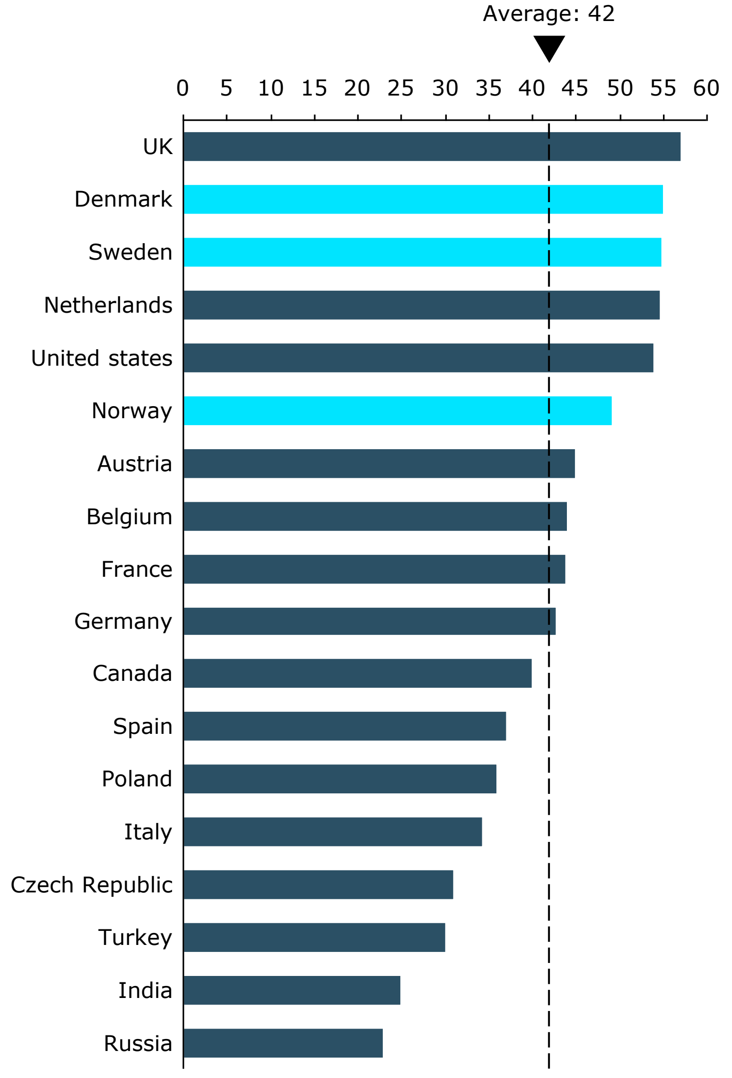
The Scandinavian banking sector is one of the most digitised in Europe, *cf. figure*. Foremost, the digitisation has reduced the operational costs of Scandinavian banks, paving the way for cheaper financing for customers, through:

- The closing of branches and digitisation of information
- More self-service through internet-based platforms
- Digital payments have reduced the need for cash handling
- Automation of manual processes in back-office operations

In addition, digitisation has eased the process of switching and made it easier for customers to have several banks. Going forward, we see that this process will accelerate; the Scandinavian banking markets are starting to see so-called "customer platforms" (or demand aggregators), which collect different accounts in one interface for example as "Tink". This allows customers to pick the best offers from different banks, intensifying competition.

Thus the digitisation process might be about to impact the value chain in financial services. This process is denoted "open banking" and have the potential to significantly impact the competitive dynamics in Scandinavian banking, as described in this paper.

Digital banking readiness index, 2016



Source: A.T. Kearney and EFMA global retail banking study, 2016

PSD2 will have a significant direct impact on the banking market

During 2018, the revised Payment Services Directive – PSD2 – will be implemented. This will (together with the new data protection regulation act, GDPR) impact the dynamics on the Scandinavian banking market [1]:

PAYMENT INITIATION SERVICE PROVIDER (PISP): THIRD PARTIES CAN INITIATE ACCOUNT BASED TRANSACTIONS ON BEHALF OF CUSTOMERS

PSD2 will allow third-party providers to initiate account-to-account transactions on behalf of the customer. Consequently, PSD2 will blow the competition on payment services wide open and greatly diminish transaction costs on payments. In Scandinavia, payment solutions is already a highly competitive domain, with many alternative payment solutions such as Klarna, Mobilepay etc.

As payments in itself is not a major revenue generator for banks as such, we assess that the direct impact on fees earnings from payments in Scandinavian banks will be limited.

However other players more tightly bound to card-based payments stand to face greater challenges on earnings and the current card-paradigm will likely be impacted.

ACCOUNT INFORMATION SERVICE PROVIDER (AISP): CUSTOMERS CONTROLS THEIR OWN FINANCIAL DATA AND CAN GRANT ACCESS TO THIS TO WHOM THEY CHOOSE

Scandinavian banking customers with several banks can collect all their services in one interface, called a “customer platform”.

Before PSD2, banks needed to cooperate actively with third-party provider to enable an aggregated overview of a banking customer’s various accounts across different banks. With PSD2 (and GDPR), the banks will – by law – have to give this information to third-party operators if approved by the customer.

Direct consequences of PSD2

PSD2 will accelerate innovation and the digital transfor-mation

PISP

- Allows for third party providers (TPPs) to initiate account based transactions on behalf of the bank customers

AISP

- Bank customers control access to their payment account data
- Bank customers can grant data access to TPPs

1) See Datastax (2016).

Has PSD2 ignited a transformation of the banking sector?

EU POLICYMAKERS AIM AT GIVING NEW TECHNOLOGY FULL IMPACT

PSD2 differs from most new regulatory measures as it does not only regulate the current banking market but also incorporates likely future technological advances. In this way, the measure can be seen as a somewhat visionary legislation that pushes forward competition and innovation in the sector.

Consequently, banks can expect PSD2 and future directives to continuously be modified, while being implemented to ensure that the legislation will have the intended effect; the implementation of the measure is learning-by-doing for both banks and regulators.

In general, we see PSD2 as a result of a dedication of EU policymakers to enable current and future technological advances to have full effect on competition in the banking sector. We therefore also see it as being likely that PSD2 will be followed by new regulatory measures from EU policymakers, enabling a single digital market for financial services in the EU.

PSD2 IS THE FIRST STEP TOWARDS OPEN BANKING

As mentioned on the previous page, PSD2 will allow a third-party operator to:

1. Make "customer platforms" available that provide an overview of different accounts for the customer's various banking services
2. Initiate account based payment transactions on behalf of the customer

This means that banking customers can – at least to some extent – use the customer platform to control their finances, i.e. use the customer platform as their de facto bank, which is the first step towards open banking. With innovations and possible future regulatory measures aimed at utilising the innovations, open banking could be expanded to cover other aspects of financial services, and as such fundamentally change the financial sector.

In this "new" value chain of the banking sector, customer platforms will be the portals where banking customers access financial services. These customer platforms will then pick the best financial services from different banks (through a digital marketplace), *as seen in the figure on the next page*. Open banking will thereby be able to offer financial services which are unrivalled in terms of flexibility and price, *see an example of a customer journey in the box on page 6.*[1]

Banks themselves can take on the role of a "customer platform". For example, Danske Bank will soon allow its customers access to accounts other than their Danske Bank accounts in Danske Bank's net banking interface, i.e. Danske bank will operate as a customer platform.

A potential consequence of this new value chain is that the "production" of financial services and customer contact will become more disentangled; the financial company having the contact is not necessarily the company that has the customer's loans on its books.[2]

On page 8, we will outline the factors that will be important for the speed of development. First, we will on page 6 describe how we see a fully divided value chain within finance has the potential to impact the dynamics on the banking market.

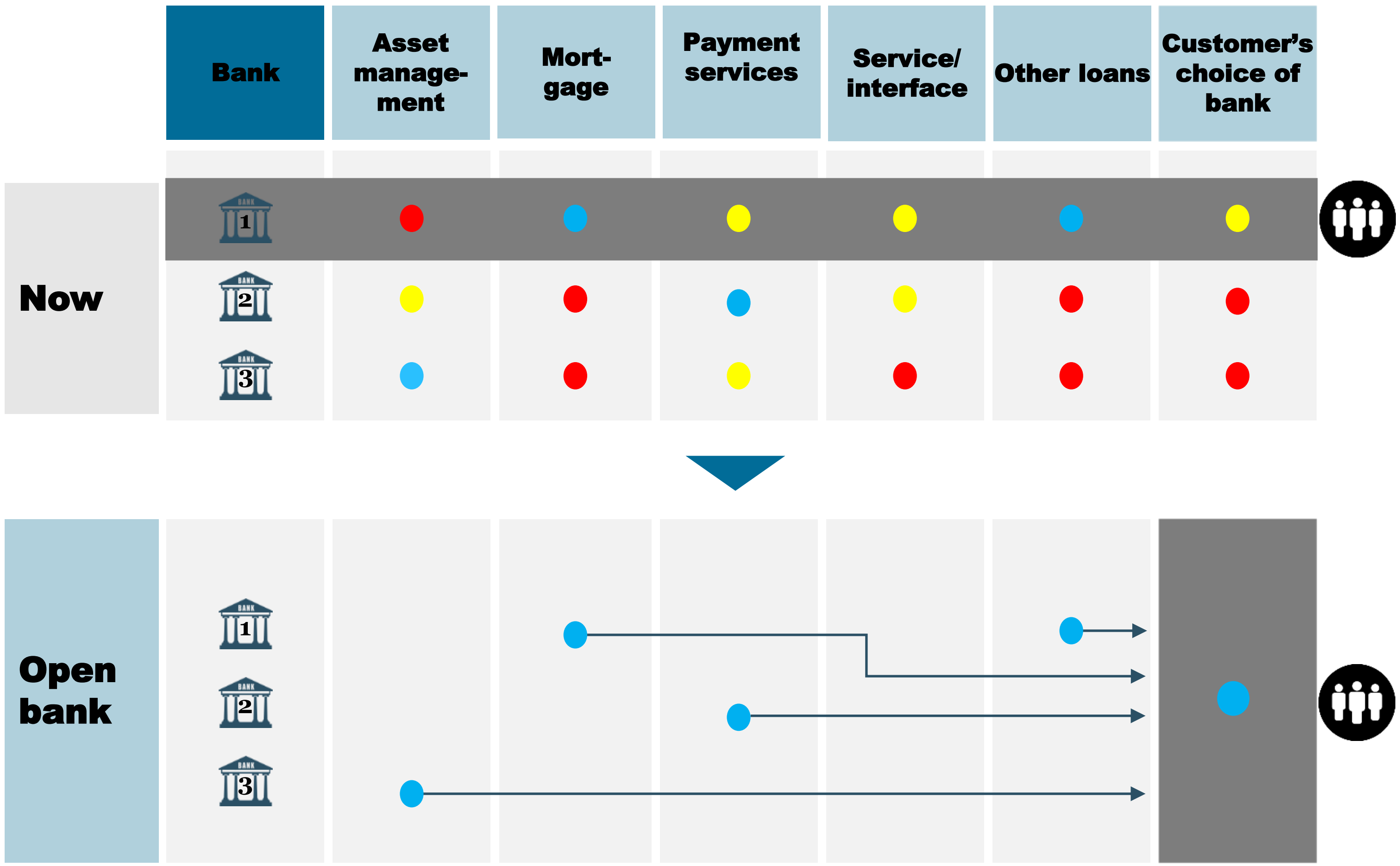
Big techs are likely to make their entrance to become customer platforms

Big Tech companies such as Google, Apple, Alibaba and Amazon are embracing financial services. Apple has already introduced payment services in Scandinavia, and Amazon has started credit services for SME (so far only in the US). Alibaba's Alipay is already a big player in payments in China and beyond.

In the past ten years, the Big Tech companies have been enormously successful in servicing the mass market, and we see it as likely that some of the Big Techs will seek to transfer this success to finance and start offering financial portals for their customers. As such, banks that seek to become customer platforms could see themselves competing with Big Techs.

1) Countless white papers discuss the implications of open banking, see for example Mulesoft 2017, Evry (2017) or Deloitte (2017).
2) See Oliver Wyman (2016) for a discussion on the implications of "modular finance".

Illustration of how open banking works



- Today, the customer can only choose one bank.
- The customer chooses the bank, which has the best services **on average** (marked with grey).
- This does not necessarily give the best service for each product category (as for example low-quality asset management in this example).

- Going forward, customer platforms will provide the interface for the customer.
- It will choose the best financial services from a range of different providers.
- This will give the consumer access to high-quality products for all product types.

Quality of product: Great Okay Bad

How we see open banking could impact the value chain in finance

Exactly how the divisions in the value chain will materialise is naturally highly uncertain and will most likely vary between different customer segments and countries. In addition, how each company will be structured and operate will vary greatly and take many forms. As a simplification, we have, in the figure on the next page, split the value chain in three and provided a generic description of each part.[1]

It will be up to the individual banks to decide where (and how) they see most value for them in this new value chain:

- Many banks will probably seek to take different positions within different customer segments or products. Where each bank has an advantage within each business segment depends on its structures, such as funding costs, capital costs, scale, local knowledge, reputation etc.
- Other banks could seek to become product manufacturers or customer platforms only. For example, Spain's second-largest bank, BBVA, has decided that it will eventually cease to have the banking book of their customers and focus solely on becoming a customer platform, the reason being that it does not want to have any "conflict of interests" in providing the best financial services to their customers.[2]

LIMITED POSSIBILITIES FOR CROSS-SELLING

For a product manufacturer, the possibilities for cross-selling will be limited:

- Information used for credit assessments will flow freely, and there will be little advantage in already having the customer on the banking book.
- Consequently, banks will not compete on providing the best packages of services to customers; each individual financial product will have to be best-in-class for it to be supplied on the market. Therefore, we also see it as likely that product manufacturers will become more specialised.
- On the other hand, if a product manufacturer holds an absolute advantage within a given product, the potential for growth will be huge.

In general, there will be competitive pressures in each part of the value chain. As such, competition will move from being at an institutional level – i.e. the "choice of bank" – to being at the product level.

For example, different customer platforms will compete on servicing the needs of customers, "marketplace providers" will compete on most efficiently matching customers with the best products and service providers will compete on providing flexible banking products at the lowest possible costs.

Example: a customer journey in an open banking value chain

To illustrate how open banking could work, we here give an example of the process of granting a car loan in an open-banking value chain (see also figure on page 7).

A banking customer uses a "customer platform" as her main portal to access financial services. She already has accounts and loans with different banks, all through her customer platform. The customer now decides to buy a new car and needs financing. She types in her request on her customer platform, i.e. the amount she wants to borrow and her preferred repayment profile. The customer platform then puts out the request in a digital market place, which allows different "product manufacturers" to bet for the loan, competing on who can offer the banking customer the lowest effective interest rate and the repayment profile closest to her wishes.

Beforehand, the customer platform has gathered all the latest financial data from the various financial institutes that provide financial services to her. This information is provided to all participants in the digital marketplace to ensure that each "product manufacturer" has enough information to provide her with a loan offer. The entire process could be fully automated, meaning that the customer will be granted a new loan from the best provider moments after she has sent the request.

1) Oliver Wyman (2017) presents a similar future value chain of financial services.

2) For a discussion of the implications of open banking, see http://www.bbvaopen4u.com/en/actualidad/open-banking-or-how-banks-are-transformed-apis

3) World Economic Forum (2017) points to Big Techs as the future biggest competitors for incumbent banks. A discussion that is picked up by Oliver Wyman (2018).

We move towards a more divided value chain in finance

Moving towards specialisation in a certain part of the value chain for each business line (retail, businesses and corporates)

Customer platform

- Provides a hassle-free and uninterrupted flow of the best financial services the market has to offer.
- "Owns" the customer and is entirely focused on customer needs.

Key challenge:
- Fierce competition from other incumbents, Fintechs and Tech giants will drive margins down.

Capabilities needed:
- Easy-to-operate customer-focused interface.
- Marketing and collaboration with other platforms to attract customers.
- Behavioural science and customer research.

Market place provider

- Links customers with financial service producers.
- Transmits financial data needed in credit assessments.

Key challenge:
- Only room for very few within each customer type.
- Margins close to zero.

Capabilities needed:
- Easy access through open API.
- Big data analysis.
- Data and transaction process efficiency.
- National compliance transmission between countries.

Product manufacturer

- Produces financial services, with great flexibility and low cost.
- Can specialise in one or several services.

Key challenge:
- Requires bank licence and regulatory compliance.
- Legacy costs.

Capabilities needed:
- Capital management.
- Balance sheet and price optimisation.
- Risk management.
- Regulatory compliance and streamlined back-office functions.
- Economies of scale.

Common capabilities:
- Automated processes front to back, speed is important.
- Strong cost efficiency as margins will be very low
- Cyber security and protection of personal data.

We see a gradual transformation as the most likely scenario

The impact of digitisation in general and open banking in particular is highly debated, and opinions range from "financial services will more or less stay the same", to "financial services have experienced their "Kodak-moment"[1].

We see both statements as exaggerated; we do see it as likely that the structures of finance will change, however:

- We see it as likely that the process will be gradual, with new platforms existing alongside the traditional for years to come.
- Although incumbent banks will face new competition from Fintechs and Big Techs, we still believe that the majority of the competition will be among current banks, exploiting new platforms to onboard new customers. Hence, we see the changing structures primarily bringing increased competition to players already on the banking market.
- In order for open banking to be fully realised, both new innovations and new regulatory measures are needed. Therefore, the development is relying on policy makers' continued support to promote competition and innovations within the sector.[2]

CONTINUED RELIANCE ON HUMAN ADVICE

Despite increasing reliance on digital interfaces and automated processes, we still see it as likely that many customers will seek human advice when making major financial decisions – both corporate and retail customers.[3] As such, we still see a need for service hubs, either call centres or traditional branches, where customers can get personal advice.

Nothing prevents new third-party customer platforms from opening call centres or even opening branches. Nevertheless, the incumbent sector (and in retail in particular banks with a regional focus) will have an advantage in this domain as they already have an established network and have local knowledge.

Finally, it should be noted that for many Scandinavian banking customers, the potential gain from switching to open banking platforms may not be major (at least initially), given the already strong cost-efficiency of Scandinavian banks.

In this sense, it is more up to the Scandinavian banking sector to choose whether to exploit the opportunities in open banking. Also compared to the banking sector in other European countries, which might simply be pushed out of the market by the strong competitive pressure from open banking platforms.

A FULLY DIGITALISED BANKING SECTOR COULD INCREASE INTERNATIONAL COMPETITION

A single digital market within finance is a long-term goal of the EU Commission. A fully digitisation and segmentation of the value chain within finance could prove to be the steps needed in order to realise this goal as physical proximity matters little when services are digitalised. The main obstacle in this regard is the enduring existence of different legal and regulatory compliance standards in the various EU member states.

Consequently, we expect the internationalisation of financial services to happen gradually; first, national "open banking" pulling various services from national product manufacturers, then Nordic competition among countries with relatively similar cultures, structures on the banking market and legislation. We still believe that it will be some time before competition within banking becomes fully European within all services.

The degree of internationalisation will also vary greatly between different financial services and between different business lines (retail, SME etc.). Corporate banking is already quite international, with large companies shopping among large banks in Europe to obtain the best finance. In retail, we have on the one hand payment services, which are very generic and can easily be supplied from abroad, and on the other hand the Scandinavian mortgage market, where the collateral is physically tied up in a given country, with country-specific collateral rules, hence having strong legislative barriers.

1) See https://www.reuters.com/article/banks-face-kodak-moment-as-fintech-disru/banks-face-kodak-moment-as-fintech-disruption-builds-idUSL8N1NJ6E8

2) See Evry (2017).

3) See World Economic Forum (2017) p. 12.

The digital transformation is a great opportunity for Scandinavian banks

We see the Scandinavian banking markets as being very well-positioned in meeting the increased competition caused by the digital transformation for at least five reasons:

1. **DIGITISED:** The Scandinavian banking markets are some of the most digitised banking markets in Europe, which will ease the switch to open-banking platforms.

2. **STRONG TECH SECTOR:** The Scandinavian capitals are already centres for new innovation in fintech.[1] This constitutes a great opportunity for Scandinavian banks to team up with fintech players to improve customer experience and get access to new platforms.

3. **FREE FLOW OF INFORMATION:** One of the challenges that open banking poses to the incumbent sector is, that a freer flow of information removes the advantage of providing loans to customers already on the banking book. However in Scandinavia, there are already substantial data available for new banks to make credit assessment, and as such, incumbent banks hold less advantage in serving their own customers.

4. **COST-EFFICIENT:** The Scandinavian banking sectors are some of the most cost-efficient in Europe in terms of operational costs, *cf. figure*.

5. **LOW FUNDING COSTS:** Maybe more interestingly, the strong market trust in Scandinavian banks means very low funding costs, which will be a big advantage in "product manufacturing". This trust has been built up over many years and is not easily copied; for an innovative new player, it is possible to compete with the digital infrastructure of the Scandinavian banks, but e.g. Handelsbanken's 145 years of non-default history cannot easily be copied by new entrants, be they fintechs or Big Techs.

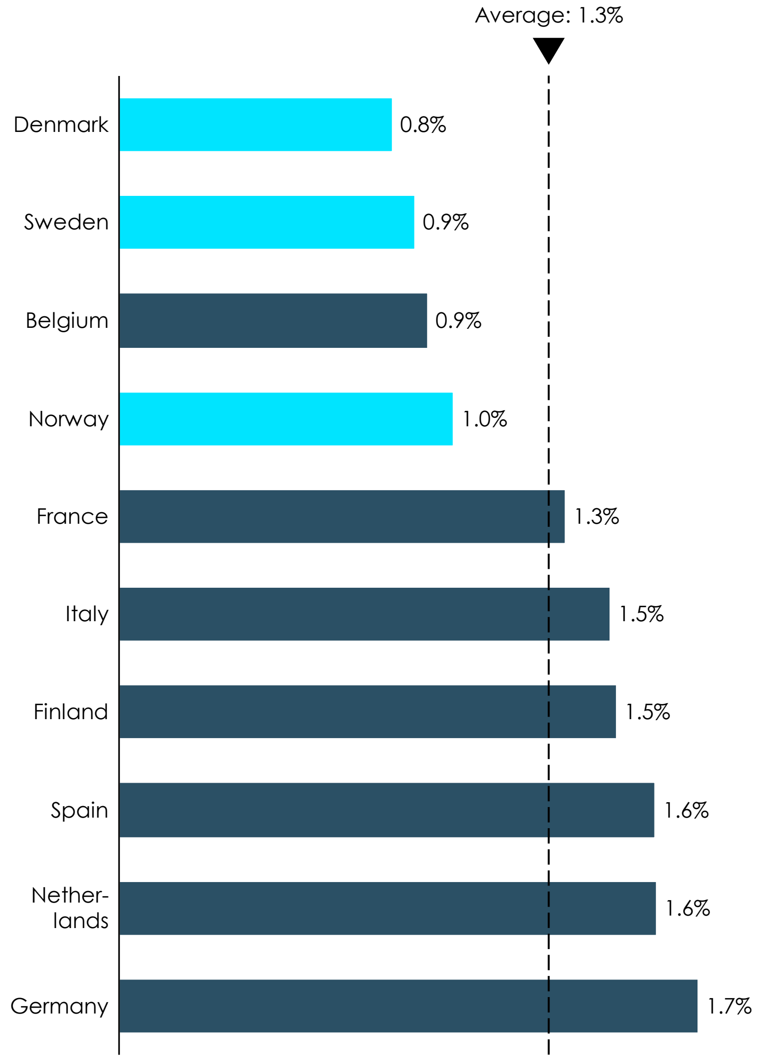
Overall, the digitisation of the banking sector in general and open banking in particular constitute both a threat to the existing business model of Scandinavian banks and an opportunity to expand for those who seek.

Given Scandinavian banks' strong initial position when it comes to both digitisation and core banking, we primarily see the transformation as a great window of opportunity for Scandinavian banks and expect the sector to generally stand to benefit from a greater internationalisation of the banking markets.

Thus, we see the efficient and robust Scandinavian banking system as a great export potential. Especially in areas, which, so far, have had little exposure to international competition, such as SME and retail finance.

Operational costs in 2016

% of total assets



Source: S&P's SNL database

1) See Copenhagen Economics (2016)

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