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State regulation of internet banking in European countries

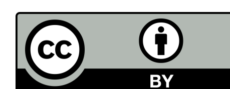
Abstract

The purpose of the study. The purpose of the article is to analyze the state of state regulation of Internet banking in European countries. The subject of the study is the legislation and trends of state regulation of online banking in European countries. The research methodology is based on a comparative analysis of legislation regulating online banking in the EU countries on the example of Switzerland and the UK. The main methods of research are comparative legal analysis, statistical analysis of the development of online banking in the EU countries. Conclusion. The growth of technological innovations in the financial sector and active user demand for financial and technological services have led to the need to develop a regulatory framework for Internet banking in European countries. As a result, the EU seeks to create a single financial space that unites providers and users of Internet banking, so it is constantly improving the regulatory framework. The article defines that the key documents at the EU level for state regulation of online banking are the EU Payment Services Directives (PSD1 2007/64, PSD2 2015/2366, the Reviewed Payment Services Directive PSD2 2021/1230). The main prerequisites for the adoption of the Directive were to create a level playing field for payment service providers, protect consumer rights and increase the provision of payment services by non-banking institutions. It is determined that Directive PSD2 2015/2366 updated the existing legal framework for payment services in the EU and introduced increased requirements for transparency and security. The updated Payment Services Directive PSD2 2021/1230 harmonises business rules for all electronic payment service providers across the EU and creates a tiered authorization regime for non-bank payment service providers such as payment institutions. Commission Delegated Regulation (EU) 2018/389 came into force on September 14, 2019, defining mechanisms for electronic payment transactions and online banking to ensure higher levels of security. The state regulation of online banking is considered on the examples of Great Britain and Switzerland. The Swiss financial sector is one of the most competitive in the world and a leader in cross-border wealth management. It offers a first-class environment for technological innovation and its regulatory system is internationally recognised as exemplary.

Keywords

online banking, regulation of open banking, government regulation of financial and technological services, Internet banking

JEL: E50, E51, E52, E58



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1 Introduction

The European Union has long sought to create a single financial area within Europe that would allow consumers in one country to benefit from financial markets and activities in other countries. With the emergence of the Internet as a platform for providing online banking services and the spread of online and mobile banking in recent years, the creation of a pan-European banking market has become more widespread. This requires continuous improvement of legislation in the field of state regulation of online banking.

The supervision of banking networks, payment institutions and e-money institutions, as well as the licensing procedures differ across Europe. The banking regime is determined at EU level by the European Central Bank (ECB) as a single regulator, while payment and e-money transactions require a national license and are supervised by national regulators. Such nationally licensed and supervised institutions can offer their services in other Member States using the EU passport system. This creates a risk of fragmented supervision or even supervisory competition, which is increasing as the fintech sector focuses on specific services, outsourcing non-

core parts of its business to third parties (including banks). This growing trend has led to a complex network of interconnected financial institutions providing services in Europe, while supervision is fragmented across EU countries. This supervisory fragmentation could have implications for pan-European systemic financial stability, regulatory compliance and consumer protection, as the fintech and big tech sectors become increasingly important and develop at a rapid pace. Accordingly, this requires harmonization of the regulatory framework, supervision of payment and electronic money institutions at the EU level in order to ensure the responsibility of all participants in the value chain of financial services, identify, manage and monitor systemic and non-financial risks.

The study of state regulation of online banking in European countries is devoted to a number of works of foreign scientists (Apostolos, 2006; Delgado & Nieto, 2004; Gkoutzinis, 2010).

The works highlight the problems of development of legislation regulating the financial sector. However, there is no analysis of the chosen direction of research in recent years, which actualizes its study.

The aim of the article is to analyze the state of state regulation of online banking in European countries.

2 General trends in the online banking development in EU countries

December 3, 2020. The European Banking Federation has published a report "Banking in Europe: Facts and Figures" on the state of the banking sector in Europe, which indicates a reduction in the number of staff and bank branches in the European banking sector. These trends continued in 2019 due to the positive perception of banks' customers of electronic payments, online and mobile banking due to the convenience, simplicity, speed of transactions. The European Banking Review 2019 shows that the total number of credit institutions in the European Union has steadily decreased every year during 2008–2019: by 2,544 since the beginning of 2008 to 5,981 institutions in 2019. Widespread networks of bank branches among the population play a less and less important role. The number of bank branches in the EU fell to 163,270, with around 10,000 branches closed in 2019. Compared to 2008, the total number of bank branches has decreased by 31%, or almost 75,000 units, reflecting the rapid expansion of online and mobile banking services in recent years. In 2019, 58% of people in the EU used online banking, up from 25% in 2007. The number of people employed by credit institutions in the EU fell to its lowest level since the ECB measured the figure in 1997, standing at around 2.62 million at the end of 2019, down from 2.67 million in 2018 and 3.26 million in 2008. Approximately two-thirds of all banking staff in the EU work in banks headquartered in one of the five largest EU economies (Banking in Europe – Facts & Figures: Banks continue to adapt to customer demand).

In 2021, 96% of the Norwegian population had access to online banking sites, making Norway the country with the highest internet banking penetration in Europe, followed by Denmark (95%) and Iceland (95%). Online banking is becoming one of the most popular payment methods in Europe, allowing customers of a bank or other financial institution to carry out a wide range of financial transactions through their websites. Therefore, over time, the confidence of Europeans in this system of electronic payments has increased (Arnaboldi & Claeys, 2008; Jakšič & Marinč, 2019).

At the same time, in some countries, such as Germany or Austria, the use of physical cash is significantly reduced (Europe: online banking penetration by country 2021, n.d.).

Internet banking is especially popular among people aged 25 to 34: 68% use this service according to Eurostat 2017. The use of online banking tends to increase according to the level of education of the user. While only 24% of the less educated use e-banking, 77% of those with a higher level of education do (Goldby, 2008; Individuals using the internet for internet banking, n.d.; Eurostat, 2018).

3 Overview of online banking regulation in European countries

The existing EU legal framework for the regulation of online banking is the basis for the formation and standardization of payment transactions in the European Economic Area through two Payment Services Directives (2007/64/EC and Payment services (PSD 2) – Directive (EU) 2015/2366) (Payment services (PSD 1) – Directive 2007/64/EC, 2007).

The main prerequisites for the adoption of the Directive were to create a level playing field for payment service providers, protect consumer rights and increase the provision of payment services by non-banking institutions.

The Open Banking Directive PSD2 was adopted in October 2015 by the European Parliament as a revision of the existing Payment Services Directive 2007/64. The new rules are designed to promote the innovative development of online payments through open banking. Directive PSD2 2015/2366 updated the existing legal framework for payment services in the EU and introduced increased transparency and security requirements. In particular, the requirements for payment transactions where there is only one payment service provider in the EU are defined ("Open banking PSD2 regulation in the EU," 2022).

In legal terms, PSD2 defines a list of services, obligations, and definitions for market participants. The most relevant ones are ("Open banking PSD2 regulation in the EU", 2022):

1. Strong Client Authentication (SCA) is a type of advanced authentication based on two or more elements in the following categories: possession (request for something that only the user possesses); knowledge (request for something that only the user knows about); client characteristic (request for the characteristic or personal data of the client).

2. Payment Initiation Service (PIS) – a service that allows you to make a transfer through a third-party payment service provider using a bank account opened with another authorized banking service provider.

3. Confirmation of Funds Availability (COFA) is a service aimed at verifying the availability of the amount necessary to perform a payment transaction on the current account of the user performing the transaction.

4. Account Information Service (AIS) – a service that allows the exchange of information stored in at least one bank account managed by a particular service provider with another (or several) payment service provider.

5. Third Party Providers (TPP): a new category of service providers. Banking institutions must provide customers, businesses and retailers with the ability to access their accounts through a TPP, providing an unrestricted experience as if the customer had logged directly into the bank's portal. This is possible through an application programming interface (API). External suppliers can be:

5.1. Payment Initiation Service Providers (PISPs) are entities that offer consumers the ability to complete a payment transaction on behalf of a customer with their authorization without having to visit the online platform of the bank where the account is held. PISPs provide users with greater flexibility when making digital transactions.

5.2. Account Information Service Providers (AISPs) are third-party companies that can log in to a user's Online Banking to retrieve their bank account information. One of the advantages of this is certainly the fact that in this way the consumer will have all the information about the different accounts he may have on one platform, having a clear and general overview of his financial situation, the payments he has made and his current accounts.

5.3. Payment instrument issuing service providers (PIISPs) are companies that have the ability to issue debit cards linked to bank accounts at other institutions. These institutions do not maintain the accounts directly, but verify the availability of funds in the auxiliary account and allow the payment to be made to the merchant. The obligation to provide account service providers (ASPs) with a special application programming interface (API) that allows third-party providers (TPPs) to provide the categories of services mentioned above (PIS, AIS, CAFO, …) and others.

All third-party service providers are supervised by special financial supervisory authorities in all EU member states. It should be noted that two years after the entry into force of PSD2 (it happened on September 13, 2019), the European Commission decided to start working on the revision of the Directive. In October 2021, the European Commission published a call for proposals addressed to the European Banking Authority (EBA), in which it outlined the areas to be revised in the directive: obligations and rights arising from the directive; customer authentication procedures using methodologies provided by SCA; definition and scope of the directive; transparency of information conditions and requirements; payment institution license and payment service provider compliance; procedure for access to payment systems; procedure for access to accounts. The changes under discussion are expected to be adopted by the Commission starting from the fourth quarter of 2022 ("Open banking PSD2 regulation in the EU," 2022).

The second Payment Services Directive (PSD2) gave the European Banking Authority a number of mandates to draft regulatory technical standards (RTS), including regarding strong customer authentication and general secure communications, adopted by the Commission on November 27, 2017. Commission Regulation (EU) 2018/389) (European Banking Authority's opinion on strong customer authentication, n.d.).

Commission Delegated Regulation (EU) 2018/389 entered into force on 14 September 2019, which defines how electronic payment transactions and online banking should be carried out in the future with the aim of increasing the security of payment transactions and online banking. Pre-processing such as online banking registration with username and password or online payment with credit card number, expiration date and confirmation number will no longer be sufficient for authentication. As of September 2019, payers must identify themselves using two items from the categories of "awareness," "ownership," or "affiliation" (von der Osten, 2019):

1. "Knowledge" (something only the payer knows): e.g., password or PIN-code.

2. "Possession" (something only the payer knows): for example, a token or smartphone.

3. "Affiliation" (something that identifies the payer): e.g., fingerprints, facial traces, or voice.

The combination of these elements aims to reduce the risk of fraud. Companies and banking institutions should prepare for strict customer authentication. First of all, it is important to assess in which cases such customer authentication is mandatory. Reliable customer authentication is

always required when a payer initiates an electronic payment transaction (so-called push payment) or when a payer accesses his payment account online. An electronic payment is activated, for example, when paying online by credit card (Raza et al., 2020).

The Regulation also excludes the following cases of mandatory authentication due to the low level of fraud: contactless payments at points of sale for up to EUR 50; unmanned terminals for payment of transport services and parking, such as payments of beneficiaries classified by the payer as secure; recurring payment transactions; transfers between accounts of one person; small transactions up to 30 euros; highly secure payment methods, to which only companies are allowed; familiarization with account balances and turnover through online banking. In the second stage, companies must introduce strong customer authentication (von der Osten, 2019).

The updated Payment Services Directive PSD2 2021/1230 harmonises business rules for all electronic payment service providers across the EU and creates a tiered authorization regime for non-bank payment service providers, known as payment institutions. Directive 2021/1230 affects banks, building societies, e-money issuers, money remitters, non-bank credit card issuers, non-bank acquirers, and their customers. PSD2 2021/1230 focuses on electronic means of payment, including direct debits, debit cards, credit cards, standing orders, mobile or landline payments and payments from other digital devices, and money transfer services. This does not apply to physical cash transactions or payments based on paper checks. PSD2 2021/1230 updated the existing legal framework for payment services in the EU and introduced increased transparency and security requirements. For example, PSD2 2021/1230 specifies certain requirements for payment transactions where there is only one payment service provider in the EU ("Open banking PSD2 regulation in the EU", 2022).

Among the legal acts of state regulation of online banking in the EU is the Multilateral Monetary Commission Regulation (MMC Regulation), which was officially adopted on April 29, 2015, and entered into force on June 9, 2016. The MMC Regulation sets limits on foreign exchange fees at 0.2% and 0.3% of the transaction amount for consumer debit and credit cards, respectively. The regulations also set requirements for organizational separation of payment systems and transaction processing infrastructure and prohibit territorial restrictions in licensing agreements or rules of payment systems. On 19 August 2021, the new Cross-Border Payment Regulation also entered into force. This Regulation contains provisions on (among other things) currency conversion fees and cross-border payment fees.

4 State regulation of online banking in the UK and Switzerland

Examples of the implementation of the EU Directives to regulate online banking include the example of the United Kingdom. In August 2016, the UK Competition and Markets Authority (known as CMA – Competition and Markets Authority) issued an order covering nine major UK banks (Barclays, Santander, HBSC, RBS, Allied Irish Bank, Lloyds, Bank, Danske Bank, Nationwide) to give licensed companies or startups direct access to their data, in particular account transactions. In January 2018, a CMA directive came into force that uses standards developed by Open Banking Limited, a non-profit organization set up specifically to implement EU online banking legislation. This directive applies exclusively to the nine banks mentioned above and operates on the basis of the general Open Banking PSD2 rules that apply to all payment service providers. The enforcement of PSD2 in the UK is the responsibility of the Competition and Markets Authority. Control over the protection of customers, their data and account information, the execution of payment orders is carried out by the Information Commissioner's Office and the Financial Conduct Authority (FCA). As of January 2020, 202 service providers regulated by the FCA are registered in the Open Banking UK system. Many of them offer applications that provide financial services online (e.g., financial management), and service providers also own consumer lending companies that use Open Banking tools to access bank account information to verify and confirm affordability ("Open banking PSD2 regulation in the EU", 2022).

The state of state regulation of online banking in Switzerland should be considered separately. The issue of open banking has been on the agenda of the Swiss financial sector for about four years. One of the initial driving factors was the EU PSD2 regulation, which has been in force for all member states since 2018. Currently, Switzerland has chosen a market-based approach to the implementation of Open Banking. Open Banking creates simplified and efficient cooperation between banks and third-party service providers (TPPs) through open and standardized APIs. At the heart of the concept is the end customer, who can decide without assistance how their (banking) data will be processed. Open banking not only allows to develop its business model, but also promotes cross-industry innovation in digital ecosystems (Study on open banking in Switzerland, n.d.).

The banking sector makes a vital contribution to the success of the Swiss economy and financial centre, especially in uncertain times like these. The country is one of the world's leading financial centres and number one in cross-border wealth

management. By the end of 2021, 239 banks were operating in Switzerland. The financial sector, and especially banking, is one of the cornerstones of the Swiss economy. It accounts for 9.7% of gross value added. At the end of 2020, there were 243 banks in Switzerland with 2,477 branches and 6,901 ATMs. In addition, Swiss banks have 187 branches abroad. The sector is very diverse, with banks differing in size, business model, ownership structure and regional orientation. They include four large banks, 24 cantonal banks, 39 stock exchange banks, one Raiffeisen bank, as well as 59 regional and savings banks. The rest is distributed among private banks, foreign banks and foreign branches in Switzerland. Banks contribute to Switzerland's high international competitiveness by catalyzing economic development, offering a large number of skilled jobs, paying above-average wages and having a significant share of public sector funding in the form of taxes. The rapid issuance of loans by Swiss banks to fight COVID-19 in March 2020 was a significant factor in counter-acting the economic downturn caused by the pandemic. However, the challenges currently faced by Swiss banks are indeed diverse: high regulatory costs; shrinking margins; price-sensitive customers; limited access to foreign markets; increasing competition from both financial and non-financial entities; and the persistence of negative interest rates. Overall, Swiss banks remain vulnerable to negative interest rates.

Swiss banks are now focusing mainly on digital innovation to develop new business models, improve internal efficiency and cost structures. In addition, the Swiss fintech landscape has expanded significantly and currently has more than 363 fintech companies. One third of them work on the distributed ledger technology. In August 2019, the first two blockchain service providers received licenses for banking and securities trading. In 2021, the Swiss Financial Market Supervisory Authority approved the world's first independent digital asset market, the first Swiss DLT-based stock exchange and the first Swiss crypto fund. Almost half of the 7,879 billion Swiss francs (7,280 billion euros) now managed by Swiss banks comes from abroad. With a market share of 24%, Switzerland is the world leader in private cross-border wealth management (Banking barometer 2022 – banking barometer 2022, n.d.).

In 2020, 106631 people worked in Swiss banks, of which 89958 were employed in Switzerland. Most of them work in one of the four largest banks (26%), followed by cantonal banks (20%). The share of women employed in Swiss banks was 38.4%. In 2021, 239 Swiss banks recorded the second consecutive increase in staff numbers, adding 619 full-time employees. However, this cannot be seen as a trend reversal. Consolidation in the industry, increased regulation and outsourcing have been driving a steady decline in staff numbers since 2013. According to the State Secretariat for Economic Affairs (SSEA), the unemployment rate in the financial sector was 2.4% at the end of 2013. 2021, slightly lower than in the economy as a whole (Banking barometer 2022 – banking barometer 2022, n.d.).

Switzerland's financial sector is one of the most competitive in the world and a leader in cross-border wealth management. It offers a first-class environment for technological innovation and its regulatory system is internationally recognized as exemplary.

Compared to other economies, the Swiss economy has so far withstood the COVID-19 pandemic well. In 2021, protective measures have been gradually eased, leading to a strong recovery and lower unemployment. Economic trends in 2022 will be highly uncertain due to factors such as the war in Ukraine and related risks of energy shortages, as well as the possibility of renewed measures to combat COVID-19 and higher inflation. Gross domestic product (GDP) is expected to grow by 2.6% this year. Central banks are raising interest rates due to persistently high inflation. In June 2022, the Swiss National Bank (SNB) raised its benchmark interest rate for the first time in 15 years and expects further increases to maintain price stability (European Banking Federation, 2020, November 17).

Negotiations between Switzerland and the United Kingdom (UK) have elaborated key principles of liberalization and expansion of mutual market access in the field of financial services. The main elements should be enshrined in an international agreement by the end of 2022. Private digital money and central bank digital currencies are gaining attention around the world. Various central banks, commercial banks and technology firms are working on forms of digital money to meet the needs of the growing number of users of the digital economy. Depending on the form of digital money implementation, banks can radically change the business model and operational activities of banking institutions. In Switzerland, the Swiss Bankers Association (SBA) has published a discussion paper as a contribution to the important debate on the development and use of digital money and its implications for the economy and society. Amendments to the Liquidity Decree for systemically important banks come into force. The regulatory concept is based on two dimensions: basic requirements, precisely calibrated and subject to reporting obligations, and additional requirements for individual institutions, which may be set by the Swiss financial markets supervisory authority FINMA (Economic policy environment, n.d.).

FINMA supervises financial technology institutions based on principles and a risk-based approach. External audit firms play an important role in this. Institutions that hold a FinTech license or a DLT trader license are subject to FINMA supervision. The key here is continuous compliance with licensing requirements. FINMA's supervisory

system distinguishes between direct supervision – FINMA itself conducts supervisory work – and indirect supervision – FINMA appoints a regulatory audit firm to extend the scope of regulation (Putnis, Goldstein, & Kasal, (n.d.).

For this purpose, the FSA engages audit firms approved by the Federal Audit Supervision Authority. Audit firms regularly request regulated entities to conduct regulatory audits. FINMA has various supervisory tools at its disposal, some of which it applies independently in the field. In addition, FINMA may collect data as necessary. When supervising FinTech licensed institutions, FINMA takes into account the fact that deposits are not covered by deposit protection under the Swiss Banking Act. The legal basis for the supervision of FinTech-licensed institutions can be found in the Banking Act (BA), the Banking Ordinance (BO), as well as further details in relevant FINMA circulars. The legal basis for supervising DLT merchant facilities is found in the Financial Market Infrastructure Act (FinMIA), the Financial Market Infrastructure Ordinance (FinMIO), and the FINMA Financial Market Infrastructure Ordinance (FinMIO-FINMA) (Finma, n.d.).

Among the examples of online banking regulation is the case of Dukascopy Bank, a Swiss innovative online bank founded on November 2, 2004 (Geneva), which provides online and mobile trading, banking and other financial services through its own technological solutions. Dukascopy Bank is supervised by the Swiss Financial Market Supervisory Authority FINMA (Swiss Financial Market Supervisory Authority) as a bank and securities firm. Dukascopy Bank is wholly owned by Dukascopy Europe IBS AS, a European licensed broker located in Riga, and Dukascopy Japan, a Type-1 licensed broker located in Tokyo. Dukascopy Group currently has over 300 employees. Dukascopy Group mainly provides existing real-time and mobile trading services via SWFX – Swiss FX Marketplace, Dukascopy ECN proprietary technology solution, and Dukascopy registered trademark (Dukascopy Bank SA, n.d.).

5 Conclusions

The growth of technological innovations in the financial sector and active user demand for financial and technological services have led to the need to develop a regulatory framework for Internet banking in European countries. As a result, the EU seeks to create a single financial space that unites providers and users of Internet banking, so it is constantly improving the regulatory framework. At the EU level, the regulation of online banking is determined by the European Central Bank (ECB) as a single regulator, while payment transactions and the use of e-money require a national license and are supervised by national regulatory authorities. Such nationally licensed and supervised institutions can offer their services in other Member States using the EU passport system. This creates a risk of supervisory fragmentation or even supervisory competition, which increases as the fintech sector focuses on specific services and outsources non-core parts of its business to third parties (including banks). This growing trend has led to a complex network of interconnected financial institutions providing services in Europe, while supervision is fragmented across EU countries. The answer to the above requires harmonization of the regulatory framework, supervision of payments and e-money issuing institutions at the EU level to ensure the responsibility of all actors in the value chain of financial services, identification, management and control of systemic and non-financial risks. The key documents at the EU level for state regulation of online banking are the EU Payment Services Directives (PSD1 2007/64, PSD2 2015/2366, Revised Payment Services Directive PSD2 2021/1230). PSD2 2015/2366 updated the existing regulatory framework for payment services in the EU and introduced enhanced transparency and security requirements. The updated Payment Services Directive PSD2 2021/1230 harmo-nises business rules for all electronic payment service providers across the EU and creates a tiered authorization regime for non-

TABLE 1 Structure of the Swiss banking sector by the end of 2021

Groups of banks	2020	2021	New banks	Reclassification	Banks that were closed
Cantonal banks	24	24	0	0	0
Large banks	4	4	0	0	0
Regional banks and savings banks	59	59	0	0	0
Raiffeisen banks	1	1	0	0	0
Foreign banks	94	93	2	–2	1
Private banks	5	5	0	0	0
Stock exchange banks	39	36	0	–3	0
Other banking institutions	17	17	0	0	0
Total	243	239	2	–5	1

Source: Executive Summary (2012)

bank payment service providers such as payment institutions. Commission Delegated Regulation (EU) 2018/389 came into force on September 14, 2019, defining mechanisms for electronic payment transactions and online banking to ensure higher levels of security. Examples from the U.K. and Switzerland examine government regulation of online banking.

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