Financial Internet Quarterly „e-Finanse" 2016, vol.12/ nr 2, s. 60-73
DOI: 10.14636/1734-039X_12_2_006

THE DEVELOPMENT OF PAYMENT SERVICES AS AN EXAMPLE OF DISINTERMEDIATION IN THE FINANCIAL SYSTEM

Agnieszka Alińska[1], Izabela Czepirska[2]

Abstract The reasons for disintermediation in the financial systems can be found on both sides of supply and demand. This progressing phenomenon is a result of numerous changes in the post-crisis financial sector landscape. In this article, the authors analyse the underlying causes of the shift away from formal financial institutions in the area of financial services as well as present the Polish payment services market as an example of banks' receding role in the traditional intermediation between market players.

JEL classification: G1, G2, G3
Keywords: banks, disintermediation, PSD, payment services, deregulation

Received: 02.07.2015 Accepted: 17.10.2016

1 Department of Treasury, Collegium of Socio-Economics, Warsaw School of Economics.
2 Department of Treasury, Collegium of Socio-Economics, Warsaw School of Economics.

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Introduction

Recent years have seen a rapid growth in the use of various new forms of service delivery in the banking sector. The main causes of change should be sought primarily in progressing disintermediation. The reasons for disintermediation in the financial systems can be found on both sides of supply and demand. This progressing phenomenon is a result of numerous changes in the post-crisis financial sector landscape as well as developments in the adjacent industries that inevitably shape the economy in a new format. The technology boom enables customers not only to access services faster, cheaper and in a more convenient mode, but offers a broader variety of products that old infrastructure-based banks find difficult to keep up with.

In this article, the authors look at the changes in the financial sector where disintermediation pressures have increased and market players' roles have been reshaped.

The article analyses the underlying causes of the shift away from the formal financial institutions in the area of financial services as well as presents the Polish payment services market as an example of banks' receding role in the traditional intermediation between market players.

Disintermediation – introduction

Disintermediation, derived from dis-intermediate, means nothing more than discontinuation of providing intermediation. It can be viewed as a decreasing role or full elimination of a party in the supply chain of goods and services. Traditionally, disintermediation has been defined as a development that enables households to bypass banks and place their savings directly with other types of financial institutions. In the context of the Web, it has come to signify the disappearance of a wide variety of "middlemen," or intermediaries, and the creation of an enhanced sales network in which customers deal directly with service providers. The result is supposed to be a "frictionless capitalism" that reduces both inefficiencies and costs (Jallat & Capek, 2001, p. 55).

In the case of the financial system one should consider the fundamental role banks play and the meaning of their traditional functions.

Financial disintermediation has been studied since the late twentieth century (Allen,1990; Anderson & Makhija, 1999; Teixeira, 2000), but the global financial crisis of 2008/2009 provided more questions on the optimal structure of the financial system. Studies conducted in this field were focused mainly on finding answers to the following questions: is there a general trend towards disintermediation? Towards a transformation in the financial system from bank-based to capital-market based? Is there a trend towards a loss of importance of banks? A study in 1997 by German scholars *Disintermediation and the Role of Banks in Europe: An International Comparison* (Schmidt, Hackethal & Tyrell,1999) presented an empirical analysis of the three major EU economies: Germany, France and the United Kingdom. In the course of the research they proved the transformation of the financial systems to be *alleged*. The authors (Schmidt, Hackethal & Tyrell) found all three answers to be negative back in 1997. However, since the above mentioned research on the banking services market, fairly significant changes have taken place which are identified both in the form of services provided, their scope, costs and as well as channels used in reaching the bank end customer.

One of the European commercial banks estimates that in the euro zone 80% of corporate funding is sourced from banks, while the remaining 20% in the capital markets by issuing bonds (http://www.societegenerale.com/en/banking-explained/financing-the-economy/disintermediation). The reverse split of 20/80 is believed to be present in the US market, where the primary source of financing is the capital market. Research shows, however, that the share of debt securities in the corporate debt in the US had been at the level of 36% in the year 2008 and 50% in 2013 (ttp://www.ft.com/cms/s/0/37a6f3ac-f9de-11e3-bb9d-00144feab7de.html#axzz3u94Zs9lI). Analogously for these years, the bank-funded corporate debt in the euro zone was at 68% in 2008 and down to 61% in 2013, while capital markets lending was up from 10% to 15% in that period. In light of the Basel regulation pressures on banks to increase capital ratios, the bank vs. capital market share of corporate debt can only be expected to grow in favour of the capital market financing. The disintermediation process might bring the European model closer to the Anglo-Saxon concept and

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Table 1: Causes of disintermediation in the financial system

CAUSES OF DISINTERMEDIATON	
SUPPLY SIDE (Financial Institutions)	DEMAND SIDE (Customers)
· Financial crisis · Increase of systemic and market risk · Return and deleveraging pressures · Capital ratios bolstering · Stringent requirements for creditworthiness assessment · Prudential requirements · Regulation	· Distrust towards banks · Behavioral finance · Social changes (preferences, pace of life, level of comfort) · Technological progress · Social media platforms development · Cost cutting · Non-financial providers offer (e-commerce, supermarkets) · Crowdfunding

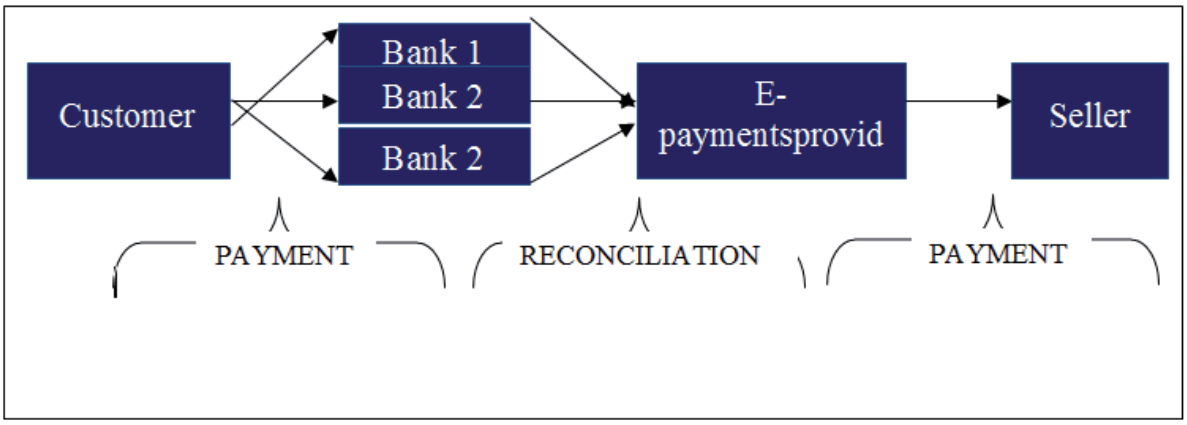
Source: Own work

provide more balance between institutional investors and banks. Banks will not lose their full role and will continue to perform various servicing and structuring functions, their long-term funding capacity, however, might need to be combined with non-bank investors such as pension funds or insurers in order to adapt to the new demands of the regulations.

Empirical evidence show, however, the ongoing wave of consolidation in the euro zone might pose a threat to banks' profitability. Balance sheet restructuring and efficiency pressures caused by common monetary policy in the euro zone prove to have implications for regulatory and supervisory practices (Kapopoulos & Siokis, 2005).

First off, the disintermediation should be considered not only in a classic sense of capital markets taking over from banks, but also in other traditional banks' functions such as: risk mitigation, public trust entity (security, protection), financial intermediation in services (e.g. payments). The monopolistic nature of the bank as a financial intermediary is currently being weakened due to the relative ease of product implementation in the market by other (non-bank financial intermediaries), development of new technologies (digitization) and change in consumer preferences. An important factor is also the possibility of separation and outsourcing of parts of the services. The decomposition of financial services has enabled the market entry of various types and kinds of financial services, thus allowing new players to increase market share and to propose new forms of their services. Due to changes in customer preferences more weight is given to services provided in the form of e-payment or the

Figure 1: E-payment model



Source: Own work based on Chinowski, B. (2013). Elektroniczne metody płatności. Istota, rozwój, prognoza. Warsaw: Polish Financial Supervision Authority

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Fin Tech sector offer.

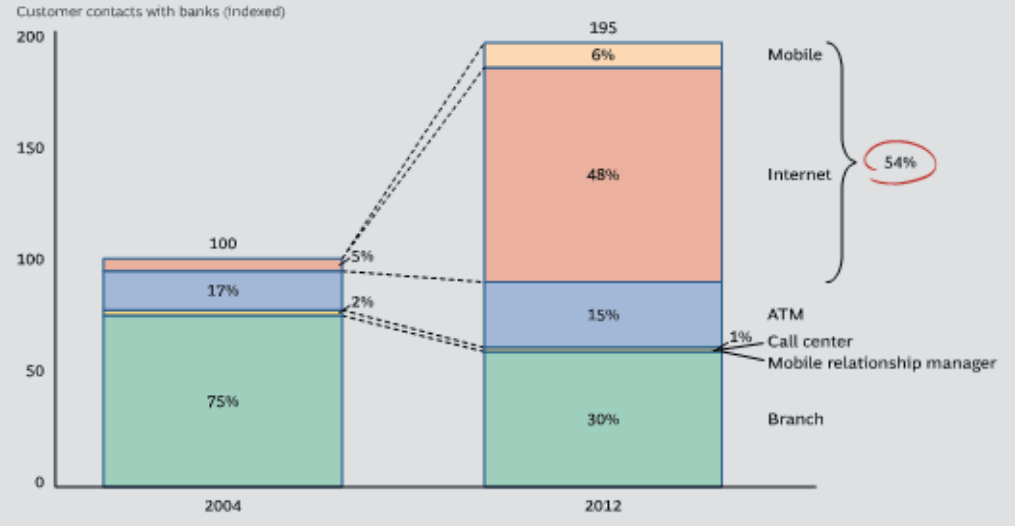
The evolution of the payments market created an opportunity for new market players, but has not eliminated the banks. As the scheme below illustrates, although the payment chain is enriched, the clients still log in to the website of their banks in order to initialize the payment.

In the wake of financial crisis each of these characteristics have been undermined. This situation has created a favorable basis for the development of the payment services market, both among banks and non-bank financial institutions. Banks began using more modern technology solutions based primarily on the development of mobile services and the Internet (i.e. mobile banking). According to a study by the Boston Consulting Group in 2012, 54% of contacts undertaken by customers with banks were performed via mobile phone and the Internet, which is illustrated on the below Figure 2.

Upon authorization of the payment in the online banking, a client is rerouted to the website of the seller. The reconciliation of the payment is proceeded between the bank and the e-payment provider before the funds move to the account of the seller. Rather than being disintermediated, banks assume a different role in a far more complex value chain. F. Jallat and M. Capek (2001) claim that intermediation in a fluid and immaterial economy that has grown on the internet has become of even more strategic importance than in the past, because of its informational and virtual aspects. The fact is that a technological boom enables stronger competition from non-bank entities, which benefit from the ongoing deregulation. On the one hand, banks revise their strategies in terms of efficiency, consolidation, a business model in non-profitable markets and segments, on the other hand the role and market share of new players increases in the form of non-bank financial intermediaries. This category of financial players consists of various types of institutions that while looking for a niche in the financial services market lower their own costs and strive to achieve business success. One of these entities are payment services offices which are rapidly developing in Poland.

Traditional disintermediation recognizing a difference between bank-based and capital markets-based financial systems had been subject to multiple wide-ranging analysis and critiques. The problematic field of disintermediation in the twenty-first century needs to be broadened, however. The financial sector should best be understood as a platform where banks and other institutions come to interact. Funding is one of the forms, but not the sole one. Banks keep a central

Figure 2: Changes in the form of customer contact with banks in 2004 and 2012



Source: Maguire, A., de T'Serclaes, J.W. Bison, S., Mönter, N. (2013). Distribution 2020 The Next Big Journey for Retail Banks. Boston Consulting Group, p. 4

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

intermediary position in transaction processing and providing information services around these transactions. As F. Jallat and M. Capekargue, information itself has become of a strategic importance in the value chain of a company. Emergence of new types of intermediaries has become a fact together with the development of the Internet, e-commerce and mobile payments. New flows required new types of products, which started to be offered by a new category of market players. Commercial transactions concluded online have been growing at a 10-20% rate (http://www.smartinsights.com/digital-marketing-strategy/online-retail-sales-growth/, http://www.statista.com/statistics/288487/forecast-of-global-b2c-e-commerce-growt/, https://www.census.gov/econ/estats/2010/2010reportfinal.pdf, http://www.retailmenot.de/studien/e-commerce-studie-2015) both worldwide and in Europe, which lead to restructuring of not only corporate networks, but also financial infrastructure and regulation around e-commerce.

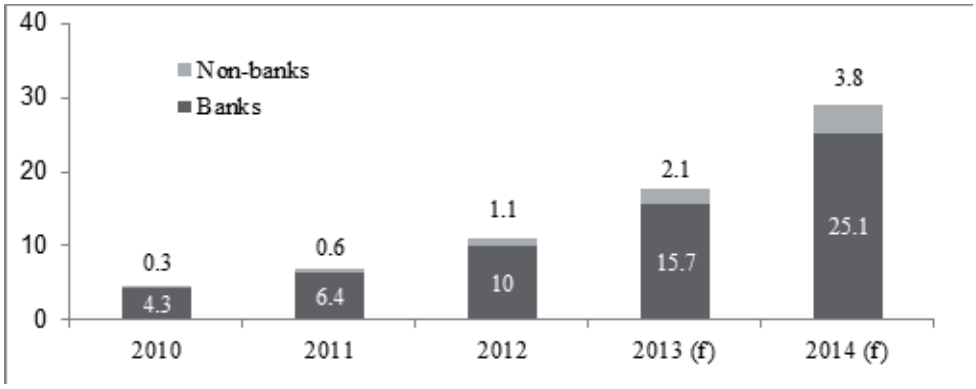
According to the data presented in 2013, only 6% of global mobile payments were supported by non-financial institutions. In turn, in 2014 more than 13% of mobile transactions were forecasted to be processed by non-banks (Capgemini/RBS, 2013). This represents a major threat to banks' position in the market both related to the transfer of traditional banking operations to other organizations, but also reflected in a decline in customer loyalty towards traditional banking institutions.

Some of the new intermediaries capture traditional functions of banks (trust, matching, reconciliation, facilitation, aggregation), some introduce new standards and rules within the competitive market of payments and transaction services. R. Gellman discusses the mechanism for disintermediation in *Disintermediation and the Internet* where he proves that banks being hit by information intermediaries eventually learned to respond. They had to recapture the market share they had lost and start to offer new services, adjusted to a different set of requirements. Part of the funds, which now resides in money markets would never return to banks (Gellman, 1996).

The impact of technology and regulations on the development of the payment services market

The payment services market in Europe has been regulated by PSD – *Payment Services Directive* since 2009. Its implementation was aimed at strengthening of the competition in the pan-European payments market and providing for a more efficient cashless economy with modern and more comprehensive rules (http://ec.europa.eu/finance/payments/framework/index_en.htm). The Directive's purpose was also to harmonize consumer protection across the European Economic Area (EU, Iceland, Norway and Liechtenstein) as well as rights and obligations for payment users and service providers (European Commission, Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market, p. 54). Its target was also to make cross-border payments as

Figure 3: The number of mobile payments globally, broken down into types of service provider in 2010-2014 (in US $ bln)



Source: Own work based on Capgemini/RBS. (2013). World Payment Report, p.15

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

secure, efficient and easy as national payments within the particular Member State. Creating one digital payments market by eliminating the differentiation between national and cross-border payments would save approx. 2-3% of EU GDP in transaction costs (http://europa.eu/rapid/press-release_IP-07-1914_en.htm?locale=en).

One of the major harmonization tools within the PSD framework was the introduction of SEPA – Single Euro Payments Area, between 47 EEA countries and other eligible territories (http://www.europeanpaymentscouncil.eu/index.cfm/knowledge-bank/epc-documents/epc-list-of-sepa-scheme-countries/epc409-09-epc-list-of-sepa-scheme-countries-v21-june-2015pdf). The migration of SEPA instruments included: SCF – SEPA Cards Framework, SCT – SEPA Credit Transfer, SDD – SEPA Direct Debit. The end-date for the SEPA migration had been set for 1st February 2014 for euro zone member states and 31st October 2016 for member states, which do not have the euro as currency (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:094:0022:0037:en:PDF). The underlying basis for these changes was to guarantee EEA citizens fair and open access to equal payment instruments across Europe.

The Directive also defines the technical standards for payment products (credit transfers, direct debits, card payments) in the rulebooks for BIC, IBAN, ISO 20022 XML message format, EMV chip cards and terminals, as well asthe legal framework within which all payment service providers must operate. Specifically, the PSD describes types of organizations, which can provide payment services. Except for traditional credit institutions (i.e. banks) and certain other authorities (e.g. government entities, central banks), the Directive lists Electronic Money Institutions (EMI), introduced by the Electronic Money

Directive in 2000 (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0046:EN:HTML), and created a new category of 'Payment Institutions' with its own prudential regime rules. Organizations of such a type are neither credit institutions, nor EMIs. Payment Institutions (PI) can be granted and maintained authorization by any EU country based on meeting certain risk management and capital requirements, proportionate to the financial and operational risks faced in the course of their business (http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0064&from=EN). While allowing rights to render payments in a wide range of methods, the PSD clearly prohibits Payment Institutions from accepting deposits from users and permits them to use funds received from users only to perform payment services (http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0064&from=EN, p. 2). Granting credit lines by payment institutions is regulated by limiting the issuance only in relation to payment services facilitation and only from the Payment Institutions' own funds or other funds sourced from the capital market, but not from funds held of other clients of the payment services.

By introducing changes in the legal and regulatory framework, the EU attempts to increase security of the payments system across the continent, enhance quality of services provided to the customer and improve efficiency of the process in the industry. Some traditional institutions which lack a strategic approach to these changes will lose market share as for each of them there will be a number of new intermediaries who will serve the customer base cheaper, faster and according to their needs. The PSD's aim was to open the payment market up by allowing organizations other thank banks, including money remitters, telecommunication companies, and retailers to provide payment services. In order to protect consumers these new types of institutions are subject to regulation. An important point to note is that the emerging sub segment of the payments market – mobile and online payments are addressed in the wide range of products covered by the PSD.

Eurostat carefully observes the growth of internet users and electronic commerce and provides yearly statistics based on information and communication technology (ICT) usage in households and by individuals (http://ec.europa.eu/eurostat/statistics-explained/index.php/E-commerce_statistics_for_individuals?utm_content=bufferba9e5&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer#Further_Eurostat_information). Over the span of the last 8 years, the number of internet users who bought or ordered goods or services online in Europe has grown from 50% in 2007 to 65% in 2015 (http://ec.europa.eu/eurostat/statistics-explained/index.php/

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Table 2: Proportion of EU individuals who purchased online within the last 12 months in selected countries (in %)

Countries	2009	2011	2015	2015 vs. 2009
United Kingdom	58	64	81	23
Norway	54	57	76	22
Germany	45	54	73	28
Czech Republic	12	16	45	33
Spain	16	19	42	26
Poland	18	20	37	19
Hungary	9	13	36	27
Portugal	10	10	31	21
Italy	8	10	26	18

Source: Own work based on Eurostat

File:Internet_users_who_bought_or_ordered_goods_or_services_for_private_use_over_the_internet_in_the_previous_12_months_by_age_groups,_EU-28,_2007-2015_(%25_of_internet_users).png). The proportion of e-customers varies considerably across EU Member States every year, ranging from the lowest 11% of ecommerce users in Romania to 81% in the United Kingdom. Since 2011 the European retail online market has been the largest in the world, outrunning the Asian and American markets (http://euromonitor.typepad.com/files/european-digital-divde-e-commerce-markets-in-europe-opportunities-and-prospects.pdf, p. 1). The growth dynamic in recent years leaves strong expectations for this trend to continue and strengthen, both in the number of customers as well as the value of the goods and services purchased online.

A recent study (http://www.retailmenot.de/studien/e-commerce-studie-2015) shows that the highest year-on-year growth rate is expected in Germany where ecommerce should increase by 23%, which is quite astonishing for such an already mature e-commerce market. Poland with 21% and Italy with 19% are the following markets where fastest growth pace is forecasted.

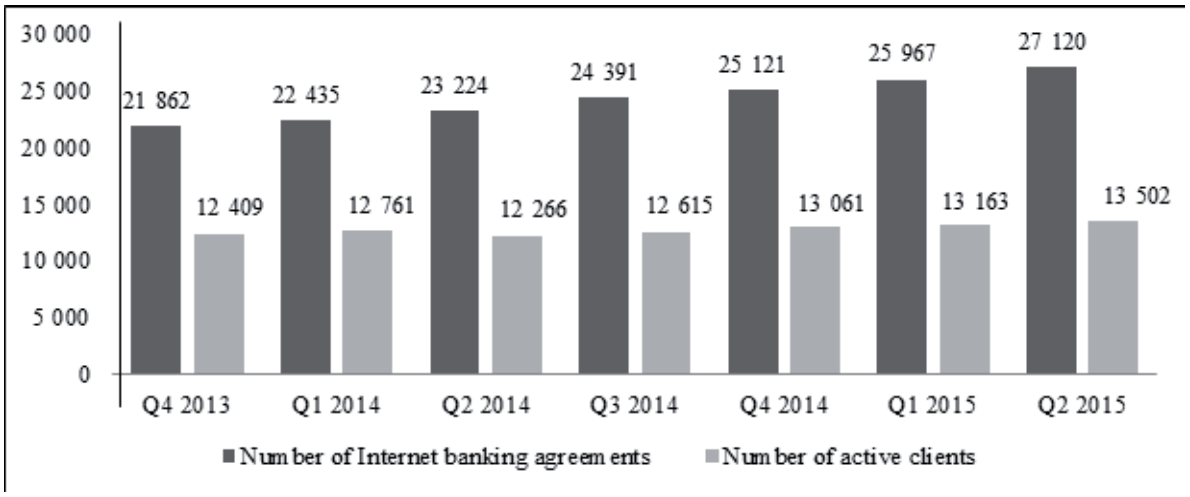
While the development in the legal, regulatory and technical infrastructure supports the growth in ecommerce, the main barriers that dampen these services potential are customer trust and dispute resolution. The Digital Agenda for Europe announced by the European Commission tries to address these challenges and provide initiatives to increase customer confidence, strengthen their rights and enhance their data protection (key initiatives, http://europa.eu/rapid/press-release_MEMO-10-200_en.htm).

The first holistic regulation on payment services in Polish law was the Payment Services Act (http://isap.sejm.gov.pl/, Dz.U. Nr 199, poz. 1175) of 19th August 2011 implemented as a result of the PSD and later amended in July 2013 (http://isap.sejm.gov.pl/, Dz.U. 2013, poz. 1036). Provision of payment services, according to the Act, is a regulated activity, supervised by the Polish Financial Supervision Authority (KNF – pol. *Komisja Nadzoru Finansowego*). It specifies rules and requirements levied on parties providing payment services, including sets of law, contractual agreements and information sharing standards. Payment services are defined as bank accounts, cash deposit, cash withdrawal, credit transfer, direct debit, issuance of payment instruments and contracts on receiving payments by payment instruments. Such services can be provided by banks, credit institutions, electronic money institutions, the Polish Post or other postal entities from EU member countries, public authority entities, as well as cooperative savings and credit unions. The Act also regulates two new types of entities: payment institutions and payment services offices. The payment institution, upon receiving the permit from the KNF or other supervisory body from another EU member state is allowed to provide services on the whole EU market on the basis of the "single passport" rule. Payment institutions are required to possess registered capital in line with their activity scope (in the amount of 20, 50 or 125,000 euro) and owns funds. They are regulated by the KNF, which can exercise their supervisory rights in a form of dividend restrictions, recovery plans implementation,

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Figure 4: The number of active individual clients and number of Internet banking agreements (in thousands)



Source: Own work based on The Polish Bank Association (2015). Bankowość internetowa i płatności bezgotówkowe II kwartał 2015r. Report of The Polish Bank Association Warsaw

etc. In the case of misconduct or fraudulent activities, KNF can levy financial fines on the institution, file for dismissal or suspension in duties of the person responsible as well as reduce the scale of permitted activity or withdraw the authorization of the payment institution (Chinowski, p. 28).

Use of mobile banking in the payment services market

In recent years, both throughout the world and in Poland, we have seen a dynamic development of another form of financial intermediation services offered by banks and other financial institutions in the shape of initially

Table 3: Number of active users of mobile banking

Bank	Q4 2012	Q3 2013	Q4 2014	Q3 2015
mBank	300 000	720 771	810 890	1 162 000
PKO BP	236 634	371 080	536 025	900 000
Bank Pekao SA	201 000	324 417	531 871	889 184
BZ WBK	24 819	194 500	372 056	612 142
ING Bank Śląski	98 000	183 000	310 199	521 802
Bank Millennium	51 395	69 907	133 000	307 368
Alior Bank	n/a	91 000	117 000	160 524
Eurobank	n/a	n/a	81 985	85 000
Citi Handlowy	111 125	133 112	182 490	70 392
T-Mobile UB	n/a	96 000	147 000	58 000
Raiffeisen Polbank	17 200	21 100	24 355	57 900
Getin Noble Bank	n/a	21 000	100 700	n/a
Plus Bank	n/a	56 396	76 330	n/a
Nordea Bank Polska	n/a	n/a	6 200	n/a
Esbank	n/a	n/a	802	n/a
Total:	**1 181 163**	**2 261 183**	**3 486 703**	**4 964 126**

Source: Own work based on: Rynek bankowości mobilnej – raporty za wybrane okresy w latach 2012-2015. PRNews.pl

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

electronic banking, and later mobile banking. This form of services has become very popular, as a consequence almost every bank has it on their standard offer. The data presented in graph 4 indicates that, according to the Polish Bank Association, at the end of the second quarter of 2015 the Polish market reported a further increase in the number of individual clients with access to online banking services to over 27 million people.

Compared with the first quarter of2015 the number has risen by over 1 million (4.44%), while comparing with the second quarter of 2014 this increase was as high as 4 million users (16.77%). In this period, also the number of contracts signed which enable the use of the Internet banking has grown by 330,000 in comparison to the first quarter of 2015.

In Poland, there are approximately 5 million customers who use mobile banking services, and for many of them the access to the bank account is a key channel of contact with the bank. Among the banks, which are evident market leaders in offering of mobile banking are primarily Internet banks, such as mBank.

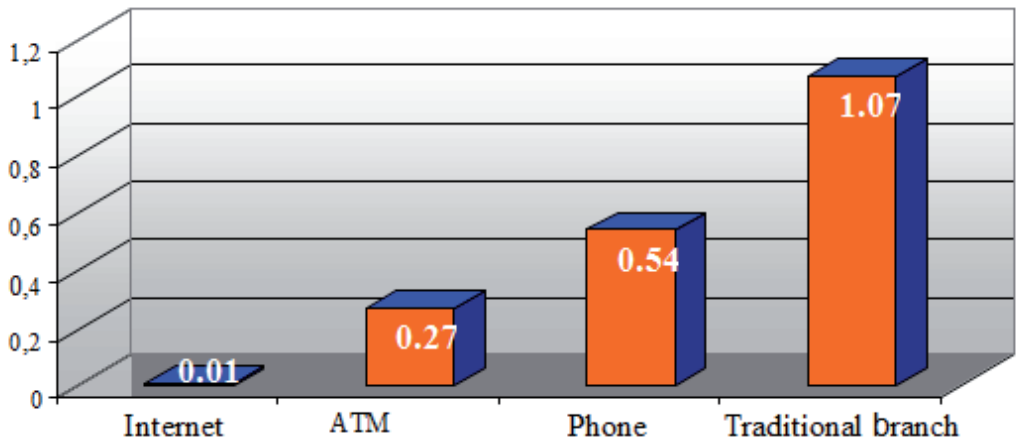
Among the main determinants of the development of services related to making payments is the cost of using such form of financial intermediation. While using the Internet network to sell its products and services, the banks bear much lower operating costs, compared with maintenance of a wide and very expensive branches. The transaction costs of banking operations are minimized as well. According to the market research, the average cost of a single banking operation made through a traditional bank branch is approx. USD 1.07. The same operation performed via the Internet "costs" only $ 0.01, which is more than a hundred times cheaper.

Examples of payment services in Poland supplied by non-bank financial institutions

Payment services offices' scope of permitted services and scale are limited. They can operate in Poland only and their monthly turnover is capped at 500,000 euro. The capital and governance requirements are lessened as the services are narrowed to credit transfers and facilitation of payments to accounts. Unlike the national payment institutions, payment services offices are not required to meet capital thresholds, provide audited financial statements to the KNF or submit business plan for the following 3 years. They are not subject to regulation on merging funds from performing payment transactions with other funds, however, payment services offices are obliged to protect the funds on the basis of a bank or insurance guarantee. Minimum coverage is for 0.6% of payment transactions performed by the office in the last 12 months, not lower than 1,200 euro (https://www.knf.gov.pl/Images/KNF_uslugi_platniczych_tcm75-32630.pdf).

In late 2012 the KNF granted the first permits for national payment institutions in Poland, they were

Figure 5: The average cost of a single banking operation in USD

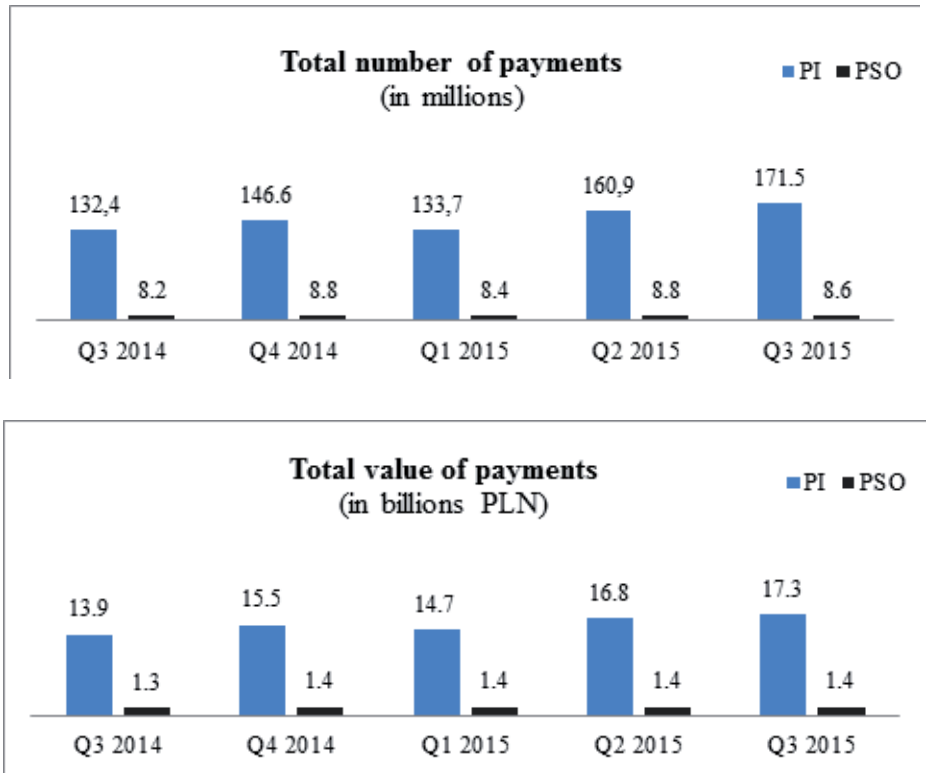


Source: Doliniak, P. (1999). Tak to robią w USA. Prawo i Gospodarka

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Figure 6: The number and value of transactions performed by payment institutions (PI) and payment services offices (PSO) in Poland



Source: Own work based on Polish Financial Supervision Authority (2015). Informacja o sytuacji KIP i BUP w III kwartale 2015 r., Warsaw.

obtained by PayU S.A in November and BillBird S.A. in December (http://www.bankier.pl/wiadomosc/W-Polsce-powstala-nowa-instytucja-platnicza-2691226.html). In 2013 a further 16 entities received permits, in 2014 – 9 and another 8 in 2015. There are 36payment institutions in Poland in late 2015 (Polish Financial Supervision Authority, Payment Services Registrar, https://erup.knf.gov.pl/View/faces/subjectsList.xhtml). The first payment services office was registered in December 2011, *Artur Brudka Kancelaria Finansowo-Prawna*, at the time of the creation of the article there are 1382 entities in the KNF Payment Services Registrar listed as payment services offices. The pace of development of this type of institutions is proven, inter alia, by the number of permits issued for the payment institutions and payment services offices as well as the value and number of transactions.

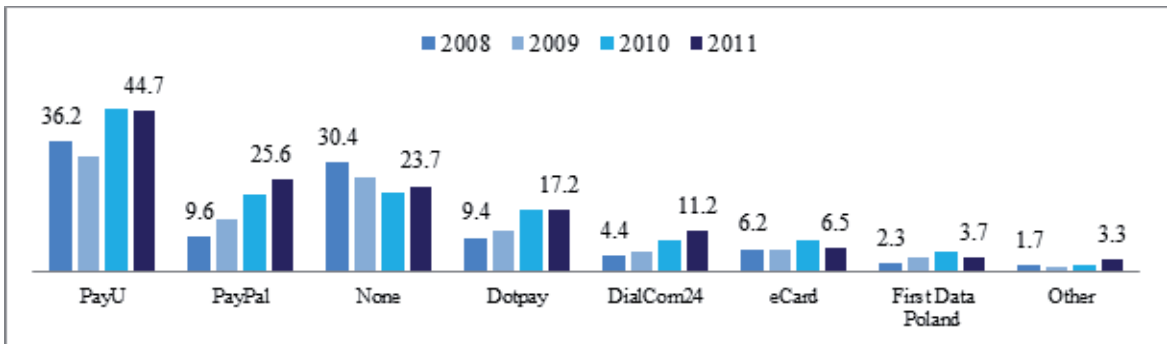
The clear market leader of the Polish ecommerce is the Allegro group (Grupa Allegro Sp. z o.o.) with 38% market share (http://www.euromonitor.com/internet-retailing-in-poland/report). Its main investor is the South African media concern – Naspers, PayU S.A. belongs to this holding as well. The Allegro selling platform enables thousands of transactions to be concluded every day, bothC2C (customer to customer) and B2C (business to customer). Apart from the Allegro portal, ecommerce in Poland is greatly fragmented with numerous operators who individually amount to insignificant market shares (Euromonitor, 2015).

Internet Standard has been providing yearly analysis on the Polish online retailing market for the last 10 years. Initially the reports contained published data on the market share of particular payment services providers, but in recent years such a breakdown is not available. The dataset for years 2008-2011 indicates, however, the domination of PayU in this market. It might result from the Allegro platform popularity, as PayU is the underlying payment system for the financial reconciliation of the transactions. The report also shows clearly that

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Figure 7: Payment services providers to Polish e-commerce stores (in %)



Source: Own work based on Internet Standard e-Commerce 2012

the majority of the Polish e-commerce stores have collaborated with one of the payment services providers. We assume that given the fact that the number of Polish individuals who purchased goods and / or services online has nearly doubled between 2011 and 2015 (Rynek bankowości mobilnej – raporty za wybrane okresy w latach 2012-2015, PRNews.pl), the number of stores using different payment methods than these offered by the top providers in the payment services space must have fallen significantly by 2015.

In 2011 PayUwas the market leader, main followers being PayPal, Dotpay, DialCom 24,eCard and First Data Poland. Two main payment forms in e-commerce are card payments (credit or debit) or electronic money transfer (e-payment). 65% of the online stores surveyed in 2015 accept payments in a form of an e-payment, only slightly less – 61% accepts card payments. There are various other forms offered by payment services providers, including: mobile payments, instant payments, RWD – responsive web design, e-wallets, partial payments to name a few. Intermediation cost of online payment servicing is set in reference to the value of the transaction. Market rates range from 0.99% to 2.8% in case of the card payment (credit or debit) and from 0.50% to 2.6% in case of an electronic money transfer (e-payment) (Pęcak, 2015, p. 89-90).

The service offer is much wider than solely payment facilitation. These new intermediaries provide information services to companies that add value to the internal business information management and enhance the decision making process in terms of selecting strategies for particular market segments and target groups.

Summary

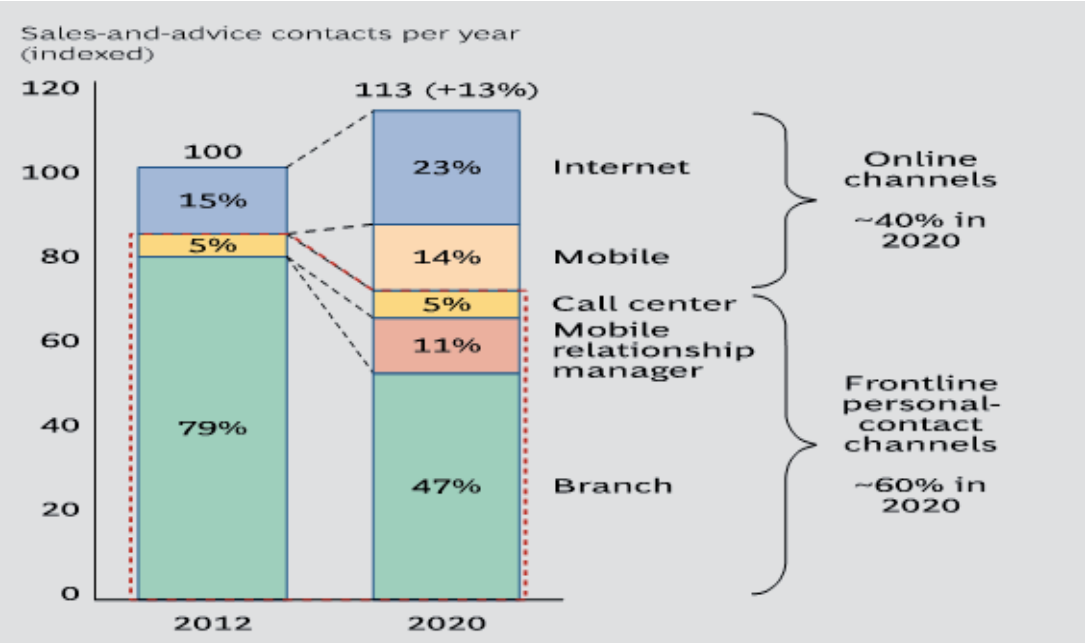
Disintermediation in financial services caused by the Internet and technology development brought about various changes in the marketplace. It is believed that banks will keep their basic functions of providing lending and being a settlement centre for all payments. However, they will no longer be able to monopolize other business functions that emerge in the new model where new roles are captured by other types of intermediaries. Technology led progress disrupts the traditional schemes and creates a playground for new industry structures. In the year 2020 it is expected that approx. 40% of payment transactions will be executed in the form of online payment and the remaining 60% in the use of personal contacts.

Global trends which shape customer behavior have a direct impact on the market participants of financial intermediation in Poland. The use of banks in the financial transactions provision might diminish in the coming years in favour of the use of other, non-bank financial institutions, such as payment services offices or services provided in the form of online payment. This means that we are witnessing changes in the role of banks in the financial services market. Surely the banks will not disappear from the market, but will certainly be forced to change their business model and seek new forms of reaching their customers by offering more attractive instruments of financial intermediation that are tailored to their needs. Development of e-commerce and e-payments seems to be inevitable and beneficial to the market and its participants. In this connection, greater attention should be paid to the security and newly emerging risks of their use.

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Figure 8: Changes in the form of customer contact with banks in 2012 and 2020



Source: Maguire, A., de T'Serclaes, J.W. Bison, S., Mönter, N. (2013). Distribution 2020 The Next Big Journey for Retail Banks. Boston Consulting Group, p. 4

As the example of the payments services deregulation in Europe proves, banks will continue to play a critical role in the financial system. It will be diminished and narrowed, but still critical (Teixeira, 2000, p. 83).

Recent disintermediation goes back to the early 1960s when the first computers were introduced and enabled automation in processing and accounting functions, among other procedures. New waves of technology created new waves of suppliers, products and services offered to customers at more and more convenient conditions and price. The financial services market will continue to gain complexity, banks will continue to be surrounded by non-banks who will partly substitute and partly complement banks' traditional functions. Banks will need to evolve and find relevance to their target groups though these new intermediaries. Probably banking as an industry will be required to join forces and work together on solutions helping them reduce expenses. For instance, meeting requirements of stringent regulation around anti-money laundering and know-your-customer policies costs each of the thousands of banks in Europe enormous efforts, both financial and operational. Moving towards a shared distributed ledger used by block chain technology might bring enormous savings to banks and considerable benefits to regulators.

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

References

Allen, F., Santomero, A.M. (2001). What do Financial Intermediaries do? *Journal of Banking & Finance*, Volume 25, Issue 2, February.

Allen, F. (1990). The Market for Information and the Origin of Financial Intermediation. *Journal of Financial Intermediation*, Volume 1, Issue 1, March.

Anderson, C.W., Makhija, A.K. (1999). Deregulation, Disintermediation, and Agency Costs of Debt: Evidence from Japan. *Journal of Financial Economics*, Volume 51, Issue 2, February.

Bhattacharya, S., Thakor, A.V. (1993). Contemporary Banking Theory. *Journal of Financial Intermediation*. Volume 3, Issue 1, October.

Boot, A.W.A. (2000). Relationship Banking: What Do We Know? *Journal of Financial Intermediation*, Volume 9, Issue 1, January.

Capgemini/RBS (2013). *World Payment Report*.

Census. Retrieved from: https://www.census.gov/econ/estats/2010/2010reportfinal.pdf.

Chinowski, B. (2013). *Elektroniczne metody płatności. Istota, rozwój, prognoza.* Warsaw: Polish Financial Supervision Authority.

Christophers, B. (2015). *Against (the Idea of) Financial Markets.* Geoforum, 01, Vol. 66.

Degryse, H., Van Cayseele, P. (2000). Relationship Lending within a Bank-Based System: Evidence from European Small Business Data. *Journal of Financial Intermediation*, Volume 9, Issue 1, January.

Doliniak, P. (1999). *Tak to robią w USA*, Prawo i Gospodarka.

Euromonitor International (2011). *Report on the Internet retailing and Europe 2011*. Retrieved from: http://euromonitor.typepad.com/files/european-digital-divde-e-commerce-markets-in-europe-opportunities-and-prospects.pdf.

Euromonitor (2015). *Report on the Internet Retailing in Poland.* Retrieved from: http://www.euromonitor.com/internet-retailing-in-poland/report.

European Commission (2000). *Directive 2000/46/EC of the European Parliament and of the Council of 18 September 2000 on the taking up, pursuit of and prudential supervision of the business of electronic money institutions.* Retrieved from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0046:EN:HTML.

European Commission (2007). *Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market.* Retrieved from: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0064&from=EN.

European Parliament (2012). *Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009.* Retrieved from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:094:0022:0037:en:PD.

Gellman, R. (1996). Disintermediation and the Internet. *Government Information Quarterly*, Volume 13, Issue 1.

Jallat, F., Capek, M.J. (2001). Disintermediation in Question: New Economy, New Networks, New Middlemen. *Business Horizons*, Volume 44, Issue 2, March–April.

Kapopoulos, P., Siokis, F. (2005). Market Structure, Efficiency and Rising Consolidation of the Banking Industry in the Euro Area. *Bulletin of Economic Research*, Vol. 57(1).

Maguire, A., de T'Serclaes, J.W., Bison, S., Mönter, N. (2013). *Distribution 2020. The Next Big Journey for Retail Banks*. Boston Consulting Group.

Lee, P., Capon, A. (2012). *Shackled Banks Face up to Disintermediation Threat*. Euromoney.

Pęcak, A. (2015). *Zestawienie systemów płatności internetowych według oferowanych usług.* Internet Standard e-Commerce.

Polish Financial Supervision Authority (2015). *Informacja o sytuacji KIP i BUP w III kwartale 2015 r.*

Polish Financial Supervision Authority (2015). *Komunikat w sprawie biur usług płatniczych,* https://www.knf.gov.pl/Images/KNF_uslugi_platniczych_tcm75-32630.pdf.

PRNews.pl, *Rynek bankowości mobilnej – raporty za wybrane okresy w latach 2012-2015.*

Schmidt, R.H., Hackethal, A., Tyrell, M. (1999). Disintermediation and the Role of Banks in Europe: An International Comparison. *Journal of Financial Intermediation*, January, Vol.8(1-2).

Scholtens, B., van Wensveen, D. (2000). A Critique on the Theory of Financial Intermediation. *Journal of Banking & Finance*, Volume 24, Issue 8.

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme

Szilagyi, P.G., Batten, J.A, Fetherston, T.A. (2003). Disintermediation and the Development of Bond Markets in Emerging Europe. *International Journal of the Economics of Business*, Vol. 10(1).

The Polish Bank Association (2015). *Bankowość internetowa i płatności bezgotówkowe II kwartał 2015 r.,* Report of The Polish Bank Association, Warsaw.

Teixeira, D. (2000). Disintermediation: A Positive Force for Banks. *American Bankers Association. ABA Banking Journal*, Vol. 92(9).

Werner, M., Cheng, H., Qiu, W. (2013). Disintermediation of the Banks: Reshaping China's. *Economy & Monetary Policy*, Bernstein Black Book.

Zhao, L. (2011). On Application of Financial Disintermediation in CRM of our Commercial Banks. *Paper presented at the 2nd International Conference on Artificial Intelligence, Management Science and Electronic Commerce.*

This paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/B/HS4/03610).

The article is an effect of the project –„Financialization- impact on the economy and society"- international conference, conducted by the University of Information Technology and Management in Rzeszów with Narodowy Bank Polski under the scope of economic education programme