

Vrli novi digitalni svijet? – Finansijska tehnologija i moć informacija

U ovom članku se fokusiramo na razvoju FinTech-a, kako se on ocjenjuje i kako se njime upravlja u odabranim oblastima, u Evropskoj uniji, Kini i Mađarskoj. Neka od značajnih pitanja u ovoj oblasti su: Kako regulatori mogu da prate brz tempo razvoja? Mogu li se propisi zasnivati na preciznoj definiciji i da li se mogu obezbijediti isti uslovi za tradicionalne banke i novoosnovane FinTech kompanije? Koji su rizici? Kako ih mogu rješavati supervizori i regulatori? Možemo zaključiti da je FinTech na početnoj fazi „revolucionarnog“ procesa, a definicija ovog fenomena je široka i stalno se mijenja. Regulatori i supervizori moraju uticati na uslove tako da pravila i procjena rizika treba da bud ista za tradicionalne banke i FinTech kompanije. Svi učesnici imaju odgovornost, uključujući centralne banke, regulatore, supervizore, postojeće banke, klijente i FinTech kompanije. Informacija je moć, a neki ekonomisti tvrde da je digitalna informacija nova normala. U našem članku mi djelimično opravdavamo prvi dio rečenice, dok drugi dio rečenice dajemo u obliku pitanja.

NOVA RUNDA TEHNOLOŠKE I DIGITALNE REVOLUCIJE KUCA NA VRATA

Jedan od najzujbudljivijih fenomena u svijetu je trenutno razvoj digitalizacije. Prostor, pojava i socijalni efekti ovog razvoja su toliko brzi i toliko duboki da se smatraju dijelom četvrte industrijske revolucije. Jedan manji dio ovog fenomena je prodor u finansijski i bankarski sektor, koji se uglavnom naziva

FinTech hipotezom, zbog njegove važne uloge.

Kako bi što bolje razumjeli ovaj razvoj, kratko ćemo dati ishod druge i treće industrijske revolucije i fokusirati se na tri oblasti - Evropsku uniju, Kinu i Mađarsku - kako bi proučili sadašnji status i pristup FinTech hipotezi. Razlog koji leži iz izbora za naše istraživanje je to da Evropska unija igra veoma važnu ulogu ne samo u razvoju finansijske tehnologije



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(FinTech), već i njena definicija, regulisanje i aspekti supervizije. Kineski pristup je takođe bitan, jer iskustvo pokazuje da se Kina suočava sa istim ili sličnim izazovima u superviziji i regulativi, dok je sa druge strane podrška finansijskoj tehnologiji veoma jaka. Zbog toga predstavljamo poslednje podatke o investiranju u finansijsku tehnologiju u Aziji i Evropi. Grafikon i slike podržavaju dva važna zaključka: ulaganja u finansijsku tehnologiju rastu i dostižu sve veće nivoe u Aziji i Evropi (vidjeti Slike 1 i 2). Takođe se vidi da je za sada razvoj u Evropi veći od onog u Aziji. Međutim, moramo biti pažljivi kod ovog poređenja jer linija koja označava u grafikonu Aziju odražava cjelokupni region Azije, a nemamo ekvivalentne podatke za Kinu kako bi napravili poređenje tog razvoja između Kine i Evrope.

“Neki ekonomisti tvrde da je digitalni svijet „nova normala“. U ovom periodu ubrzanih promjena, mi ne znamo kakav će konačan oblik poprimiti „nova normala“

Brave New Digital World? – Financial Technology and the Power of Information

In this paper we focus on the development of FinTech, how is it evaluated and managed in selected areas, in the European Union, in China and in Hungary. Some of the pertinent questions in this field are the following: How can regulators keep up with the rapid pace of development? Can regulation be based on a precise definition and can a level playing field be ensured between traditional banks and FinTech start-ups? What are the risks? How can they be handled by supervision and regulation? We can conclude that FinTech is in the initial phase of a “revolutionary” process, and the definition of this phenomenon is broad and changing. Regulators and supervisors must influence the conditions in a way that a level playing field and risk assessment should be the same for traditional banks and FinTech companies. All of the actors have responsibility, including central banks, regulators, supervisors, incumbent banks, consumers and FinTech companies. Information is power, and several economists claim that digital is the new normal. In our paper we partly justify the first part of the sentence and we put a question mark at the end of the second part.

A NEW ROUND OF TECHNOLOGICAL AND DIGITAL REVOLUTION IS KNOCKING ON THE DOOR

One of the most exciting phenomenon in the world right now is the development of digitalisation. The space, emergence and social effects of this development are so rapid and so deep, that it is considered to be part of the 4th industrial revolution. One minor part of this phenomenon is the penetration of the financial

and banking sector, which is mostly referred to as the FinTech hype, because of its important role.

In order to better understand this development we briefly review the outcome of the second and third industrial revolutions and then focus on three areas – the European Union, China and Hungary – to study the present status and approach of the FinTech hype. The reason behind our research selection is that

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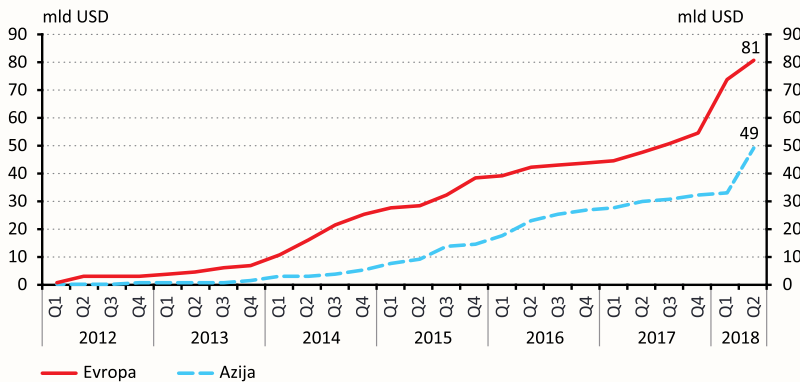
the European Union is playing a very important role not only in the development of FinTech, but also in the definition, its regulation and supervision aspects. The Chinese approach is also important since experience shows that China is facing the same or similar challenges in supervision and regulation, and on the other hand the support of FinTech development is strong. This is

why we present the recent data on FinTech investment in Asia and in Europe below. The charts and figures support two important conclusions: FinTech investments are growing and reaching higher and higher levels both in Asia and in Europe (see Figure 1 and 2). It can also be seen that for the time being the European development is higher than in Asia. However, one must be careful making this comparison because the Asia line

in the chart reflects the whole Asian region and we do not have equivalent data for China to compare the Chinese and European development in this respect.

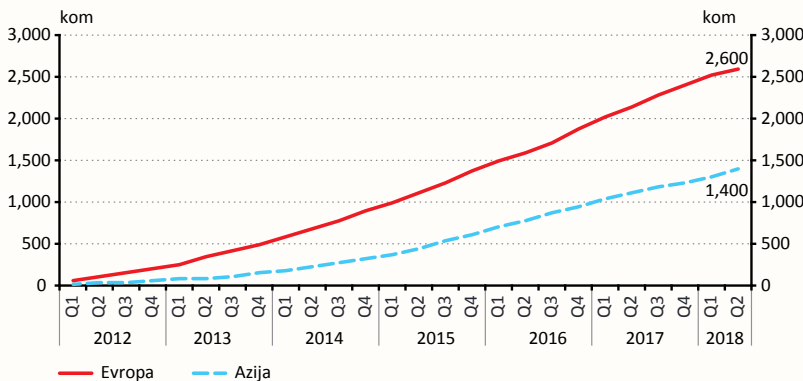
“Several economists claim that digital is the new normal. In this period of rapid changes, we do not know what the final shape of “the new normal” will be

Slika 1
Kumulativne FinTech investicije u Aziji i Evropi
(2012–2018)



Izvor: KPMG (2018, str.34, str. 47)

Slika 2
Kumulativni zaključeni poslovi FinTech u Aziji i Evropi
(2012–2018)



Izvor: KPMG (2018, sgr.34, str. 47)

U tekstu ćemo dalje predstaviti i razvoj u Mađarskoj, gdje je iz nekoliko razloga razvoj finansijske tehnologije počeo sa zakašnjenjem, ali je u prethodnim godinama napredovao kako bi dostigao međunarodni nivo.

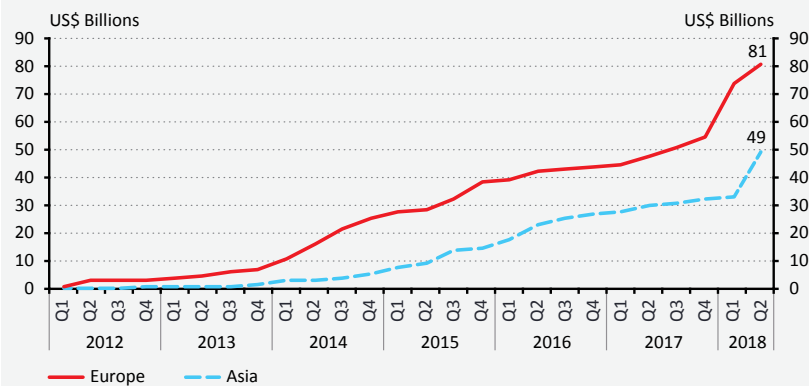
Od početka 21. vijeka, svjedoci smo digitalne transformacije - promjena koje su povezane sa inovacijama u

oblasti digitalne tehnologije u svim aspektima društva i ekonomije. Četvrta industrijska revolucija je već u toku. Sektor 4.0 će biti odgovoran na buduće izazove. Neki ekonomisti tvrde da je digitalni svijet „nova normala“. Mi ukazujemo da se ipak treba zapitati nad ovom izjavom. U ovom periodu ubrzanih promjena, mi ne znamo kakav će konačan

oblik poprimiti „nova normala“. „U dnevnoj štampi finansijska tehnologija se opisuje kao „rušilačka“, „revolucionarna“ tehnologija, koja je naoružana „digitalnim oružjem“ koje će „srušiti“ sve barijere i tradicionalne finansijske institucije“ (Svjetski ekonomski forum 2017). Ovaj revolucionarni fenomen neumoljivo zaokuplja sve više i više prostora u svakodnevnim životima. Ove promjene - neke revolucionarne a druge shvaćene kao takve - su, prirodno, došle do bankarskog i finansijskog sektora. Finansijska tehnologija (FinTech) je širok koncept. Koje su glavne zabrinutosti evropskih zakonodavaca i supervizora kada je riječ o njoj? Prije svega, razvoj digitalne finansijske tehnologije je veoma brz. Ona se toliko brzo razvija da je upravo iz tog razloga teško dati tačnu definiciju fenomena finansijske tehnologije. Ako je definicija široka i uglavnom predstavlja krovni koncept, onda je teško objasniti pravni okvir i odgovarajuću superviziju i to ne može biti dovoljno. Supervizori nijesu ispred razvoja, već više zaostaju iza njih. Za sada, princip „isti rizik, isti propisi“ ne može se primijeniti. U vezi sa problemom definisanja ovog fenomena, primjeri finansijske tehnologije uključuju digitalnu tehnologiju vođenja evidencije transakcija, robotizovano savjetovanje, regulatornu tehnologiju (RegTech - tehnologije koje se mogu koristiti za zahtjeve za usklađenosti sa propisima i izvještavanje) i virtuelne valute. Cilj ovog rada je da omogući bolje

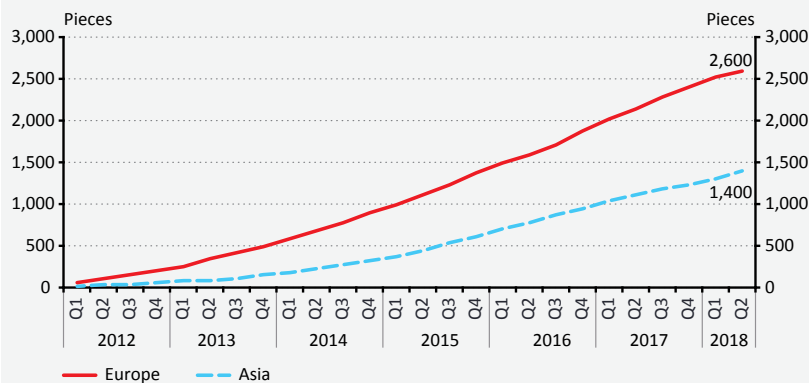
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Figure 1
Cumulative FinTech investment in Asia and in Europe
(2012–2018)



Source: KPMG (2018, p.34, p. 47)

Figure 2
Cumulative FinTech closed deals in Asia and in Europe
(2012–2018)



Source: KPMG (2018, p.34, p. 47)

Later, we also present the Hungarian case, where for several reasons FinTech development started with some delay, but in recent years has progressed a good bit to catch up with the international level.

Since the beginning of the 21st century, we have been experiencing a digital transformation – changes associated with innovation in the field of digital technology in all aspects of society and the economy. The 4th industrial revolution is already underway. Industry 4.0 will be an answer to the challenges lying ahead. Several economists claim

that digital is the new normal. We suggest putting a question mark at the end of this statement. In this period of rapid changes, we do not know what the final shape of “the new normal” will be. “In the news, financial technology is described as ‘disruptive’, ‘revolutionary’, and armed with ‘digital weapons’

“Supervisors are not ahead of the developments, but rather trailing behind them. For the time being, the principle of “same risk, same regulation” cannot be enforced

that will ‘tear down’ barriers and traditional financial institutions” (World Economic Forum 2017). This revolutionary phenomenon is inexorably occupying more and more space in our everyday lives. Naturally, these changes – some revolutionary and others perceived as such – have also reached the financial and banking sector. Financial technology (‘FinTech’) is a broad concept. What are the main concerns of the European legislators and supervisors? First of all, the development of digital financial technology is very rapid. So rapid indeed that even the exact definition of the FinTech phenomenon is difficult. If the definition is broad and mostly an umbrella concept, then elaborating the legal framework and proper supervision is also difficult and cannot be sufficient. Supervisors are not ahead of the developments, but rather trailing behind them. For the time being, the principle of “same risk, same regulation” cannot be enforced.

Referring to the definition problem, examples of FinTech include digital ledger technology, robo-advice, RegTech (technologies that can be used for compliance and reporting requirements) and virtual currencies. This paper focuses on facilitating a better understanding

“Finansijska tehnologija iz temelja mijenja način na koji posluju kompanije koje se bave pružanjem finansijskih usluga

razumijevanje fenomena finansijske tehnologije i mogućih odnosa između tradicionalnih banaka i novoosnovanih kompanija koja se bave finansijskim tehnologijama.

Finansijska tehnologija¹ je jedna od najinovativnijih, izuzetno važnih i potencijalno najbržih promjena u pružanju finansijskih usluga i iz temelja mijenja način na koji posluju kompanije koje se bave pružanjem finansijskih usluga. Ona transformiše tržišta dužničkih hartija od vrijednosti i kapitala, plaćanja, procjenu kredita, usklađenost sa propisima, lične finansijske i mnoge druge aspekte finansijskih usluga. Iako neki smatraju da je FinTech samo još jedna „zvučna riječ“, mi vjerujemo da tehnologija kreira mogućnost da se dramatično preoblikuju finansijske usluge koje danas poznajemo. Digitalizacija se dešava u svim oblastima poslovanja i života, transformišući usluge i kreirajući nove usluge koje ubrzavaju nove

FinTech kompanijama (Deloitte2016). Zlatno doba FinTech je došlo, prema propovjedačima finansijske tehnologije, ali s druge strane trenutna hipoteza o finansijskoj tehnologiji nije zbog navodnog revolucionarnog karaktera tehnologija, već zbog njihove bolje vidljivosti. Ne dovodeći u pitanje opipljive pozitivne rezultate, željeli bismo da se fokusiramo na trenutnu situaciju fenomena FinTech i njegovu međunarodnu procjenu, teškoće koje su uključene u predviđanje njegovih budućih izgleda i neophodnost pomjeranja paradigme tradicionalnog bankarskog sistema. U čvrstoj vezi sa tradicionalnim bankarskim sistemom, mi smo istražili očekivani razvoj odnosa između banaka, FinTech kompanija i - ne manje važnih - njihovih postojećih i budućih klijenata. Na kraju, važno pitanje je da li postoje rizici koji su povezani sa upotrebom usluga koje pruža finansijska tehnologija. Ako postoje, kako bi nove regulatorne i supervizorske mjere ublažile ili popravile te rizike? Jedno od prvih pitanja na koje treba odgovoriti je gdje se mi nalazimo u procesu digitalne tehnologije? Da li smo na početku ili smo stigli do uravnotežene, mirne faze kontinuiranog razvoja? Gdje je mjesto tradicionalnih banaka u ovom procesu? Po našem mišljenju, kratak i tačan odgovor je: mi tačno ne znamo. Analiziranje iskustva iz prošlosti bi moglo da pomogne u odgovoru na ovo pitanje.

Kada istražujemo mogući ishod i uticaj razvoja digitalne tehnologije, vještačke inteligencije i finansijske tehnologije na ljudske i socijalne

odnose, gotovo je očigledno da treba uporediti posljedice treće industrijske revolucije sa sadašnjom četvrtom jer ona uključuje tzv. digitalno doba. Zapadna civilizacija je već bila svjedok tri industrijske revolucije, koje bi se mogle opisati kao radikalni skokovi u industrijskim procesima koji su doveli do značajno veće produktivnosti. Prva je poboljšala efikasnost kroz upotrebu hidroelektrana, značajnu upotrebu termoelektrana i razvoj mašinskih alata. Druga je donijela električnu energiju i masovnu proizvodnju (montažne trake), a treća i najskorija je dalje ubrzala automatizaciju upotrebom elektronike i informacione tehnologije. Četvrta industrijska revolucija je već u toku.

Poznate su nam posljedice prve tri revolucije, ali nam još uvijek nije poznat mogući ishod četvrte revolucije (Li2017).

Iako ćemo u nekim oblastima vidjeti brze i radikalne promjene, ostale oblasti će se mijenjati polako i stabilno, po „evolucionarnijem“ koraku. U svako slučaju, nema povratka nazad. U ovoj revoluciji, fizički objekti se neprimjetno integrišu u informacionu mrežu. Internet se kombinuje sa inteligentnim mašinama, proizvodnim sistemima i procesima da obrazuje sofisticiranu mrežu. Realan svijet se pretvara u ogroman informacioni sistem. Zbog toga se fokusiramo na ulogu finansijskog sektora u ovoj novoj revolucionarnoj fazi.

Nekoliko dekada nakon početka treće industrijske revolucije, filozofi

¹ Grupa istraživača definiše fenomen finansijske tehnologije kao finansijska rješenja koja je omogućila tehnologije (Arner et al.2015). Po njima, FinTech fenomen nije ograničen na određene bankarske usluge (npr. finansiranje) ili poslovne modele (npr. uzajamno kreditiranje, aplikacije), ali obuhvata vrste proizvoda i usluga koje su tradicionalno pružale banke svojim klijentima. Drugi istraživači (Kerényi–Molnár2017, Kerényi–Molnár–Müller2018, McAuley2015, Kimetal.2016) šire tumače ovaj fenomen, definišući ga kao ekonomski sektor koji se sastoji od kompanija koje koriste tehnologiju kako bi učinili finansijske sisteme efikasnijim. Stav ECB-a je da “FinTech” predstavlja krovni termin koji obuhvata širok spektar poslovnih modela. U skladu sa odgovornostima ECB-a, pripremljene su smjernice koje se odnose na bankarske proizvode i usluge koje podržava tehnologija (ECB2017)

of the FinTech phenomenon and the possible relations between traditional banks and FinTech start-ups.

Financial technology¹ is one of the most innovative, increasingly important and potentially the most rapid change in financial services, and is revolutionising the way financial services firms operate. It is transforming debt and equity markets, payments, credit assessment, regulatory compliance, personal finance and many other facets of financial services. Although some may think that FinTech is just another “buzzword”, we believe that technology creates the possibility to dramatically reshape finance as we know it. Digitisation is taking place in all areas of business and life, transforming services, and creating new ones accelerated by new FinTech companies (Deloitte 2016). The Golden Age of FinTech has come according to FinTech evangelists, but on the other hand the current hype about FinTech is not due to the allegedly revolutionary character of the technologies, but to their better visibility. Without questioning the tangible positive results, we would like to focus on the current situation of the FinTech phenomenon and its international assessment, the difficulties involved in forecasting its future prospects, and the necessity of a paradigm shift in the traditional banking system. In close relation to the latter, we review the expected evolution of the relationship between banks, FinTech companies and – last but not least – their current and future customers. Finally, the important question

is whether or not there are risks related to the use of the FinTech services. If there are, how should these risks be mitigated or remedied by new regulatory and supervisory measures? One of the first questions to be answered is where do we stand in the digital technology process? Are we at the beginning or have we arrived at a balanced, calm phase of continuous development? Where is the place of the traditional banks in this process? In our opinion, the short and correct answer is: we do not know exactly. Answering this question could be helped by reviewing the lessons of the past.

When we investigate the possible outcome and impact of digital, AI and FinTech developments on human and social relations it is almost self-evident to compare the consequences of the third industrial revolution with the present fourth one since the latter involves the so-called digital age. Western civilisation has already witnessed three industrial revolutions, which could also be described as disruptive leaps in industrial processes resulting in significantly higher productivity. The first improved efficiency through the use of hydropower, the increasing use of steam power and the development of machine tools. The second brought electricity and mass production (assembly lines), and the third and most recent further accelerated automation using electronics and IT. The fourth industrial revolution is already underway.

“Financial technology is revolutionising the way financial services firms operate

We know the consequences of the first three revolutions, but we do not yet know the possible outcome of the fourth one (Li 2017).

While some areas will see fast and disruptive changes, others will change slowly and steadily, at a more “evolutionary” pace. In either case, there is no going back. In this revolution, physical objects are being seamlessly integrated into the information network. The internet is combining with intelligent machines, production systems and processes to form a sophisticated network. The real world is turning into a huge information system. This is the reason why we focus on the financial sector’s role in this new revolutionary phase.

Several decades after the beginning of the third industrial revolution philosophers were still trying to summarise the relation between machines and human beings and to depict their views on the impact of

¹ A group of researchers define the FinTech phenomenon as technology-enabled financial solutions (Arner et al. 2015). In their reading, the FinTech phenomenon is not limited to certain banking activities (e.g. financing) or business models (e.g. peer-to-peer lending, applications), but encompasses the kinds of products and services that have traditionally been provided by banks to their customers. Others (Kerényi – Molnár 2017, Kerényi – Molnár – Müller 2018, McAuley 2015, Kim et al. 2016) interpret the phenomenon more broadly, defining it as an economic industry composed of companies that use technology to make financial systems more efficient. The ECB’s position is that “FinTech” is an umbrella term encompassing a wide variety of business models. In line with the ECB’s responsibilities, a guide has been produced relating to technology-supported banking products and services (ECB 2017)

“Realan svijet se pretvara u ogroman informacioni sistem. Zbog toga se fokusiramo na ulogu finansijskog sektora u ovoj novoj revolucionarnoj fazi

su i dalje pokušavali da ukratko prikažu odnos između mašina i ljudskih bića i opišu svoje stavove o uticaju doba mašina na razmišljanje i ponašanje ljudi. Mi smatramo da su ova pitanja opravdana ili se mogu opravdati u dobu digitalne tranzicije, kao i da su validna prilikom procjene metamorfoze tradicionalnih banaka i njihovih klijenata.

Tehnički napredak se ubrzava. Empirijska posmatranja koja su poznata kao Murov zakon navode da se tehnički razvoj ili određeni djelimični procesi u okviru njega mogu opisati visokom eksponencijalnom putanjom rasta (Brock 2006, Kurzweil 2006). Digitalna transformacija finansijskih usluga je danas zajednička tema istraživanja i analize finansijskog sistema i bankarskog sektora. Finansijska konferencija danas ne bi ispunila očekivanja javnosti ukoliko ne bi na dnevnom redu imala i temu koja sadrži riječ „FinTech“. Nova mišljenja i nalazi se slažu u mnogim aspektima: pozdravljanje

“Sve više eksperata govori da je došlo vrijeme za dramatične promjene stavova postojećih banaka

pridošlica, poboljšanje efikasnosti i povećanje standarda potrošačkih usluga, ubrzanje i sprovođenje konkurencije. Nema nikakve sumnje da su sve ove promjene dobro dodošle. One predstavljaju, međutim, mnoge aspekte razvoja i trendova koji su već u toku, kada na postoje tako veliki dogovori i zajedničko razumijevanje, i kada nijesu formulisana važna pitanja koja su povezana sa finansijskom tehnologijom (Taylor2017).

Međutim, pored osnivanja finansijskih organizacija, postojeće banke su takođe podložne strukturalnoj inerciji koja ograničava njihovu sposobnost da se prilagode promjenama u okruženju (Buenstorf 2016). Novoosnovane kompanije imaju određene prednosti u odnosu na finansijske gigante. Zakonski zahtjevi za izdvajanjem kapitala za njihovo osnivanje, njihova mala veličina, slaba kultura, tehnološki napredak, i sposobnost da privuku najbolje talente daje im konkurentnu prednost koja je uključena u samu njihovu kulturu. Nove, pogodnije usluge u čijem centru su klijenti mijenjaju okruženje. Sve više eksperata govori da je došlo vrijeme za dramatične promjene stavova postojećih banaka. Glavni razlozi za ovu promjenu su sledeći:

- Veliki prodor mobilnih uređaja,
- rastući broj klijenata „djece digitalnog doba“ (takozvani Milenijalci),
- uporno nepovjerenje u banke, neka to bude stvarno ili pretpostavljeno,
- klijenti generalno postaju zahtjevniji,
- rastuća nejednakost - potreba za smanjivanjem finansijske nepismenosti i stimulisanje finansijske inkluzije,

- popularnost centara finansijske tehnologije, laboratorija, akceleratora od strane nacionalnih i lokalnih političara i finansijskih institucija.

IZAZOV DOLAZEĆE FINANSIJSKE TEHNOLOGIJE

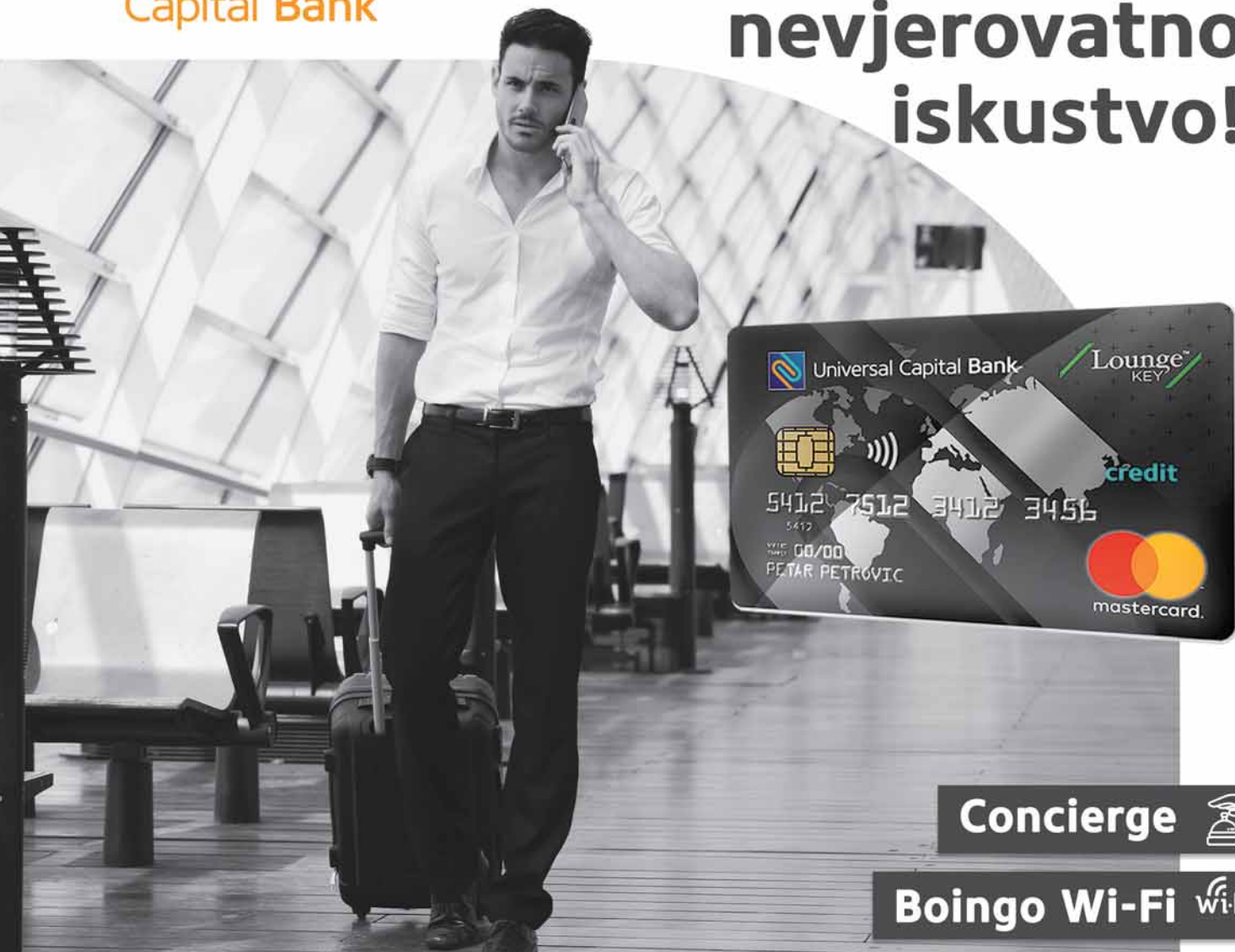
Ne postoji široko prihvaćena definicija finansijske tehnologije (FinTech) u akademskoj ekonomskoj literaturi. Bazelski komitet za superviziju banaka (BCBS) je odlučio da koristi radnu definiciju FinTech-a koju je dao Odbor za finansijsku stabilnost definišući je kao „tehnološki omogućenu finansijsku inovaciju koja može dovesti do novih poslovnih modela, aplikacija, procesa ili proizvoda uz materijalni efekat na finansijska tržišta i institucije i pružanje finansijskih usluga“. BCBS smatra ovu široku definiciju pragmatičnom u svijetlu trenutnog protoka razvoja finansijske tehnologije. U tim okolnostima, analize i implikacije ove studije fokusiraju se na efektie FinTech-a koji su naročito relevantni za banke, supervizore banaka i na kraju za njihove klijente. Vrijedno je takođe napomenuti da se termin FinTech ovdje koristi da opiše široki spektar inovacija koje koriste postojeće banke i učesnici na tržištu bilo da su to novoosnovane kompanije ili veće tehnološke firme.

Iz gore navedenog se takođe može vidjeti da definicije centralnih banaka i Bazelskog komiteta imaju zajedničku karakteristiku: da se FinTech (finansijske usluge) generalno tumače i definišu tako da dozvoljavaju neprestane promjene i proširenja.



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“Dok se FinTech kompanije bore za uspon na tržištu, banke stupaju u brojna partnerstva sa njima, a nekoliko njih je već uspjelo u tome

Termin FinTech takođe uključuje razvoj digitalnih usluga i poslovne modele zasnovane na tehnološkom razvoju, koji su se već pojavili na finansijskom tržištu. Širenje sektora finansijske tehnologije je globalni fenomen: masovno osnivanje novih učesnika van bankarskog sektora i novoosnovanih kompanija je opaženo na razvijenim tržištima (npr. SAD, UK) i dinamičkim tržištima u nastajanju (Indija, Kina). Pružaoci usluga koji nude FinTech rješenja pojavljuju se u mnogim bankarskim oblastima, najčešće za pružanje usluga u platnom prometu, odobravanju kredita i davanje savjeta u pogledu investicija.

Po prirodi stvari, gore navedena dozvoljena i široka definicija ima ozbiljnih posljedica. S obzirom da definicija ne identifikuje precizno sadržaj i opseg usluga koje pružaju kompanije koje se bave pružanjem usluga finansijske tehnologije, stvaraju se teškoće kod uspostavljanja zakonskog okvira za označavanje granica supervizorskih kontrola i obezbjeđivanje jednakih pravilaza tradicionalne banke i FinTech kompanije.

FinTech kompanije utiču na način na koji su finansijske usluge strukturisane, pružene ili upotrijebljene, ali nijesu se uspješno

uspostavile kao dominantni akteri.

Inovacije su u usponu. Dok se FinTech kompanije bore za uspon na tržištu, banke stupaju u brojna partnerstva sa njima, a nekoliko njih je već uspjelo u tome. Banke puno ulažu kako bi zadovoljile zahtjeve svojih klijenata, i mnoge banke stvaraju primamljivo iskustvo koje će ispuniti potrebe klijenata kao nikada do tada. Pored toga, brojne institucije efikasno izgrađuju nove kulture, nastavljajući dalje nakon razočaravajućeg iskustva iz prethodnih deset godina (McKinsey2018).

Mnoge FinTech kompanije su nastale sa ciljem preuzimanja postojećih pružaoca usluga kao novi dominantni igrači u pružanju finansijskih usluga, ali su se preusmjerile izgrađivanje partnerstva jer su se borile za uspjeh i usvajanje od strane klijenata. Iako FinTech kompanije nijesu uspjele da naruše konkurentno okruženje, postavile su osnove za to narušavanje u budućnosti. Neke finansijske institucije su preokrenule prijetnju FinTech kompanija u mogućnosti (WEF 2017). Prihvatajući inovativni značaj FinTech kompanija, jedno ključno pitanje je kako će supervizorske i regulatorne institucije odgovoriti na ovaj izazov.

Kao što je gore pomenuto, fenomen finansijske tehnologije se pojavio u prvoj fazi četvrte industrijske revolucije. Nakon međunarodne finansijske krize iz 2007.-2008., primarni zadatak tradicionalnih banaka je bio da riješe posljedice krize: one su bile primorane da očiste svoje bilanse stanja, osnaže osnovicu kapitala i smanje stope nekvalitetnih kredita. Banke su morale da se prilagode strogim i

ponekad previše jakim regulatornim uslovima nastalim kao posljedica krize. One su morale da značajno smanje svoje troškove. Zbog toga, tradicionalne banke su jedino mogle da se skoncentrišu na Internet usluge i digitalne razvoje sa zakašnjenjem, u poslednje vrijeme. Njihov primarni fokus je bio da se oporave i ojačaju pouzdanje i povjerenje klijenata u bankarski sektor. U ovoj situaciji s pojavom stvarne tržišne tražnje, otvorio se tržišni prostor za FinTech kompanije. Za osnivanje novih FinTech kompanija je bilo potrebno manje kapitala, dok je njihov razvoj finansijske tehnologije u oblasti pružanja platnih usluga bio brz. Pored toga, neke tradicionalne banke su bile otvorene za eksternalizaciju finansijskih usluga² i digitalne razvoje. Regulisanje i supervizija FinTech usluga uglavnom je pratila događaje koji se brzo mijenjaju, pa je kao posljedica toga, regulisanje treće strane kao pružaoca usluga plaćanja (TPP) bilo manje strožije u odnosu na ono koje se primjenjuje za postojeće banke.

Tokom sledećih deset godina, bankarski sektor će doživjeti veći stepen promjene u odnosu na one koje su se desile vjerovatno u posljednjih 100 godina. Na tržišnim učesnicima je da se suoče sa tim izazovom. Naročito, banke treba da ponovo razmisle o svojim poslovnim modelima i treba da posmatraju novi talas inovacija kao mogućnost da dođu do novih klijenata, povećaju efikasnost i poboljšaju svoje poslovne modele.

² U ovom smislu, Fintech usluge i proizvodi se mogu smatrati tehnologijom za specijalizovana tržišta („NicheTech“)

the machine age on human thinking and behaviour. In our view, these questions are or could be justified in the age of digital transition and are also valid when assessing the metamorphosis of traditional banks and their clients.

Technical progress is accelerating. The empirical observation known as Moore's Law states that technical development, or certain partial processes within it, can be described by a high exponential growth path (Brock 2006, Kurzweil 2006). Nowadays, the digital transformation of financial services is a common topic in the investigation and analysis of the financial system and the banking sector. Today, a financial conference would not meet the expectations of the mainstream if it missed an item on the agenda as the word "FinTech" was not present. In many respects, the emerging opinions and findings agree: welcome the newcomer, the improving efficiency, the rising standard of consumer services, the acceleration and enforcement of competition. All of these unquestionable changes are warmly welcomed. There are, however, many aspects of the already ongoing developments

and tendencies where the agreement and common understanding is not so great, and that is where important FinTech-related issues are not formulated (Taylor 2017).

However, in addition to established financial organisations, incumbent banks are also subject to structural inertia that limits their capacity to adapt to environmental change (Buenstorf 2016). Start-ups have certain advantages over financial behemoths. The legal capital requirements for their establishment, their small size, lean culture, technological progress, and ability to attract top talents give them a competitive advantage that is inherent in their very nature. New, more convenient, customer-centred services are changing the landscape. More and more experts are thus saying that the time has come to dramatically change the incumbent banks' attitudes. The main reasons for this change are the following:

- High penetration of mobile devices,
- Growing number of digitally native customers (so-called Millennials),
- Persistent distrust towards banks, let it be real or presumed,
- Customers in general are becoming more demanding,
- Growing inequality – the need to reduce financial illiteracy, and financial inclusion stimulus,
- The popularity of FinTech hubs, labs, accelerators by local and national politicians and financial institutions.

“The real world is turning into a huge information system. This is the reason why we focus on the financial sector’s role in this new revolutionary phase

“More and more experts are thus saying that the time has come to dramatically change the incumbent banks’ attitudes

THE CHALLENGE OF APPROACHING FINTECH

There is no widely accepted definition of FinTech (financial technology) in the academic economic literature. The Basel Committee of Banking Supervision (BCBS) has opted to use the Financial Stability Board's (FSB) working definition for FinTech as “technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services”. This broad definition is considered pragmatic by the BCBS in the light of the current fluidity of FinTech developments. That being so, the focus of the analysis and implications of this paper is on the effects of FinTech that are particularly relevant for banks, bank supervisors and – at the end of the day – their consumers. It is also worth noting that the term FinTech is used here to describe a wide array of innovations both by incumbent banks and entrants, be they start-ups or larger technology firms.

From the above it can be seen that the definitions of both the central banks and the Basel Committee have a common feature: that FinTech (financial services) are widely interpreted and defined in a way that permits continuous change and expansion.

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The term FinTech also includes digital services and technological development-based business models that have already emerged in the financial market. The spread of the FinTech sector is a global phenomenon: the mass launch of new, non-bank participants and start-ups is being observed both in the developed markets (e.g. United States, United Kingdom) and in the dynamically developing markets (e.g. India, China). Service providers offering FinTech solutions have appeared in many banking fields, most frequently in payments, lending and investment advice.

As a matter of course, the permissive and broad definition outlined above has serious consequences. Since the definition does not precisely identify the content and scope of FinTech services, it creates difficulties in establishing a legislative framework to indicate the boundaries of supervisory controls, and in maintaining equal conditions for competition between traditional banks and FinTech companies.

FinTechs have an influence on how financial services are structured, provided and consumed, but have not successfully established themselves as dominant players.

Innovation is on the rise. As FinTechs have struggled to scale, banks have entered into a number of partnerships with them, and several are already bearing fruit. Banks have invested heavily for the satisfaction of their customers, and many are building compelling experiences that will meet customers' needs as never before. Furthermore, a number of institutions are effectively building new cultures, turning the

page on disappointing experiences over the past decade (McKinsey 2018).

Many FinTechs came into existence with the goal of overtaking incumbents as the new dominant players in financial services, but they have shifted more towards building partnerships since they struggle with scale and customer adoption. Although FinTechs have failed to disrupt the competitive landscape, they have laid the foundation for future disruption. Some financial institutions have turned the threat of FinTechs into an opportunity (WEF 2017). Accepting the innovative importance of FinTechs, one key question is how the supervisory and regulatory institutions will approach this challenge.

As mentioned above, the FinTech phenomenon has emerged in the first phase of the fourth industrial revolution. Following the 2007–2008 international financial crisis, the primary task of traditional banks was to overcome the consequences of the crisis: they were forced to clean up their balance sheets, strengthen their capital base and cut NPL rates. They had to adapt to the strict and sometimes overly-eager regulatory conditions resulting from the crisis. They had to make significant cost reductions. As a result, traditional banks were only able to concentrate on internet services and digital developments with a delay, in recent years. Their primary focus was to recover and strengthen trust and confidence. In this situation, a market gap opened up for

“As FinTechs have struggled to scale, banks have entered into a number of partnerships with them, and several are already bearing fruit

FinTech companies, as real market demand emerged. Less capital was needed to launch the operation of FinTech start-ups, and their development of financial technology in the field of payment services was fast. Furthermore, some traditional banks were open to outsourcing certain financial services² and digital developments. Regulation and supervision of FinTech services mostly followed the rapid, changing events, consequently the regulation of third party payment (TPP) services was less strict than that of the incumbent banks.

Over the next ten years, banking will experience a higher degree of change than probably in the last 100 years. It is up to market incumbents to face this challenge. In particular, banks should rethink their business models and should look at the new wave of innovation as an opportunity to reach out to new customers, to increase efficiency, and to upgrade their business models.

However, there is a risk that the FinTech phenomenon could follow the already known pattern of shadow banking.

² In this sense, Fintech services and products might be considered as nichetech solutions

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Međutim, postoji rizik da bi FinTech fenomen mogao da prati već poznati šablon bankarstva u sjeni.

Govoreći o budućnosti bankarstva, Hatami (2015) uzima u obzir pet scenarija.

1. Scenario - Bolja banka. Digitalna revolucija ide svojim tokom i gotovo svi klijenti vide digitalizaciju kao glavni način angažovanja sa bankom. Postojeće velike banke su uvidjele ovu mogućnost i preoblikovale svoje poslovanje kako bi ispunile nove zahtjeve za digitalizacijom. One su restrukturirale svoje IT platforme i procese, interno i kroz partnerstva dostavile nove prijedloge, ali najvažnije je da su one napravile većinu ključnih sredstava. One su bile u mogućnosti da zadrže većinu svojih klijenata i ponovo obučile svoje zaposlene da postanu digitalno pismeniji.
2. Scenario - Nova banka. Postojeći pružaoci usluga nijesu bili u mogućnosti da prežive digitalne prekide. Oni nijesu mogli da zadovolje potrebe svojih klijenata. Ti klijenti su bili prisiljeni da traže usluge od novih konkurentnih banaka. To su nove banke, koje nude pune usluge izgrađene za novo doba. Te banke pružaju usluge koje su slične uslugama koje nude stare banke, ali za razliku od

starih banaka one to rade brže, jeftinije i bolje.

3. Scenario - Decentralizovana banka. Kako je FinTech revolucija napredovala, veliki broj novih kompanija je nastao za pružanje boljih bankarskih usluga klijentima. One nijesu pokušale da postanu univerzalne banke koje posluju sa stanovništvom - one se jednostavno fokusiraju na izuzetno dobro pružanje specifičnih proizvoda. One su se u početku fokusirale na plaćanja, odobravanje kredita, štedne proizvode, devizno poslovanje, ali su se polako preusmjeravale na poslove sa hipotekama, investicijama, penzijama i slično.
4. Scenario - Degradirana banka. U ovom scenariju banke su postale pružaoci usluga podrške za platforme koje služe za direktno poslovanje sa klijentima, pri čemu banke izdaju neophodne dozvole za rad, obezbjeđuju pristup mrežama plaćanja i drže depozite i obezbjeđuju pristup finansiranju. Postoji rizik da će banke i supervizori banaka imati ograničenu sposobnost da prate cjelokupne transakcije i sistemski rizik. Gubitak odnosa sa klijentima i zavisnost od tih novih platformi koje kanališu finansijske proizvode mogu imati nepovoljne posljedice na jedinice za upravljanje rizikom i tok prihoda (prihodi bi se dijelili sa novim posrednicima).
5. Scenario - Banka „bez posrednika“. Kako klijenti postaju sve razočaraniji u banke, sve više im odgovara da pretražuju omiljene društvenih mreže ili pružaoce hardver usluga kako bi kupili finansijske usluge. To obično počinje sa pružanjem usluga

plaćanja, zatim finansiranja prodaje, pružanje savjeta za ulaganje, davanje kredita i deponovanje štednje, sve do trenutka kada ti pružaoci usluga mogu da pristupe svim bankarskim proizvodima. Klijenti su smatrali da korišćenje pružaoca koga oni vole i kome vjeruju je garancija da neće biti iskorišćeni, a to je onaj isti osjećaj koji su imali i kod banaka (Hatami 2015, BCBS2018).

Tradicionalne banke se trenutno suočavaju sa izazovom u pogledu ljudskih resursa. Kako zatvoriti digitalni jaz koji postoji između njihovog pružanja usluga i usluga koje pružaju FinTech kompanije?

Nedostatak digitalnih vještina stvara takmičenje između kompanija u borbi za popunjavanje pozicija u analitici podataka, dizajnu korisničkog iskustva, vještačke inteligencije, sajber bezbjednosti i ostalim oblastima. Naredni period je težak ili veoma težak za polovinu bankarskih institucija da ispuni ovaj zadatak.

Kompanija McKinsey je prikazala jedan novi aspekt istog pitanja u godišnjim bankarskim izvještajima. Godišnji izvještaji za 2015. godinu su dokumentovali mogućnost da će FinTech kompanije i digitalne platforme urušiti bankarske marže. Međutim, prema njenom posljednjem izvještaju, banke su nedavno napravile dosta novina. Jedna oblast u kojoj je kompanija McKinsey uočila radikalni pritisak su doznake - profitni centar za banke širom svijeta. Nove firme kao što su Azimo, TransferWise i TransferGo izgradile su superiornu tehnologiju i mogu da odrede cijenu svojim uslugama nižu za 78% nego što to rade postojeći pružaoci usluga. U borbi sa konkurencijom, marže postojećih

Speaking about the future of banking, Hatami (2015) considers five scenarios.

1. Scenario — The better bank. The digital revolution has run its course and almost all customers see digital as their main engagement mode with their bank. The incumbent big banks perceived the opportunity and reshaped their businesses to meet the new digital requirements. They restructured their IT platforms and processes, delivered new propositions internally and through partnerships, but most importantly they made the most of their key assets. They were able to retain most of their customers and retrained their people to become more digitally literate.
2. Scenario — The new bank. Incumbents were unable to survive the digital disruption. They were not able to meet the needs of their customers. These left in droves to go to the new challenger banks. These are new, full service banks built for the digital age. They provide services similar to those of the old banks, but they do it faster, cheaper and better than they ever could.
3. Scenario — The distributed bank. As the FinTech revolution progressed, large numbers of new businesses emerged to provide customers with better banking services. They did not attempt to be universal retail banks – they simply focused on providing specific products extremely well. They initially

“Over the next ten years, banking will experience a higher degree of change than probably in the last 100 years

- focused on payments, loans, savings products, forex, but slowly they moved into mortgages, investments, pensions and more.
4. Scenario - The relegated bank. In this scenario, banks become a back office service provider for front office customer-facing platforms, with banks providing the necessary licenses, access to payment networks and maintaining deposits and access to funding. There is a risk that banks and bank supervisors will have limited ability to monitor end-to-end transactions and systemic risk. The loss of the customer relationship and the dependence on these new platforms that channel financial products may have adverse consequences for risk management functions and revenue streams (revenues would need to be shared with the new intermediaries).
 5. Scenario — The disintermediated bank. As customers became increasingly disenchanted with their bank, they became increasingly comfortable with going through their favourite social network or hardware provider to buy financial services. It started with payments, followed by

sales finance, then investment advice, loans and savings products, until eventually all of the banks' products could be accessed by these providers. Customers felt that going through a provider they love and trust was a guarantee that they wouldn't be taken advantage of, like they felt they had by the banks (Hatami 2015,

BCBS 2018).

For the traditional banks, there is also a present challenge on the human side. How do they close the digital gap in their services and also in relation to FinTech service providers?

The shortage of digital skills pits company against company in the fight to fill positions in data analytics, user experience design, artificial intelligence, cybersecurity and other areas. Half of banking institutions have a difficult or very difficult time accomplishing that task.

One new aspect of the same question is revealed in the annual banking reports of McKinsey. In 2015, they documented the potential for FinTechs and digital platform companies to erode banks' margins. However, according to their last report banks have made a lot of good news for themselves recently. One area where McKinsey is seeing radical compression is in remittances — a profit centre for banks worldwide. New firms such as Azimo, TransferWise and TransferGo have built superior technology and are able to price their services as much as 78 per cent below incumbents. As they struggle

pružalaca usluga podnose udarce. Tokom poslednje dvije godine, digitalni novi učesnici i nove analitičke firme su našle uporište na tržištima širom svijeta, pri čemu su se marže banaka zaista smanjile - uprkos njihovim ogromnim naporima da smanje troškove.

Učesnici u oblasti digitalne tehnologije se takođe mijenjaju. Uz većinu malih kompanija (osim investicionih) koje su već u potpunosti iskorištene, barem za sada, FinTech kompanije se kreću ka komercijalnom i korporativnom bankarstvu. Baza podataka Panorama FinTech kompanije Mckinsey, koja prati preko 1.000 finansijskih novoosnovanih kompanija, pokazuje da je rješenje platnog prometa za velike kompanije jedan od najbrže rastućih segmenata. Mnoštvo saveza i kupovina između banaka koje posluju sa stanovništvom i FinTech kompanija je pomoglo da se učvrstne znanje da je završeno sa otimanjem zemljišta. FinTech kompanije takođe napreduju na tržištima kapitala i u oblasti investicionog bankarstva, naročito u oblasti pružanja savjeta - iako je ovdje naglasak više na omogućavanju tradicionalnih poslovnih procesa, a ne na njihovom narušavanju. Prijetnja od platformskih kompanija je stvarna i mora se riješiti. Analitičari McKinsey kompanije, međutim, ne smatraju da je to bitno za globalnu bankarsku industriju. Duga istorija bankarstva snažno ukazuje da će uvijek postojati potreba za finansijskim posredovanjem, i za profitom koji će se stvoriti pružanjem kapitala drugima, iako će možda biti potrebno mnogo godina kako bi sektor povratio profitabilnost u globalnoj ekonomiji koja prolazi kroz značajne

promjene. Kao prvi korak, banke mogu iskoristiti prednost velikog opsega aktivnosti tokom sledećih tri do pet godina, kako bi povratile pravo vlasništva u odnosima sa klijentima, poboljšale produktivnost i industrijalizovale svoje poslovanje korišćenjem digitalnih alata. U suštini, banke mogu angažovati nešto od istih tehnologija koje digitalne kompanije koriste protiv njih. Ovi koraci mogu povećati prihode, poboljšati korišćenje kapitala, i naročito, smanjiti troškove (McKinsey2018).

PRISTUP FINANSIJSKOJ TEHNOLOGIJI U EVROPSKOJ UNIJI

Evropska unija je shvatila značaj digitalne tehnologije, i ona se smatra pitanjem od izuzetnog strateškog, ekonomskog i društvenog značaja. Evropska komisija je objavila da će nova digitalna tehnologija biti ključni element u budućoj konkurentnoj prednosti EU.

Kao posljedica tog razvoja, Evropska unija je od maja 2015. godine dostavila ambicioznu i sve obuhvatnu Strategiju za jedinstveno digitalno tržište koja je bila postignuta do 2017. Strategija za jedinstveno digitalno tržište je pripremljena za poboljšanje pristupa robi, uslugama i sadržaju, stvarajući odgovarajući pravni okvir za digitalne mreže i usluge, i donoseći korist ekonomiji zasnovanoj na podacima.

Procjenjuje se da bi Strategija mogla doprinijeti ekonomiji Evropske unije godišnje u iznosu od oko 415 milijardi eura, i kreirati hiljade novih radnih mjesta. Stoga, bilo bi teško potcijeniti značaj njene blagovremene implementacije (Evropska komisija 2017).

U strateškom cilju izgradnje konkurentnijeg, inovativnijeg finansijskog tržišta, Evropska komisija je u martu 2018. godine otkrila Akcioni plan za finansijsku tehnologiju koji je usredsrijeđen na iskorištavanje mogućnosti koje pružaju finansijske usluge zasnovane na tehnološkim inovacijama (FinTech).

„Evropa bi trebalo da postane globalni centar za finansijsku tehnologiju, uz kompanije i investitore iz EU koji mogu da najviše iskoriste ono što nudi Jedinствeno tržište u ovom sektoru koji se brzo razvija. Kao prvi rezultat, Komisija predstavlja nova pravila koja će pomoći platformama za grupno finansiranje da se razvijaju na cijelom jedinstvenom tržištu Evropske unije. Akcioni plan predviđa mogućnost da finansijski sektor koristi brze prednosti novih tehnologija, kao što je blokčejn, vještačka inteligencija i usluge „u oblaku“. Istovremeno, plan nastoji da učini tržište sigurnijim i lakšim za pristup novih učesnika. To će koristiti klijentima, investitorima, i bankama, kao i novim tržišnim učesnicima. Pored toga, Komisija predlaže panevropske oznake za platforme, tako da platforma koja je dobila dozvolu u jednoj državi može poslovati u cijeloj EU. Akcioni plan je dio napora koje Komisija ulaže za izgradnju Unije tržišta kapitala (CMU) i istinskog jedinstvenog tržišta za klijente finansijskih usluga. Plan je takođe dio njenog smjera za kreiranje Jedinственоg digitalnog tržišta. Cilj Komisije je da pravila EU budu više orijentisana ka budućnosti i usaglašena sa ubrzanim napredovanjem tehnološkog razvoja“ (Evropska komisija 2018).

to compete, incumbents' margins are taking a pounding. Over the past two years, in markets around the world, digital entrants and new analytical firms have gained a foothold, and banks' margins are indeed falling — despite their massive cost-cutting efforts.

The digital entrants are changing too. With most retail businesses (except investing) already fully explored, at least for now, FinTechs are moving into commercial and corporate banking. McKinsey's Panorama FinTech database, which tracks over 1,000 financial start-ups, shows that one of the fastest-growing segments is payments solutions for large companies. The spate of alliances and acquisitions between retail banks and FinTechs has helped to solidify the notion that the land grab is over. FinTechs are also making strides in capital markets and investment banking, especially advisory — although here, the emphasis is more on enabling traditional business processes, rather than disrupting them. The threat from platform companies is real and must be addressed. McKinsey's analysts do not think, however, that it is existential for the global banking industry. The long history of banking strongly suggests that there will always be a need for financial intermediation and a profit to be made by providing capital to others, although it may take many years for the industry to return to profitability in a global economy that is undergoing profound changes. As a first step, banks can take advantage of a range of actions over the next three to five years to reclaim their rightful ownership of the customer

relationship, improve productivity and industrialise their operations using digital tools. In essence, banks can deploy some of the same technologies that digital companies are using against them. These steps can lift revenues, improve capital usage, and, especially, cut costs (McKinsey 2018).

THE APPROACH TO FINTECH IN THE EUROPEAN UNION

In the European Union, the importance of digital technology has been realised and it is considered an issue of paramount strategic, economic and social importance. The European Commission declared that the new digital technology will be a key element in the future competitive edge of the EU.

As a consequence of this development, since May 2015 the European Union has been delivering on an ambitious and comprehensive Digital Single Market Strategy which was accomplished by 2017. The SDM Strategy is built around improving access to goods, services and content, creating the appropriate legal framework for digital networks and services, and reaping the benefits of a data-based economy.

It has been estimated that the Strategy could contribute €415 billion per year to the EU economy and create hundreds of thousands of new jobs. Thus, it would be hard to understate the importance of timely implementation (European Commission 2017).

With the strategic aim of building a more competitive, innovative financial market, in March 2018 the European Commission unveiled a FinTech Action Plan focused

on harnessing the opportunities presented by technology-enabled innovation in financial services (FinTech).

“Europe should become a global hub for FinTech, with EU businesses and investors able to make most of the advantages offered by the Single Market in this fast-moving sector. As a first major deliverable, the Commission is also putting forward new rules that will help crowdfunding platforms to grow across the EU's single market. The Action Plan envisages to enable the financial sector to make use of the rapid advances in new technologies, such as blockchain, artificial intelligence and cloud services. At the same time, it seeks to make markets safer and easier to access for new players. This will benefit consumers, investors, banks and new market players alike. In addition, the Commission is proposing a pan-European label for platforms, so that a platform licensed in one country can operate across the EU. The Action Plan is part of the Commission's efforts to build a Capital Markets Union (CMU) and a true single market for consumer financial services. It is also part of its drive to create a Digital Single Market. The Commission aims to make EU rules more future-oriented and aligned with the rapid advance of technological development” (European Commission 2018).

This strong intent of the European Union to support and motivate FinTech development is confirmed by the data below, where we can see an immense growth after 2017, when the SDM concept was accepted (see Figure 3).

Ova snažna namjera Evropske unije koja ima za cilj da podrži i motiviše razvoj finansijske tehnologije je potvrđena podacima koji su dati u tabeli dalje u tekstu, u kojoj možemo vidjeti ogroman rast poslije 2017. godine kada je koncept Jedinstvenog digitalnog tržišta bio prihvaćen (Slika3).

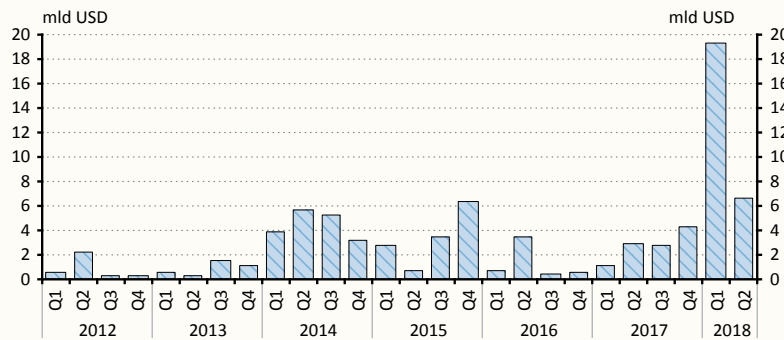
finansijska stabilnost, zaštita potrošača i integritet tržišta), i (iii) Selektivna primjena postojećeg pravilnika koji je, gdje je to neophodno, prilagođen da obuhvati inovacije.

Generalno, ovaj pragmatičan stav okreće se oko slojevite regulatorne strukture, uz različite regulatorne

2018-2019. godinu i propisuju rok za ispunjenje tih zadataka. Prioriteti su:

- Praćenje regulatornih opsega, uključujući procjenjivanje tekućih pristupa za davanje odobrenja i dozvola za rad FinTech kompanijama, i analiziranje regulatornih zahtjeva i centara za inovacije u cilju identifikacije seta najboljih praksi za jačanje konzistentnosti i olakšanje koordinacije između supervizora;
 - Praćenje novih trendova i analiziranje uticaja na poslovne modele postojećih institucija za pružanje usluga i prudencijalnih rizika i mogućnosti koje nastaju iz upotrebe finansijske tehnologije;
 - Promovisanje najboljih supervizorskih praksi o procjeni sajber bezbjednosti i promovisanje zajedničkog okvira za testiranje na prijetnje protiv sajber kriminala;
 - Rješavanje problema klijenata koji nastaju iz upotrebe FinTech, naročito u oblastima nejasnog regulatornog statusa FinTech kompanija i njihovog objelodanjivanja klijentima, potencijalne nacionalne barijere koje sprječavaju FinTech kompanije da povećaju usluge koje pružaju klijentima na jedinstvenom tržištu, i podesnost postojećeg regulatornog okvira za virtuelne valute;
 - Identifikovanje i procjenjivanje rizika od sprečavanje pranja novca i finansiranja terorizma koji su povezani sa regulisanim FinTech kompanijama, pružiocima tehnologije i FinTech rešenjima (EBA 2018, Enria2018).
- Odbor za finansijsku stabilnost Bazelskog komiteta je u dokumentu „Dobre prakse implikacija razvoja finansijske tehnologije za banke i

Slika 3
Ukupna investiciona aktivnost FinTech-a u Evropi
(2012–2018)



Izvor: KPMG (2018, str.34)

Značaj FinTech pitanja u Evropi je jasno iskazan sledećim razvojem: dan nakon što se objavio akcioni plan FinTech EU, u martu 2018. godine, Evropski bankarski regulator (EBA) je objavio Smjernice za FinTech pod nazivom „Kreiranje regulatornih i supervizorskih smjernica za finansijsku tehnologiju“.

Smjernice Evropskog bankarskog regulatora su važan pregled neophodnog i propisanog regulatornog pristupa koji se odnosi na usluge koje pružaju postojeće banke i novoosnovane FinTech kompanije.

„Većina postojećih regulatornih pristupa se nalazi između ova dva ekstrema: „neka se desi“ i „regulisati i ograničiti“. Oni se obično zasnivaju na tri komponente :

- (i) Praćenje inovacija,
- (ii) Procjena rizika naspram javnog interesa (mikroprudencijalni,

zahtjeve prema rizicima za svaku kompaniju, njihove klijente, finansijski sektor i ekonomiju u cjelini. U principu, cilj je da se ostvare očekivanja „isti rizik- ista pravila“.

Da citiramo još jedno važno stanoviše u ovom dokumentu: „Čak iako FinTech kompanije mogu ponuditi proizvode koji su slični bankarskim proizvodima, i takmičiti se sa bankama za iste klijente, to ne mora da znači da oni mogu dobiti dozvolu, biti regulisani i kontrolisani kao banke. Ovdje treba da napravimo ključnu razliku između grupe usluga koja predstavlja osnovu bankarstva, i koja bi kao takva trebalo da bude rezervisana za licencirane banke, i onih dodatnih usluga koje ostali posrednici mogu ponuditi, na jedinstvenoj osnovi, u konkurenciji sa regulisanim bankama“. Smjernice za FinTech opisuju prioritete za

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supervizore banaka“ koji je objavljen u februaru 2018. godine sažeo „kako inovacije koje pokreće tehnologija u pružanju finansijskih usluga ili „FinTech“ mogu uticati na bankarski sektor i na aktivnosti supervizora u bliskom do srednjem roku“.

Ova obimna analiza pruža odlično razumijevanje razvoja finansijske tehnologije i trenutno poznate poslovne modele FinTech-a. „U ovom kontekstu, trenutna zapažanja ukazuju da, iako je bankarski sektor bio podvrgnut mnogim inovacijama u prošlosti, brzo usvajanje razvojnih tehnologija i pojava novih poslovnih modela predstavljaju značajan izazov za postojeće banke u gotovo svim scenarijima bankarskog sektora“.

Bazelski komitet je sastavio deset mogućih najvažnijih implikacija predloženog supervizorskog pristupa koji se odnosi na veze između tradicionalnih banaka i pružalaca FinTech usluga:

1. Sveobuhvatna potreba da se obezbijedi sigurnost i stabilnost i visoko usaglašene standarde koji su jako usaglašeni ne sputavajući korisne inovacije u bankarskom sektoru;
2. ključni rizici za banke koji su povezani sa razvojima FinTech-a, uključujući strateške rizike /rizike profitabilnosti, operativne rizike, sajber rizike i rizike usaglašenosti;
3. implikacije za banke o upotrebi inovativnih razvojnih tehnologija;
4. implikacije za banke povećane upotrebe trećih strana preko eksternalizacije i/ili partnerstava;
5. međusektorska saradnja između supervizora banaka i drugih nadležnih organa;
6. međunarodna saradnja između supervizora banaka;

7. prilagođavanje supervizorskih vještina,

8. potencijalne mogućnosti za supervizore da koriste inovativne tehnologije („suptech“);

9. značaj postojećih regulatornih okvira za nove inovativne poslovne modele; i

10. ključne karakteristike regulatornih inicijativa koje su uspostavljene da omoguće FinTech inovacije.

Posmatrajući poslednje trendove, očigledno je da su donosioci odluka u EU svjesni značaja i globalnog konkurentnog razvoja finansijske tehnologije. Napori su skoncentrisani na jačanje razvoja Evropske monetarne unije i Evropske unije tržišta kapitala. S jedne strane, oni potvrđuju da bi trebalo podržati digitalne aplikacije, raspoloživost FinTech usluga, ali s druge strane, oni zahtijevaju poboljšanje super-

sferi nacionalne nadležnosti. Sljedeći izazov je kako obezbijediti jednaka uslove tržišne konkurencije između tradicionalnih banaka i pružalaca FinTech usluga. Nije lako pronaći uravnoteženo rješenje. Osnivanje novih FinTech kompanija zahtijeva manje kapitala, sticanje klijenata je jeftino, dok je regulisanje i supervizija blaga ili ne postoji. Postojeće banke su upravo izašle iz posljedica međunarodne finansijske krize, sa zahtijevnim budžetskim ograničenjima, i zbog toga oni imaju manje raspoloživih resursa za digitalne razvoje, predmet su strogog i ponekad previše regulisanog funkcionalnog okruženja, a suočavaju se i sa strogim kriterijumima za procjenu rizika. S druge strane, FinTech izazov motiviše tradicionalne banke da dostignu i investiraju u finansijsku i digitalnu tehnologiju. Igra se nastavlja: samo

“Posmatrajući poslednje trendove, očigledno je da su donosioci odluka u EU svjesni značaja i globalnog konkurentnog razvoja finansijske tehnologije

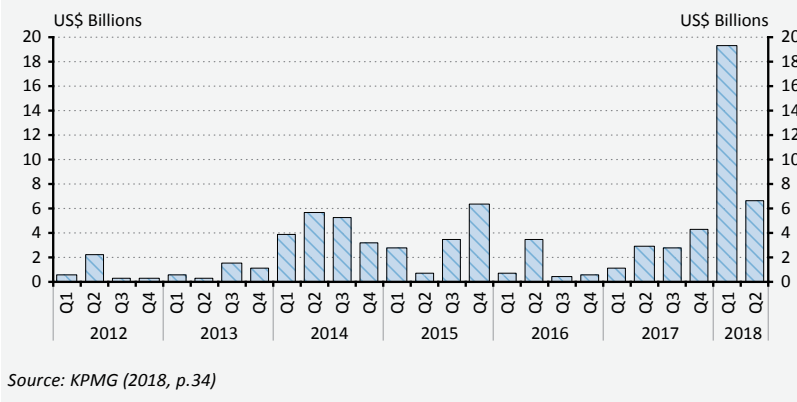
vizorske procjene rizika, zaštite potrošača i jačanje relevantnog pravnog okvira. Snažno je naglašeno da bi trebalo obezbijediti jednake uslove tržišne konkurencije između tradicionalnih banaka i pružalaca FinTech (TPP) usluga.

Nedostatak precizne definicije je vjerovatno zahtijevao sadašnje stanovište Evropske centralne banke (ECB) koje navodi da bi regulisanje i supervizija pružanja FinTech usluga trebalo da ostane, za sada, u

se nadamo da će konačan ishod biti pozitivan za sve - ponuda i pružanje boljih usluga.

Smrt i porezi su možda bile jedini izvjesni događaji po riječima Bendžamina Frenklina prije dva vijeka, ali danas jedino je smrt neosporiva. Sa usponom digitalne tehnologije, sve je više ekonomske vrijednosti koja potiče iz nematerijalne imovine, kao što su podaci prikupljeni sa digitalnih platformi, sa društvenih medija, ili ekonomije

Figure 3
Total European FinTech investment activity
(2012–2018)



The importance of the FinTech issue in Europe is clearly reflected by the next development: the day after the EU FinTech Action plan was published, in March 2018 the European Banking Authority published its FinTech Roadmap under the title “Designing a Regulatory and Supervisory Roadmap for FinTech.”

The EBA Roadmap is an important summary of the necessary and envisaged regulatory approach related to the services provided by the incumbent banks and FinTech start-ups.

“Most of the current regulatory approaches are situated between these two extremes: “let it happen” and “regulate and restrict”. They are generally based on three components:

- (i) monitoring of innovation,
- (ii) assessment of risks vis-à-vis the public interest (micro-prudential, financial stability, consumer protection and market integrity), and
- (iii) selective application of the existing rulebook, where needed adapted to capture the innovation.

In general, this pragmatic attitude revolves around a tiered regulatory structure, with differentiated regulatory requirements according to the

risks for the firms, their customers, the financial sector and the economy at large. In principle, the objective is to deliver “same risk – same rules” expectations.

Let us quote another important view of this document: “Even though FinTech firms may offer some bank-like products and compete with banks for the same customers, this doesn’t necessarily mean that they should be licensed, regulated and supervised as banks. We need to make a key distinction, here, between the cluster of services that represent the essence of banking, and as such should be reserved to licensed banks, and those additional services that may be offered, on a standalone basis, also by other intermediaries, in competition with regulated banks”. The EBA’s FinTech Roadmap describes its priorities for 2018/2019 and provides an indicative timeline for the completion of these tasks. The priorities are:

- monitoring the regulatory perimeter, including assessing current authorisation and licensing approaches to FinTech firms, and analysing regulatory sandboxes and innovation hubs in order to

identify a set of best practices to enhance consistency and facilitate supervisory coordination;

- monitoring emerging trends and analysing the impact on incumbent institutions’ business models and the prudential risks and opportunities arising from the use of FinTech;
- promoting best supervisory practices on assessing cybersecurity and promoting a common cyber threat testing framework;
- addressing consumer issues arising from FinTech, in particular in the areas of unclear regulatory status of FinTech firms and related disclosure to consumers,
- potential national barriers preventing FinTech firms from scaling up services to consumers across the single market, and the appropriateness of the current regulatory framework for virtual currencies;
- identifying and assessing money laundering/terrorist financing risks associated with regulated FinTech firms, technology providers and FinTech solutions (EBA 2018, Enria 2018).

In a paper “Sound Practices on the implications of FinTech developments for banks and bank supervisors”, in February 2018 the Basel Committee’s Financial Stability Board summarised “how technology-driven innovation in financial services, or ‘FinTech’, may affect the banking industry and the activities of supervisors in the near to medium term”.

This extensive analysis provides an excellent understanding of financial technology developments and the presently known FinTech business models. “Against this backdrop, current observations suggest that

dijeljenja. Zbog toga što se sjedišta kompanija mogu sada brzo i lako premjestiti iz jedne u drugu državu, vladama postaje teško da naplate poreze. Istovremeno, javna potrošnja će se vjerovatno povećati kako bi ispunila zahtjeve onih koji su zaoptimali u eri globalizacije i digitalnih tehnologija.

To bi se moglo promijeniti. Jedna ideja koja trenutno dobija na snazi je da se poreskim kompanijama ponude besplatne digitalne usluge na drugačiji način, tako da njihova nematerijalna vrijednost dobije isti poreski tretman kao materijalna vrijednost koju proizvode trgovci i tradicionalni pružaoci usluga.

Nadležni donosioci odluka u EU su takođe shvatili značaj dobro kontrolisanog digitalnog (FinTech) razvoja čak i sa stanovišta oporezivanja. Kao dio izgradnje arhitekture Jedinственog digitalnog tržišta u EU, Evropska komisija je predložila direktivu Savjeta kojom se propisuju pravila o oporezivanju kompanija sa značajnim prisustvom digitalne tehnologije. Prema prijedlogu Komisije: „Digitalna ekonomija transformiše način na koji mi komuniciramo, trošimo, i poslujemo. Digitalne kompanije rastu mnogo brže nego cijela ekonomija, i ovaj trend se nastavlja“ (Evropska komisija2018)

Međutim, digitalizacija takođe stvara pritisak na međunarodni sistem oporezivanja, kako se poslovni modeli mijenjaju. Kreatori politika se trenutno bore da nađu rješenja koja će obezbijediti objektivno i efektivno oporezivanje kako se bude ubrzavala digitalna transformacija privrede, a postojeća pravila za oporezivanje kompanija su previše zastarjela da bi obuhvatila ovaj razvoj.

Postojeća pravila o oporezivanju kompanija su izgrađena na principu da bi profit trebalo oporezovati kada se vrijednost kreira. Međutim, ta su pravila prvenstveno osmišljena početkom 20. vijeka za tradicionalne kompanije i njima se definiše pravo oporezivanja u zemlji („gdje oporezivati“) i koliko je dobiti dodijeljeno određenoj zemlji („koliko oporezivati“) i uglavnom se zasnivaju na fizičkoj prisutnosti u toj zemlji i ne odražavaju vrijednost stvorenu učestvovanjem korisnika u toj jurisdikciji.

Ovaj prijedlog usmjeren je na rješavanje problema koji se javljaju u digitalnoj ekonomiji je uspostavljanjem sveobuhvatnog rješenja u okviru postojećih sistema oporezivanja dobiti kompanija u državama članicama. On pruža zajednički sistem za oporezivanje digitalnih aktivnosti u EU u kojem se propisno uzimaju u obzir karakteristike digitalne ekonomije. Kao prvo, ovim prijedlogom se utvrđuju pravila za utvrđivanje oporezive veze za digitalne kompanije koje prekogranično posluju u slučaju da nema fizičke komercijalne prisutnosti (dalje u tekstu „značajna digitalna prisutnost“). Novi pokazatelji za tu značajnu digitalnu prisutnost neophodni su kako bi se utvrdila i zaštitila prava oporezivanja država članica u odnosu na nove digitalne poslovne modele. S druge strane, ovim prijedlogom utvrđuju se načela za pripisivanje dobiti digitalnom poslovanju. Tim načelima treba da se bolje registruje stvaranje vrijednosti digitalnih poslovnih modela koji se u velikoj mjeri oslanjaju na nematerijalnu imovinu. Ova direktiva, kada

se implementira u nacionalno zakonodavstvo država članica, primjenjivaće se na prekogranične digitalne aktivnosti unutar Unije, čak iako važeći sporazumi o dvostrukom oporezivanju između država članica nijesu na odgovarajući način izmijenjeni. Čim stupi na snagu, ova direktiva EU će imati pozitivan uticaj na željene jednake uslove za tradicionalne banke i novoosnovane FinTech kompanije.

PRISTUP FINANSIJSKOJ TEHNOLOGIJI U KINI

„Konkurencija u oblasti finansijske tehnologije razvija se na globalnom nivou. Kako se to često dešava na inovativnim tržištima, ključ uspjeha leži u velikom domaćem tržištu, koje dozvoljava uspješnim kompanijama da se razvijaju omogućavajući im da dostignu globalno vođstvo. Dugoročno gledano, evropske FinTech kompanije bi bile u značajno nepovoljnijem položaju u odnosu na njihove konkurente iz SAD i Kine, ukoliko evropska tržišta ostanu usitnjena u okviru nacionalnih granica, sa različitim pravilima i nekoordinisanim aktivnostima lokalnih nadležnih organa“ (Enria2018).

U ovom poglavlju o kineskom iskustvu, mi dajemo pregled finansijske tehnologije u tri dimenzije: kinesku vladu, Narodnu banku Kine i nadležni organ za finansijsku superviziju Odbor za regulisanje bankarskog sektora Kine (CBRC) , i kineskih komercijalnih banaka.

Da bismo dali kratak pregled, mi navodimo pristup finansijske tehnologije Kine, koji su predstavili izvrsni finansijski eksperti na forumu Finansijskog samita

although the banking industry has undergone multiple innovations in the past, the rapid adoption of enabling technologies and emergence of new business models pose an increasing challenge to incumbent banks in almost all the banking industry scenarios considered”.

The Basel Committee summarised the ten most important possible implications of the suggested supervisory approach related to the relations of traditional banks and FinTech service providers:

1. the overarching need to ensure safety and soundness and high compliance standards without inhibiting beneficial innovation in the banking sector;
2. the key risks for banks related to FinTech developments, including strategic/ profitability risks, operational, cyber- and compliance risks;
3. the implications for banks of the use of innovative enabling technologies;
4. the implications for banks of the growing use of third parties, via outsourcing and/or partnerships;
5. cross-sectoral cooperation between bank supervisors and other relevant authorities;
6. international cooperation between bank supervisors;
7. adaptation of the supervisory skill set;
8. potential opportunities for supervisors to use innovative technologies (“suptech”);
9. relevance of existing regulatory frameworks for new innovative business models; and
10. key features of regulatory initiatives set up to facilitate FinTech innovation.

Looking at the latest developments, it is obvious that decision-makers in the EU are aware of the importance and global competitive impact of the development of financial technology. The efforts are concentrated on strengthening the development of the European Monetary Union and the European Capital Markets Union. On the one hand, they confirm that digital

“Looking at the latest developments, it is obvious that decision-makers in the EU are aware of the importance and global competitive impact of the development of financial technology

applications, the availability of FinTech services should be supported, but on the other they urge an improvement of supervisory risk assessment, consumer protection and strengthening the relevant legal framework. It is strongly emphasised that a level playing field between traditional banks and FinTech (TPP) service provider should be ensured.

The lack of a precise definition most probably required the present standpoint of the European Central Bank, stating that the regulation and supervision of FinTech services should remain – for the time being – in the sphere of national competence. The next challenge is how to ensure a level playing field between the traditional banks and FinTech service providers. It is not easy to find a balanced solution. Establishing

a FinTech start-up requires less capital, the acquisition of clients is cheap, and the regulation and supervision is mild or non-existent. The incumbent banks had just emerged from the consequences of the international financial crisis, with demanding budget constraints, and for this reason they had less resources available for digital developments,

are subject to a strict and sometimes overregulated functional environment and face strict risk assessment criteria. On the other hand, the FinTech challenge is motivating traditional banks to catch up and to invest in financial and digital technology. The game is on: we just hope that the final outcome will be a win-win situation, offering and providing better services.

Death and taxes may have been the only certainties in the words of Benjamin Franklin two centuries ago, but today only death remains undeniable. With the rise of the digital economy, more and more economic value is derived from intangibles such as the data collected from digital platforms, social media, or the sharing economy. And because company headquarters can now

42 “Digitalna plaćanja u Kini čine gotovo polovinu globalnog obima, a uzajamno kreditiranje putem interneta čini tri četvrtine ukupnog uzajamnog kreditiranja

AFCFA CEE- Novo poglavlje azijsko-evropske finansijske saradnje koji je održan u novembru 2017. godine u Budimpešti u Mađarskoj. Sektor finansijske tehnologije u Kini se ubrzano razvija i globalni je lider po osnovu nekoliko mjerila. Digitalna plaćanja u državi čine gotovo polovinu globalnog obima, a uzajamno kreditiranje (P2P) putem interneta čini tri četvrtine ukupnog globalnog uzajamnog kreditiranja. Kineski sektor finansijske tehnologije nalazi se sada na ključnoj prekretnici. Stav kineske vlade prema finansijskoj tehnologiji je postao značajno složeniji jer su se rizici nagomilali na P2P platformama, a broj ilegalnog prikupljanja sredstava i finansijske aktivnosti se povećao. Nadležni organi i dalje podržavaju FinTech uprkos nekim nedavnim mjerama stezanja (Hu-Yin-Zheng 2016, PWC Kina2017).

U pogledu finansiranja preko interneta, premijer Li Keqiang je dao neke važne izjave: „Mi ćemo ohrabriti finansiranje preko interneta kako bi tražili zdrav razvojni put koji će podržati odgovarajuća regulatorna saradnja i supervizorski mehanizmi“ i „Mi ćemo raditi na tome da se finansiranje preko

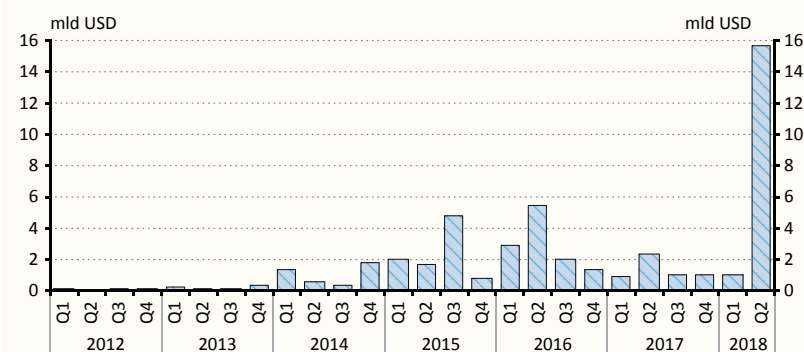
interneta razvija u skladu sa propisima“. Kineska vlada je akterima dala slobodu da eksperimentišu. Jednostavna regulativa – ili tačnije – kasna regulativa digitalnih aktivnosti i aktera u Kini je ohrabрила preduzetništvo i eksperimentisanje. Dok je odgovor regulatora kasnio za tržišnim razvojem, internetski giganti Kine bili su relativno slobodni da testiraju i komercijalizuju proizvode i usluge i dobiju ključne mase. Na primjer, regulatorima je trebalo 11 godina nakon što je Alipay uveo internet transfere novca 2005. godine da uspostave limite na vrijednost transfera. Pet godina nakon što je Alipay uveo rješenja za plaćanje na osnovu barkoda, Kineski regulatori pripremili su zvanični standard za zahtjeve za upravljanjem (McKinsey2017).

Sa stanovišta komercijalnih banaka, citiraćemo pristup nekih od glavnih kineskih finansijskih institucija. Liu Qiang, potpredsjednik Banke Kine

sadržaj finansija i proširio tržište. Kombinacija novih tehnologija, kapitala i tržišta mogu kreirati zapanjujuću snagu. Banke na obje strane treba da energično istupe u inovacijama i saradnji u tehnologiji i promovišu transformaciju i nadogradnju efikasnosti bankarskih usluga. Svako može vidjeti da tehnički napredak stalno unaprjeđuje rješavanje informacione asimetrije, koja je izuzetno važna za finansijski razvoj. FinTech ima bogate konotacije i postaće trend finansijskog razvoja u neprestanom tehničkom napretku.

Iako su u prethodnim godinama tehnološke inovacije, napredak, ubrzano mijenjanje ponašanja potrošača i prilagođavanje na oblike finansiranja podsticale izvanredan rast tradicionalnih i netradicionalnih digitalnih finansijskih usluga, kinesko regulatorno orkuženje je pružalo plodne uslove za rad. Ovu rečenicu potvrđuju podaci dati u sljedećoj slici (vidjeti Sliku 4).

Slika 4
Ukupne FinTech investicije u Aziji
(2012–2018)



Izvor: KPMG (2018, str. 47)

je zahtijevao da se preuzme vodeća uloga u tehnološkim inovacijama i poboljša efikasnost finansijskih usluga. FinTech može poboljšati kvalitet služenja realnoj ekonomiji. Razvoj FinTech-a je obogatio

Huang Yi, izvršni potpredsjednik kineske Construction Bank, održao je govor pod nazivom Finansijska tehnologija i strateška transformacija bankarskog sektora u Kini. Yi smatra da, umjesto da dovede do

be moved between countries with ease, governments are finding it ever harder to raise taxes. At the same time, public spending will likely have to increase to meet the demands of those left behind in the era of globalisation and digital technologies.

That may be about to change. One idea currently gaining traction is to tax firms offering free-to-use digital services differently, so that their intangible value receives the same tax treatment as the tangible value produced by manufacturers and traditional service providers.

The competent EU decision-makers also realised the importance of a well-controlled digital (FinTech) development even from the taxation point of view. As part of building the architecture of the EU Single Digital Market, the European Commission suggested a Council Directive laying down the rules relating to the corporate taxation of a significant digital presence. According to the Commission's proposal: "The digital economy is transforming the way we interact, consume and do business. Digital companies are growing far faster than the economy at large, and this trend is set to continue." (European Commission 2018)

However, digitalisation is also putting pressure on the international taxation system, as business models change. Policy makers are currently struggling to find solutions which can ensure a fair and effective taxation as the digital transformation of the economy accelerates, and the existing corporate taxation rules are too outdated to capture this evolution.

The current corporate tax rules are built on the principle that profits should be taxed where the value is created. However, they were mainly conceived in the early 20th century for traditional "brick and mortar" businesses and define what triggers a right to tax in a country ("where to tax") and how much of corporate income is allocated to a country ("how much to tax") largely based on having a physical presence in that country and without reflecting the value created by user participation in that jurisdiction.

This proposal aims to address the issues raised by the digital economy by setting out a comprehensive solution within the existing Member States' corporate tax systems. It provides a common system for taxing digital activities in the EU which properly takes into account the features of the digital economy. First, this proposal lays down rules for establishing a taxable nexus for digital businesses operating across borders in case of a non-physical commercial presence (hereinafter: a "significant digital presence"). New indicators for such a significant digital presence are required in order to establish and protect Member States' taxing rights in relation to the new digitalised business models. Second, this proposal sets out principles for attributing profits to a digital business. These principles should better capture the value creation of digital business models which rely strongly on intangible assets. This Directive, once implemented in the Member States' national legislation, will apply to cross-border digital activities within the Union, even if the applicable double taxation treaties between Member States

have not been modified accordingly. As soon as it enters into force, this EU Directive will have a positive impact on the desirable level playing field between traditional banks and FinTech start-ups.

THE APPROACH TO FINTECH IN CHINA

"Competition in the FinTech space is developing at the global level. As often occurs in innovative markets, the key to success lies in a large domestic market, which allows successful companies to achieve a scale enabling them to aim for global leadership. In the long term, European FinTech players would be at a significant disadvantage vis-à-vis their US and Chinese competitors, if the European markets remain segmented along national borders, with different sets of rules and uncoordinated actions by local authorities" (Enria 2018).

In this chapter on the Chinese experience, we survey FinTech in three dimensions: the Chinese government, the People's Bank of China (the Chinese central bank) and the financial supervision authority Chinese Banking Regulation Committee (CBRC), and the Chinese commercial banks.

In order to make a short summary we refer to the FinTech approach of China, which was presented by excellent high-level financial experts at the AFCA CEE Financial Summit Forum – New Chapter of Asia-Europe Financial Cooperation in Budapest, Hungary in November 2017. The FinTech sector in China has been developing rapidly and is the global leader by several measures. The country's digital payments account



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for almost half the global volume and online peer-to-peer (P2P) lending accounts for three quarters of the global total. China's FinTech sector is now at a critical juncture. The Chinese government's attitude towards FinTech has become progressively more complex, as risks have piled up around P2P platforms and the number of underground fund raising and financing activities have grown. The authorities

“The digital payments in China account for almost half the global volume and online peer-to-peer (P2P) lending accounts for three quarters of the global total

remain generally supportive, despite some recent tightening measures (Hu – Yin – Zheng 2016, PWC China 2017).

In relation to internet finance, Premier Li Keqiang made some important statements: “We will encourage internet finance to seek a healthy development path with the backing of proper regulatory coordination and supervisory mechanisms” and “We will work to see that internet finance develops in line with regulations”. The Chinese government gave players a free hand to experiment. Light-touch – or, more accurately, late-touch – regulation of digital activities and players in China has encouraged entrepreneurship and

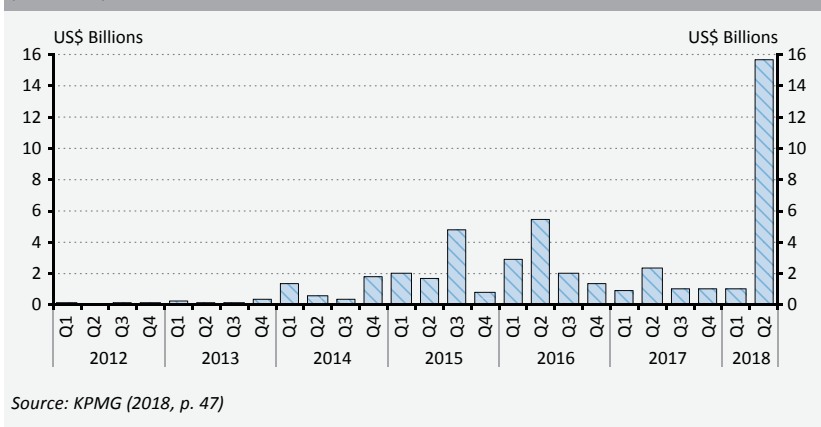
experimentation. While the response of regulators lagged behind market developments, China's internet giants were relatively free to test and commercialise products and services and to gain critical mass. For example, regulators took 11 years after Alipay introduced online money transfers in 2005 to set a cap on the value of the transfers. It was five years after Alipay introduced barcode-based payment solutions that Chinese regulators produced an official standard on management requirements (McKinsey 2017).

On the side of the commercial banks let us quote the approach of some of the major Chinese financial institutions. Liu Qiang, Vice President of the Bank of China urged to take the lead in technological innovation and improve the efficiency of financial services. FinTech can improve the

power. Banks on both sides should vigorously step up innovation and cooperation in technology and promote the transformation and upgrading of banking service efficiency. Everyone can see that technical progress is continuously pushing forward the resolving of information asymmetry, which is of great importance to financial development. FinTech has rich connotations, and will become a trend of financial development within the ceaseless technical progress.

While the growth phenomenal of traditional and non-traditional digital financial services has been fostered in recent years by technological innovation, advancement, rapidly changing consumer behaviour and adaptation to forms of finance, China's regulatory environment has also provided fertile conditions for growth. This statement is confirmed by the data below (see Figure 4).

Figure 4
Total FinTech investment in Asia
(2012–2018)



quality serving the real economy. The development of FinTech has enriched the content of finance and expanded the market. The combination of new technologies, capital and market can create astounding

Mr Huang Yi, Executive Vice President of China Construction Bank, delivered a speech titled Financial Technology and Strategic

In April 2018, CBIRC took over the role of CBRC, and its activity covers not only the banks but insurance companies, as well

smanjenja bankarskog sektora, brzi razvoj kineskog internetskog finansiranja doveo je do konkurentnog i kooperativnog razvoja kroz dvosmjernu interakciju i dopunjavanje prednosti. Proboj i zrelost tehničkih područja postavili su čvrste temelje za tehnološku transformaciju bankarskog sektora. Takođe je napomenuo da je finansijska tehnologija direktnija, snažnija i efikasnija pokretačka snaga za transformaciju. Prirodno je da je razvoj finansijske tehnologije efikasno probio fizička ograničenja i podstaknuo integraciju bankarskih kanala. Osim toga, primjena finansijske tehnologije podstaknula je reformu modaliteta bankarskog poslovanja i postupno popularizovala načine pružanja usluga na osnovu scenarija i platformi. Nadalje, finansijska tehnologija je obogatila sredstva kontrole rizika, čineći upravljanje rizikom efikasnijim. On je svoje izlaganje nastavio na sljedeći način: s obzirom da su finansijske tehnologije imale prednosti, Kina je mogla da radi na razvoju osnovnih tehnologija i postavljanju standarda za patente. Kineske komercijalne banke i neke velike internetske kompanije ostale su na svjetskom tržištu u pogledu prakse finansijske tehnologije. Oni bi trebali da iskoriste prednosti integracije srodnih tehnologija i da patentiraju ove tehnologije, kao i da koriste ove prednosti patenta za promjenu procesa međunarodnog finansijskog sektora, za stvaranje novih industrijskih standarda i poboljšanje osnovne konkurentnosti kineskog bankarskog sektora. (Kerényi – Müller 2018).

Jačanje propisa i supervizije je u fokusu CRBC-a, Odbora za regulisanje bankarskog sektora Kine.

Na osnovu ovog okvira, osnovni principi upravljanja regulisanjem digitalnih finansija su „tolerisati, podstaknuti, voditi i standardizovati“, a sa tim povezani zahtjevi supervizora bi se mogli sažeti kao „sveobuhvatni, blagovremeni, profesionalni i efikasni“ (Varga2017:134)

Na Konferenciji Renminbi inicijative⁴ koja je održana u Budimpešti 2018 .godine, gospodin Ren Zhe, predstavnik Narodne banke Kine, govorio je o nedavnom razvoju FinTech regulative u Kini. On je naglasio da je definicija Internet finansiranja široka, a Internet plaćanja, digitalne valute i digitalna infrastruktura zahtijevaju različite pristupe. Promjene su potrebne u regulatornim i supervizorskim zahtjevima i promjenama poslovnih podsticaja postojećih pružalaca usluga i novih konkurenata. Po njegovom mišljenju, „ne postoji jedinstven pristup FinTech aktivnostima; poboljšanje ekosistema FinTech-a može da pomogne da se ublaže neki značajni rizici; potrebno je uključiti nove ideje i nove pristupe za poboljšanje efikasnosti regulative“. S obzirom na to da ne postoji jedinstveni pristup za FinTech aktivnosti, on je naglasio značaj samodiscipline.

PRISTUP FINANSIJSKO REGULATIVI U MAĐARSKOJ

Nakon pregleda pristupa Evropske unije i Kine razvoju FinTech-a, ukratko ćemo se osvrnuti na mađarske stavove.⁵

Naravno, mađarski pristup FinTech-u je bliži onom koji se razvija u Evropskoj uniji i onom koji se razvija u okviru eurozone. Međutim, postoje neke karakteristike koje su specifične za Mađarsku. Globalna finansijska kriza je uticala i na mađarski finansijski sektor: aktivnosti odobravanja kredita i profitabilnost su se smanjili, stope nekvalitetnih kredita su porasle, krediti stanovništvu su bili opterećeni deviznom konverzijom, a banke su se suočile sa internim snažnim budžetskim organizacijama. Zbog apsorpcije ovih trendova, bankarski sektor se mogao vratiti normalnom razvoju informacione tehnologije i drugih usluga. Digitalne inovacije i ekspanzija finansijske tehnologije je započela u poslednje tri do četiri godine. Iako je strano vlasništvo relativno visoko u bankarskom sektoru, kreće se oko 50 procenata, većina razvoja finansijske tehnologije je pripremljena u mađarskim zavisnim društvima i nije preuzeta od matičnih banaka. Takođe, posebna karakteristika, mada nije jedinstvena, je ta da Magyar Nemzeti Bank (MNB), Centralna banka Mađarske, ima supervizorsku i regulatornu nadležnost.

U takvom kontekstu, regulisanje FinTech-a se kotira visoko na agendi MNB. Kada se ideja regulisanja FinTech-a prvi put pojavila u MNB, prvi korak je bio da se traže informacije o najboljim praksama drugih centralnih banaka širom svijeta. MNB smatra da je podrška

⁴ Više informacija o ovom događaju možete naći na Internet stranici: <https://www.mnb.hu/en/pressroom/press-releases/press-releases-2018/budapest-renminbi-initiative-2018-conference-at-the-central-bank-and> (Mészáros 2018).

⁵ Ovo poglavlje je zasnovano na dokumentu za Konsultacije Centralne banke Mađarske (MNB2017,Fáykissetal. 2018), koji je objavio rezultate ankete tržišta o inovacijama u finansijskoj tehnologiji i njenom potencijalnom regulisanju, i zasnovane su na intervjuima autora sa predstavnicima MNB

Transformation of the Banking Industry in China. According to Yi, instead of leading to a shrinkage of the banking industry, the rapid development of China's internet finance has brought about competitive and cooperative development through two-way interaction and complementation of advantages. The breakthrough and maturity of technical fields laid a solid foundation for the technology-driven transformation of the banking industry. He also mentioned that financial technology was a more direct, powerful and effective driving force for transformation. Intuitively, the development of financial technology first broke through physical limitations effectively, and drove the integration of banking channels. Besides, the application of financial technology drove the reform of banking business modes, and gradually popularised the service modes based on scenarios and platforms. Furthermore, financial technology had enriched risk control means, making risk management more effective. He continued as follows: as financial technology had advantages, China could work to develop core technologies and set patent standards. China's commercial banks and some large internet enterprises stayed ahead in the international market in terms of financial technology practices. They should take the advantage to integrate related technologies and make these technologies their patents, and use these patent advantages to change the process of the international financial industry, to form new industrial standards and to enhance the core competitiveness of China's banking industry (Kerényi – Müller 2018).

Strengthening regulation and supervision is the focus of the CBRC, the Chinese Banking Regulatory Committee. Based on the framework, the fundamental principles governing the regulation of Digital Finance are “tolerate, encourage, guide and standardise” and the associated supervisory requirements can be summed up as “comprehensive, timely, professional and effective” (Varga 2017:134)

In 2018, at the Budapest Renminbi Initiative Conference Mr Ren Zhe, Representative of the Peoples Bank of China, spoke about the recent development of FinTech Regulation in China. He emphasised that the definition of internet finance is broad, and internet payments, digital currencies and digital infrastructure require different approaches. Changes are needed in the regulatory and supervisory requirements and related changes in business incentives of incumbents and new players. In his opinion, “there is no unified approach to FinTech activities; improvement the ecosystem of FinTech can help mitigate some significant risks; new ideas and approaches to improve regulation efficiency should be incorporated”. Since there is no unified regulatory approach on FinTech activities he emphasised the importance of self-discipline.

THE APPROACH TO FINTECH IN HUNGARY

After reviewing the EU and Chinese approaches to the FinTech development, we briefly summarise the Hungarian attitudes.

As a matter of course, the Hungarian FinTech approach is closer to that of in the European Union and rather to that within the euro area. However, there are some country-specific features. The global financial crisis also impacted the Hungarian financial sector: lending activity and profitability decreased, NPL rates rose, there was a heavy burden of FX-denominated retail loans, and internal hard budget constraints were faced within the banks. Due to the absorption of these developments, the banking sector could return to the normal development of IT and other services. Digital innovations and FinTech expansion was started in the past three to four years. Although foreign ownership is relatively high in the banking sector, at around 50 per cent, most of the FinTech developments are made at Hungarian subsidiaries and are not taken over from the parent banks. It is also a special, although not unique feature, that the Magyar Nemzeti Bank (MNB), as Hungary's central bank, has both the supervisory and regulatory competence.

Against this background, FinTech regulation is high on the MNB's agenda. When the idea of regulating FinTech first appeared to the MNB, their first step was to look for information on the best practices of other central banks around the world. The MNB considers the support of FinTech development so important that “the MNB established an Innovation Center (Multilateral

⁴ More information on this event: <https://www.mnb.hu/en/pressroom/press-releases/press-releases-2018/budapest-renminbi-initiative-2018-conference-at-the-central-bank> and (Mészáros 2018).

⁵ This section is based on the Consultation Document of the Magyar Nemzeti Bank (MNB 2017, Fáykiss et al. 2018), which published the results of a market survey on FinTech innovations and their potential regulation and also based on an interview by the authors with representatives of the MNB

razvoju finansijske tehnologije toliko važna da je „MNB osnovala Centar za inovacije (Multilateralna platforma za konsultacije) kako bi pomogla novoosnovanim FinTech kompanijama u početnoj fazi, ili čak i onima koji se već nalaze na tržištu da upravljaju regulatornim pitanjima“ (Thurzó2017).

MNB je takođe pripremila ciljne upitnike kako bi procijenila stav i predloge tržišnih učesnika koji razvijaju i nude FinTech inovacije. Prema ovoj anketi „banke vjeruju da će nastaviti da igraju glavnu ulogu u finansijskom posredovanju. S druge strane, nadmoćna većina FinTech kompanija redovno kontaktira banke ili se od svog osnivanja okrenula bankama. Ovo je zbog činjenice da pored finansijske podrške, banke mogu takođe da pruže pomoć kroz ekspertizu koju su stekle tokom poslovanja. Pristup obimnim podacima banaka je ključan za novoosnovane FinTech kompanije, a banke imaju temeljno znanje o detaljnim pravnim zahtjevima koji se tiču sektora. Sistemsko razmišljanje banaka može vjerovatno da obezbijedi tačne smjernice o mogućim operativnim i finansijskim rizicima. Tradicionalni bankarski sektori uglavnom predviđaju partnerska rješenja u pogledu FinTech inovacija. Motivacija banaka se zasniva na njihovoj potrebi da poznaju efikasna rješenja i usvoje ih najbrže što je moguće, a fleksibilnost uočena u stavu FinTech kompanija i njihova sposobnost da brzo donose odluke može olakšati tehnološki napredak. Jedan glavni element saradnje je obezbjeđivanje poslovnog modela koji je dugoročno održiv. Banke vjeruju da saradnja i razvoj inkubacionih programa može

olakšati dugoročno razmišljanje, i kao rezultat toga, inovacije mogu postati dio tradicionalnog bankarskog sistema“ (MNB2017).

Centar za inovacije MNB (koji je nedavno osnovan) pomaže da se identifikuju stvarnu pojavu pravnih prepreka i da se poboljša izvodljivost inovativnih ideja (Fáykiss et al. 2018). Internet platforma omogućava vezu između regulatornih i supervizorskih nadležnih organa i inovativnih domaćih institucija (FinTech kompanija, banaka, osiguravača, itd.), i podržava svjesnost međunarodnih najboljih praksi.

- Informacioni repozitorij
- Komunikacioni centar
- Platforma za regulatornu podršku
- Platforma za međunarodnu saradnju

„Međutim, određeni stepen neizvjesnosti okružuje regulatorni okvir, jer 65 procenata institucija nije odlučilo da li žele da učestvuju, pri čemu je 29 ispitanika odgovorilo da je voljno da učestvuje i da može da pokrene fazu testiranja inovativnog proizvoda ili usluge čak i u kratkom vremenskom periodu. Mnoge FinTech kompanije već saraduju sa tradicionalnim bankarskim akterima. FinTech kompanije uglavnom se ne osjećaju odbačenim od banaka. Tržišne konsultacije su potvrdile da postoje različite vrste saradnje. Preko jedne trećine mađarskih kompanija u uzorku MNB-a ukazale su da imaju partnerski odnos sa bankom odnosno da učestvuju u inkubacionom programu banke ili da djeluju kao dobavljači za banku sa ugovorom o zastupništvu. Banke dobijaju znanje i iskustvo FinTech kompanija prilično rijetko kroz sticanja. Otvorenost sa strane

FinTech kompanija će se po pravilu nastaviti, jer polovina uzorka planira dalju saradnju. Tri kompanije su jedino ukazale na potpuno odbijanje saradnje“ (MNB2017).

Na kraju, od izuzetnog je interesa vidjeti kako tradicionalne banke uzimaju u obzir razvoj FinTech-a u Mađarskoj. Predsjednik Udruženja banaka Mađarske je ukratko iznio svoje stavove o digitalnim izazovima i izazovima FinTech-a na sljedeći način:

„Digitalizacija je ogroman izazov i pritisak za obnavljanje u bankarskom sektoru. Mnogi ljudi koji imaju 20 ili 30 godina danas neće posjetiti filijalu, već se svoje transakcije izvršavati putem mobilnih telefona. Stavovi klijenata i njihovo ponašanje će se promijeniti, značaj filijala će se smanjiti, a značaj tehnologije će se povećati. Postoji prava opasnost za mnoge banke da će njihovu ulogu preuzeti novi igrači, na primjer pružaoci platnih usluga. Ovakav razvoj vide regulatori širom svijeta, a ako ti akteri žele da imaju odobravanje kredita i da poštuju i usaglašavaju se sa relevantnim propisima, moraće da ispune iste zahtjeve za kapitalom kao i tradicionalne banke, zatim će banke pobijediti i poraziti ih u konkurenciji. Opasnost postoji, ali će banke naučiti kako da primijene nove tehnologije umjesto da dozvole novim igračima da im oduzmu hleb. Banke su spremne za ozbiljnu integraciju FinTech kompanija“ (Patai 2018). Za sada, čak i klijenti imaju pozitivan stav da tradicionalne mađarske banke nemaju neprijateljski stav prema novoosnovanim FinTech kompanijama.

Consultation Platform) to help FinTech start-ups in the initial phase, or even those already on the market, to navigate regulatory issues” (Thurzó 2017).

The MNB also prepared a targeted questionnaire to assess the attitude and proposals of market participants which are developing and offering FinTech innovations. According to this survey “banks believe that they will continue to play a central role in financial intermediation. On the other hand, the overwhelming majority of FinTech firms are in regular contact with banks or have turned to banks since their launch. This is due to the fact that in addition to financial support, banks can also provide assistance through the expertise gained during their operations. Access to banks’ extensive datasets is crucial for newly established FinTech firms and banks have thorough knowledge of the detailed legal requirements pertaining to the industry. Banks’ systemic thinking can probably also provide more accurate guidance on potential operational and financial risks. Traditional banking actors mainly foresee partnership solutions with respect to FinTech innovations. Banks’ motivation is based on their need to be familiar with efficient solutions and adopt them as soon as possible, and the flexibility observed in the attitude of FinTech firms and their ability to make decisions quickly may facilitate technological progress. One major element of cooperation is the provision of a business model which is sustainable over the longer term. Banks believe that cooperation and the development of incubation programmes

can facilitate long-term thinking, and as a result of that, innovations can become part of the traditional banking system” (MNB 2017).

The MNB’s Innovation Hub (which was recently founded) helps to identify actually arising legal obstacles and to improve feasibility of innovative ideas (Fáykiss et al. 2018). The online platform provides a connection between the regulatory and supervisory authority and the innovative domestic institutions (FinTech firms, banks, insurers, etc.), and supports the awareness of international best practices.

- Information repository
- Communication hub
- Regulatory support platform
- International cooperation platform

“However, some uncertainty also surrounds the Regulatory Sandbox, as 65 per cent of the institutions have not decided whether they wish to participate, whereas 29 per cent of the respondents would be willing and able to launch a testing phase with an innovative product or service even within a short period of time. Most FinTech firms already cooperate with traditional banking actors. FinTech firms typically do not feel rejected by banks. The market consultation confirmed that there are different types of cooperation. Over one-third of the Hungarian companies in the MNB’s sample indicated that they are in a partnership with a bank, i.e. they are participating in a bank’s incubation program or acting as suppliers to a bank with an agency agreement. Banks obtain FinTechs’ know-how through acquisition fairly rarely. Openness on the part

of the FinTech firms will typically continue, as half of the sample plan further cooperation. Complete rejection of cooperation was only indicated by three companies altogether” (MNB 2017).

Finally, it is also of great interest to see how the traditional banks consider the development of FinTech in Hungary. The Chairman of Hungarian Banking Association summarised his views on the digital and FinTech challenges as follows: “Digitalisation is a tremendous challenge and pressure for renewal in the banking sector. Many people who are 20 or 30 years old today will not visit a branch office, and instead conduct all of their transactions on their mobile phones. Client attitudes and behaviour will change, the importance of branches will decrease and the importance of technology will increase. For many banks it’s a real danger that their role will be taken over by new actors, for instance payment service providers. This development is seen by regulators all over the world, and if these actors want to have lending activities and will observe and comply with the relevant rules, they will have to meet the same capital requirements as traditional banks, then the banks will win and defeat them in competition. The danger is there, but banks will learn how to apply the new technologies rather than to let new actors take away their bread. Banks are ready for the serious integration of FinTech companies.” (Patai 2018). For the time being it is a positive attitude even for the clients that the incumbent Hungarian banks do not have a hostile attitude towards FinTech start-ups.

REZIME I ZAKLJUČAK

Od početka 21. vijeka, svjedoci smo digitalne transformacije - promjena koje su povezane sa inovacijama u oblasti digitalne tehnologije u svim aspektima društva i ekonomije. Četvrta industrijska revolucija je već u toku. Finansijska tehnologija je jedna od najinovativnijih, izuzetno važnih i potencijalno najbržih promjena u pružanju finansijskih usluga i iz temelja mijenja način na koji posluju kompanije koje se bave pružanjem finansijskih usluga. Ona transformiše tržišta dužničkih hartija od vrijednosti i kapitala, plaćanja, procjenu kredita, usklađenost sa propisima, lične finansijske i mnoge druge aspekte finansijskih usluga. Da bismo bolje razumjeli ovaj proces, kratko smo uporedili iskustvo iz prethodne tri industrijske revolucije. Mi možemo vidjeti sličnosti, pošto revolucije imaju iznenađan početak i uglavnom završavaju sa pozitivnim promjenama i moćima transformacije, ali isto tako imaju razorne efekte. U početnoj fazi teško je predvidjeti ishod, predvidjeti šta će biti dugoročni pozitivni efekat i procijeniti potencijalne rizike i njihovo upravljanje.

U današnje doba, jedan od najvećih izazova za bankarski sektor, za regulatore i supervizore je digitalna transformacija finansijskih usluga. S tim u vezi, budućnost tradicionalnog finansijskog posredovanja i odnos između postojećih banaka i novoosnovanih FinTech kompanija je značajno pitanje. Ovi razvoji i novi akteri na tržištu postavljaju pitanja o potencijalnim rizicima, i kako regulativa i supervizija treba da se promijene, i da li se fer konkurentnost i jednaki uslovi konkurencije na tržištu mogu obezbijediti i održati.

Prilikom istraživanja fenomena FinTech, prvi zadatak je da se pronađe tačna definicija. Jasno je da ne postoji široko prihvaćena definicija finansijske tehnologije, ne zbog toga što su regulatori neupućeni ili neobrazovani, već zato što se finansijska tehnologija tako brzo razvija da su supervizori i centralne banke primorani da prate događaje. Neefikasan status definicije je zajednički za sve teritorije koje smo pregledali. Najkorišćenija definicija je radna definicija Odbora za finansijsku stabilnost, koji definiše finansijsku tehnologiju kao „tehnološki omogućenu finansijsku inovaciju koja može dovesti do novih poslovnih modela, aplikacija, procesa ili proizvoda uz materijalni efekat na finansijska tržišta i institucije i pružanje finansijskih usluga“. Ova široka, „pragmatična“ definicija smatra se osnovom regulative.

Ova dozvoljena i široka definicija ima ozbiljnih posljedica. S obzirom da definicija ne identifikuje precizno sadržaj i opseg usluga finansijske tehnologije, stvaraju se teškoće kod uspostavljanja zakonskog okvira za označavanje granica supervizorskih kontrola i obezbjeđivanje jednakih uslova konkurencije za tradicionalne banke i FinTech kompanije. Ako se bankama nametnu strogi regulatorni zahtjevi, FinTech kompanije bi imale nepoštenu konkurentnu prednost, a nedostatak detaljnih pravila takođe predstavlja rizike za zainteresovane strane. Ako neko nezrelo rješenje dođe prerano do tržišta, to može dovesti do neočekivanih gubitaka kako za klijente tako i za zajmodavce. Previše blag regulatorni pristup može gurnuti finansijsko posredovanje u područje gdje regulatorni nadležni organi jedino imaju ograničeni uticaj.

Nakon hronološkog i globalnog pregleda, fokusirali smo naše istraživanje na tri geografske oblasti: Evropsku uniju, Kinu i Mađarsku. Mi smatramo da prve dvije podržavaju naše napore da utvrdimo pravac globalnog finansijskog digitalnog razvoja, da nađemo sličnosti i razlike u pristupima i na kraju da istražimo gdje se nalazi Mađarska u ovom procesu.

U Evropskoj uniji, značaj digitalne tehnologije je shvaćen i smatra se pitanjem od izuzetne strateške, ekonomske i društvene važnosti. Evropska komisija je objavila da će nova digitalna tehnologija biti ključni element u budućoj konkurentnoj prednosti EU. Ovo je zbog toga što EU razvija ambicioznu i sveobuhvatnu Strategiju za digitalno jedinstveno tržište koju prati Akcioni plan za FinTech u 2018. godini. U cilju jačanja ispunjenja ovih ciljeva, Evropski bankarski regulator je objavio Smjernice za FinTech pod nazivom: „Kreiranje regulatornih i supervizorskih sjernica za finansijsku tehnologiju“. Smjernice Evropskog bankarskog regulatora su važan pregled neophodnog i propisanog regulatornog pristupa koji se odnosi na usluge koje pružaju postojeće banke i novoosnovane FinTech kompanije.

Definicija FinTech-a koja se koristi u EU je široka, ali regulatori se bore da ublaže rizike i obezbijede fer konkurenciju. Oni prate pragmatičan stav koji se okreće oko slojevite regulatorne strukture sa diferenciranim regulatornim zahtjevima u skladu sa rizicima za kompanije, za njihove klijente, finansijski sektor i ekonomiju u cjelini. U principu, cilj je da se ostvare očekivanja „isti rizik - ista pravila“.

SUMMARY AND CONCLUSION

Since the beginning of the 21st century, we have been experiencing a digital transformation – changes associated with innovation in the field of digital technology in all aspects of society and the economy. The fourth industrial revolution is already underway. Financial Technology represents one of the most innovative, increasingly important and potentially the most rapid change in financial services revolutionising the way financial services firms operate and transforming debt and equity markets, payments, credit assessment, regulatory compliance, personal finance and many other aspects of financial services. For a better understanding of this process, we have briefly compared the lessons from the previous three industrial revolutions. We can see similarities, as revolutions have a sudden start and mostly end up with positive changes and transformational powers, but they also have disruptive effects. In the initial phase it is difficult to predict the outcome, to foresee what will be a lasting positive effect and to assess the potential risks involved and their management.

In our day and age, one of the greatest challenges for the banking sector, for the regulators and for supervisors is the digital transformation of financial services. In this context, the future of traditional financial intermediation and the relationship between incumbent banks and FinTech start-up companies is a relevant question. These developments and the new actors on the market raise the question of potential risks, thus how regulation and supervision should be changed, and whether fair competition and

a level playing field can be ensured and maintained.

In investigating the FinTech phenomenon, the first task is to find the exact definition. It is clear that there is no widely accepted definition of financial technology, not because regulators are ignorant or unknowledgeable, but rather because the development is so rapid that supervisors and central banks are forced to follow the events. The inefficient status of the definition is common in all of the territories we examined. The most commonly used definition is the Financial Stability Board's working definition of FinTech as "technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services". This broad, "pragmatic" definition is considered as the basis of regulation.

The permissive and broad definition has consequences. Since the definition does not make it possible to precisely identify the content and scope of FinTech services, it creates difficulties in establishing the legislative framework to indicate the boundaries of supervisory controls, and in establishing equal conditions of competition between traditional banks and FinTech companies. If strict regulatory requirements are imposed on banking actors, FinTech firms would enjoy an unfair competitive advantage, and the lack of detailed rules also poses risks to stakeholders. If an immature solution reaches the market too soon, it may cause unexpected losses to both consumers and lenders. An excessively lenient regulatory approach may

push financial intermediation into a segment where regulatory authorities only have limited influence.

After the chronological and global review, we focused our examination on three geographic areas: the European Union, China and Hungary. In our view the first two support our endeavour to identify the direction of the global financial digital development, to find similarities and differences in the approaches and ultimately to explore where Hungary stands in this process.

In the European Union, the importance of digital technology has been realised and it is considered an issue of paramount strategic, economic and social importance. The European Commission declared that the new digital technology will be a key element in the future competitive edge of the EU. This is why the European Union has been delivering on an ambitious and comprehensive Digital Single Market Strategy, which was shortly followed by FinTech Action Plan in 2018. In order to strengthen the accomplishment of these targets, the European Banking Authority published its FinTech Roadmap under the title: "Designing a Regulatory and Supervisory Roadmap for FinTech". The EBA Roadmap is an important summary of the necessary and envisaged regulatory approach related to the services provided by incumbent banks and FinTech start-ups.

The definition of FinTech used in the EU is broad, but regulators are struggling to mitigate risks and ensure fair competition. They follow a pragmatic attitude that revolves around a tiered regulatory structure, with differentiated regulatory requirements according to the risks for the firms, their customers, the financial

Nedostatak tačne definicije najvjerojatnije zahtijeva sadašnje stajalište Evropske centralne banke (ECB), koja je izjavila da regulativa i supervizija FinTech usluga treba da ostane - za sada - nacionalnoj nadležnosti. Ova izjava sama po sebi pokazuje kako bi u sadašnjem trenutku bilo teško centralno regulisati ovaj preces i aktivnosti. Sljedeći izazov je kako obezbijediti jednaka pravila za tradicionalne banke i pružaoce FinTech usluga. Nije lako naći uravnoteženo rješenje. Drugi delikatan problem je pitanje oporezivanja. Kao dio izgradnje arhitekture Jedinственоg digitalnog tržišta Evropske Unije, Evropska komisija je predložila direktivu Savjeta kojom se propisuju pravila o oporezivanju pravnih lica sa značajnim digitalnim prisustvom.

Sljedeće poglavlje ovog istraživanja predstavlja kratak pregled pristupa finansijskoj tehnologiji u Kini, gdje se sektor finansijske tehnologije ubrzano razvija i globalni je lider po osnovu nekoliko mjerila. Digitalna plaćanja u državi čine gotovo polovinu globalnog obima, a uzajamno kreditiranje (P2P) putem interneta čini tri četvrtine ukupnog globalnog uzajamnog kreditiranja. Međutim, kineski sektor finansijske tehnologije nalazi se sada na ključnoj prekretnici. Prije nekoliko godina, problemi su nastali kada su se rizici nagomilali na P2P platformama, a broj ilegalnog prikupljanja sredstava i finansijske aktivnosti

se povećao. Ovo je poslužilo kao lekcija i upozorenje za regulatore i supervisore, a njihov promijenjeni stav je moralna lekcija i instrukcija mnogim drugim državama. Inače, kineski pristup je na mnogo načina sličan onom u EU. Na primjer, po mišljenju Narodne banke Kine, ne postoji jedinstveni pristup FinTech aktivnostima; poboljšanje ekosistema za FinTech može pomoći da se ublaže neki značajni rizici; potrebno je uključiti nove ideje i pristupe za poboljšanje efikasnosti regulative. U ovoj situaciji, samodisciplina je takođe neizbježna.

Nakon analiziranja FinTech pristupa u EU i Kini, predstavljanje mađarskog pristupa je osvježenje. Može se navesti da Mađarska ne zaostaje čak iako se njeni regulatori i tradicionalne banke suočavaju sa sličnim zadacima sa kojima se suočavaju regulatori i tradicionalne banke u EU ili Kini. Mi se oslanjamo na najnovija istraživanja Centralne banke Mađarske. Postoji obećavajući proces za integraciju inovativnih proizvoda i rješenja u bankarsko poslovanje.

Banke u Mađarskoj vjeruju da će nastaviti da igraju centralnu ulogu u finansijskom posredovanju. S druge strane, velika većina FinTech kompanija redovno je u kontaktu sa bankama ili su se od svog osnivanja obratile bankama. Prema rezultatima MNB istraživanja, aktivno angažovanje regulatornih i supervizorskih nadležnih organa je neophodno kako

bi se promovisala konkurencija ili saradnja između raznih tržišnih učesnika i novih učesnika.

Prema mađarskoj bankarskoj zajednici, digitalizacija predstavlja ogroman izazov i pritisak za obnavljanje bankarskog sektora. Mnogi ljudi koji imaju 20 ili 30 godina danas neće posjetiti filijalu, već će svoje transakcije izvršavati putem mobilnih telefona. Stavovi klijenata i njihovo ponašanje će se promijeniti, značaj filijala će se smanjiti, a značaj tehnologije će se povećati. Jedan opšti, realni rizik je da će ulogu nekih banaka preuzeti novi igrači, na primjer pružaoci platnih usluga.

Naslov ovog istraživanja je inspirisan poznatom knjigom koju je napisao Oldouz Haksli (1894–1963), „Vrli novi svijet“ koja je objavljena 1931. godine. Haksli je pokušao, iako je ironično kritikovao potrošačko društvo, kojim je manipulirao i upravljao svijet mašina, da predvidi budućnost ljudskog roda. Veliki dio njegove vizije je pomiješan sa naučnom fantastikom, a naučni elementi postali su realnost u narednim dekadama. Može se čak reći da je bolji vrli novi svijet izgrađen na osnovama svijeta mašina.

Mi nijesmo propovjednici, mi ne pokušavamo da predvidimo konačan ishod digitalne finansijske transformacije, ali zaista vjerujemo da ovaj razvoj može predstavljati ljudsku vrstu sa pozitivnim promjenama. Međutim, bankarstvo i finansijske usluge su jedan od najvažnijih elemenata ekonomije i društva u cjelini, pa stoga moramo pažljivo ispitati razvoj FinTech-a. Mora se vidjeti da li postoje rizici, kako se oni mogu kontrolisati ili ublažiti.

“Prema mađarskoj bankarskoj zajednici, digitalizacija predstavlja ogroman izazov i pritisak za obnavljanje bankarskog sektora

sector and the economy at large. In principle, the objective is to deliver “same risk

– same rules” expectations.

The lack of an exact definition most probably required the present standpoint of the European Central Bank (ECB), which has stated that the regulation and supervision of FinTech services should remain – for the time being – in the sphere of national competence. This statement in itself shows how difficult it would be at present to centrally regulate this process and activity. The next challenge is how to ensure a level playing field between traditional banks and FinTech service providers. It is not easy to find a balanced solution. Another delicate problem is the question of taxation. As part of building the architecture of the EU Single Digital Market, the European Commission proposed a Council Directive laying down the rules relating to the corporate taxation of a significant digital presence.

The next chapter of this study is an overview of the FinTech approach in China, where the FinTech sector has been developing rapidly and is the world leader by several measures. The country’s digital payments account for almost half the global volume and online peer-to-peer (P2P) lending accounts for three quarters of the global total. However China’s FinTech sector is now at a critical juncture. Some years ago, problems emerged when risks piled up around P2P platforms and the number of underground fundraising and financing activities multiplied. This served as a lesson and a warning for the regulators and supervisors, and their changing attitude is moral and instructive to many other countries.

“According to the Hungarian banking community, digitalisation is a tremendous challenge and pressure for renewal for the banking sector

Otherwise, the Chinese approach is similar in many ways to that of the EU. For example, in the view of the Peoples Bank of China there is no unified approach to FinTech activities; improving the ecosystem for FinTech can help mitigate some significant risks; new ideas and approaches to improve regulation efficiency should be incorporated. In this situation a self-discipline requirement is also inevitable.

After reviewing the EU and Chinese FinTech approaches it is refreshing to present the Hungarian case. One can state that Hungary is not lagging behind even if its regulators and traditional banks face similar tasks as in the EU or China. We relied on the latest surveys of the Hungarian Central Bank. There is a promising process to integrate innovative products and solutions in banking operations.

Banks in Hungary are confident that they will continue to play a central role in financial intermediation. On the other hand, the overwhelming majority of FinTech firms are in regular contact with banks or have turned to banks since their launch. According to the result of the MNB survey, the active involvement of regulators and supervisory authorities is necessary to promote competition or cooperation between various market participants and new entrants.

According to the Hungarian banking community, digitalisation is a tremendous challenge and pressure

for renewal for the banking sector. Many of those who are 20 or 30 years old today will not visit a branch offices, but rather conduct all their transactions on their mobile phones. Client attitudes and behaviour will change, the importance of branches will decrease, and the importance of technology will increase. One general, real risk is that the role of some banks will be taken over by new actors, for instance payment service providers.

The title of this study was inspired by a famous book by Aldous Huxley (1894– 1963), “Brave New World”, published in 1931. Huxley, while ironically criticising the consumer society, manipulated and ruled by the world of machines, tried to forecast the future of mankind. A great part of his vision mixed with science fiction and scientific elements became reality in the following decades. One may even say that a better a brave new world was built up on the basis by the world of machines.

We are not evangelists, we are not trying to predict the final outcome of the digital financial transformation, but we do believe that this development might present mankind with positive changes. However banking and financial services are one of the most important elements of the economy and of society as a whole, and therefore we must carefully scrutinise FinTech developments. It must be seen if there are risks, how these can be controlled or mitigated.

Poslije gotovo stotinu godina od početka treće industrijske revolucije, filozofi su i dalje pokušavali da sažeto prikažu odnos između mašina i ljudi i da predstave svoj stav u pogledu uticaja doba mašina na razmišljanje i ponašanje ljudi. Mi smatramo da su ova pitanja opravdana ili mogu biti opravdana u dobu digitalne tranzicije i da su ona takođe važna prilikom procjene metamorfoze tradicionalnih banaka i njihovih klijenata. Na kraju, FinTech treba da služi boljem životu ljudi.

U ovom trenutku, mi iznosimo glavne zaključke naše analize. Možemo zaključiti da je FinTech u početnoj fazi ubrzanog mijenjanja i širenja globalnog „revolucionarnog“ procesa razvoja. Prema tome, to je doba razornih promjena, i vrijeme mirnog, predvidivog razvoja još nije stiglo. Iako se ulaganja u finansijsku tehnologiju veoma brzo šire na finansijskim tržištima, njihov potencijalni uticaj na banke i finansijske institucije je daleko od toga da bude jasan. Tenzija između stabilnosti i konkurentnosti leži u osnovi cijele debate o FinTech-u i kako to regulisati, biti u Evropskoj uniji, Kini ili Mađarskoj.

Možemo navesti u ovom trenutku razvojnog procesa da finansijska tehnologija ubrzano napreduje, i da je definicija ove teme široka i stalno se mijenja. Zbog brzih promjena regulatori i supervizori ne idu ispred tih promjena, već pokušavaju da dostignu ovaj proces. Zbog široke i uglavnom slobodne definicije teže je obezbijediti jednake konkurentne uslove i jednaka pravila za tradicionalne banke i novoosnovane FinTech kompanije, a to praktično znači da su bankarska regulativa i supervizija strožiji.

Veza između tradicionalnih banaka i novoosnovanih FinTech kompanija se razvija i mijenja. Nekoliko svojstava karakteriše moguću vezu između

tradicionalnih banaka i FinTech kompanija, kao što je fatalna privlačnost ili opasne veze. Prihvatanje je takođe različito: propovjednici glasno pozdravljaju razvoje, dok su skeptici oprezni.

Kakav god bio rezultat razvoja FinTech-a, analiza u ovom radu pokazuje da smo svjedoci vrlo brzog i neizbježnog procesa koji ima globalne i konkurentne implikacije. Ovaj rad je takođe bio usredsijeđen na želju za boljim razumijevanjem fenomena FinTech i mogućim odnosom između tradicionalnih banaka i novoosnovanih FinTech kompanija. Po našem mišljenju banke i FinTech kompanije imaju više zajedničkih poslovnih interesa nego problemi koji ih dijele.

Ljudi su čak i u pozadini ovog digitalnog razvoja, i prema tome jedno od velikih pitanja je kako će se društvo transformisati tokom i nakon digitalne revolucije. Retrospektiva ponekad pomaže da se razumije budućnost sadašnjih razvoja. Podržimo našu ideju citirajući Karla Džaspersa: „Svakodnevna složenost svijeta koju je preplavila tehnologija tjera nas da vladamo svijetom u okruženju (Umwelt) koje je prihvatljivo za nas. Veza sa stvarima se mijenja; stvari odlaze od nas, postale su ravnodušne dok su preuzimale oblik faktora koji se ne mogu promijeniti; tehnologija odsijeca čovjeka od stanja neposredne prisutnosti. Novi zadatak koji treba da se izvrši uz pomoć tehničkih kreacija je da se ponovo pronađe direktno postojanje za sve stvari koje čine svijet. Novi uslovi koje kreira razvoj tehničkih mogućnosti treba da budu u službi čovjeka“ (Jaspers1946).

Neki ekonomisti tvrde da je digitalni svijet „nova normala“. Mi ukazujemo da se ipak treba zapitati nad ovom izjavom. U ovom periodu ubrzanih promjena, mi ne znamo kakav će

konačan oblik poprimiti „nova normala“. U dnevnoj štampi finansijska tehnologija se opisuje kao „rušilačka“, „revolucionarna“ tehnologija, koja je naoružana „digitalnim oružjem“ koje će „srušiti“ sve barijere i tradicionalne finansijske institucije“ (Svjetski ekonomski forum 2017).

Može se postaviti pitanje da li su društvo i ekonomija pripremljeni ili spremni da se suoče sa ovim izazovima. Odgovor je da nisu. Svi akteri imaju odgovornost: centralne banke, regulatori, supervizori, postojeće banke, klijenti, kao i FinTech kompanije. Svi regulatori i supervizori prate burni razvoj, primjenjujući pragmatičnu definiciju, pokušavajući da obezbijede jednake uslove za glavne aktere; postojeće banke i FinTech kompanije testiraju jedni druge i tržište istovremeno radeći na značajnim novim FinTech aplikacijama. Klijenti su zadovoljni zbog bržih, jeftinijih finansijskih usluga, ali od tradicionalnih banaka traže bezbjednost i uglavnom vjeruju i imaju povjerenje u postojeće banke.

Većina centralnih banaka i regulatora upozoravaju u pogledu potencijalnih rizika. Procjena rizika nije laka u svijetu koji se ubrzano mijenja. Ponekad, „mašine“ prikupljaju i ocjenjuju podatke koji su potrebni za procjenu rizika. Ranije smo pomenuli da je informacija moć. Regulatori moraju da potpuno obezbijede da se vlasništva FinTech kompanija i pružalaca finansijskih usluga nad digitalnim podacima ne zloupotrijebe protiv klijenata.

Brzom razvoju FinTech usluga pomaže i period odlaganja. Pod ovim se smatra da se globalni finansijski sektor mirno razvijao gotovo deset godina. Realna mjera mogućih rizika će se pojaviti kada dođe do nove recesije ili perioda krize. Finansijski sektor treba da bude pripremljen za to.

Almost one hundred years after the beginning of the third industrial revolution, philosophers were still trying to summarise the relation between machines and human beings and to present their view of the impact of the machine age on human thinking and behaviour. In our view, these questions are or could be justified in the age of digital transition and are also valid when assessing the metamorphosis of traditional banks and their clients. At the end of the day, FinTech should serve a better life for human beings.

At this point, we sum up the major conclusions of our analysis. We can conclude that FinTech is in the initial phase of a rapidly changing and expanding global “revolutionary” development process. It is therefore in the era of disruptive changes, and the time of a calm, predictable development has not arrived yet. Although investments in FinTech have been expanding very rapidly in financial markets, their potential impact on banks and financial institutions is still far from clear. The tension between stability and competition underlies the entire debate over FinTech and how to regulate it, be it in the European Union, China or Hungary.

We can state at this point in the development process that financial technology is proceeding rapidly, and the definition of this subject is broad and changing. Because of the fast changes regulators and supervisors are not ahead but rather trying to catch up with this process. The broad and mostly permissive definition makes it more difficult to ensure equal competitive conditions and a level playing field between traditional banks and FinTech start-ups, and in practical terms this means that banking regulation and supervision are more strict.

The relationship between traditional banks and Fintech start-ups is developing and changing. Several attributes

characterise the possible relationship between traditional banks and FinTech companies, such as fatal attraction or dangerous liaisons. The acceptance is also different: evangelists loudly welcome the developments, while sceptics are cautious.

Whatever the outcome of the FinTech development is, the analysis above shows that we are witnessing a very fast and inevitable process, which has global and competitive implications. This paper was also focused on the wish for a better understanding of the FinTech phenomenon and the possible relationship between traditional banks and FinTech start-ups. In our view banks and FinTech firms have more common business interests than issues that divide them.

Even in the background of this digital development there are human beings, and therefore one great question is how will the society be transformed during and after the digital revolution. Retrospection sometimes helps to understand the future of present developments. Let us support our idea with the following quotation from Karl Jaspers: “The everyday complexity of the world flooded by technology forces us to reign over the world in the environment (Umwelt) that is accessible for us. Relationship to things has changed; things moved away from us, became indifferent while taking the form of unchangeable factors; technology has cut off man from the immediate presence. The new task that needs to be accomplished is that with the aid of technical creations to re-find the direct existence for all things that make up the world. The new conditions created by the development of technical possibilities should be applied in the service of man” (Jaspers 1946).

Several economists have claimed that digital is the new normal. We suggest putting a question mark at the end of

this statement. In this time of rapid changes we do not know what the final shape of “the new normal” will be. “In the news, financial technology is described as ‘disruptive’, ‘revolutionary’, and armed with ‘digital weapons’ that will ‘tear down’ barriers and traditional financial institutions” (World Economic Forum 2017).

One may ask whether society and the economy are prepared or ready to face these challenges. The answer is no. All of the actors have responsibility: the central banks, regulators, supervisors, incumbent banks, consumers and FinTech companies alike. All of the regulators and supervisors are following the stormy development, applying a pragmatic definition, trying to ensure a level playing field for the main actors; incumbent banks and FinTech companies are testing each other and the market, while working on more and more new FinTech applications. Consumers are happy about quicker, cheaper financial services, but they require safety from their traditional banks, and mostly have trust and confidence in the incumbent banks.

Most of the central banks and regulators warn about potential risks. Risk assessment is not easy in this rapidly changing world. Sometimes “machines” collect and evaluate the data for risk assessment. Earlier we mentioned that information is power. Regulators must strictly ensure that the digital data holdings of FinTechs and financial service providers are not misused against the customers.

The rapid development of FinTech services have also been supported by a grace period. By this we mean that the global financial sector has now enjoyed almost a decade of peaceful development. The real measure of the possible risks will emerge when a new recession or crisis period arrives. The financial sector should be prepared.