



Acta Catalactics

časopis za ekonomska i opšta društvena pitanja
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Časopis „Acta Catallactics, časopis za ekonomska i opšta društvena pitanja“ od autora očekuje najviše standarde integriteta u istraživanju. Radovi koji su primljeni za razmatranje za objavu u časopisu trebaju sadržavati dovoljno informacija kako bi svaki kvalificirani istraživač mogao ponoviti rezultate.

Poštovani,

Pred Vama je prvi broj naučnog časopisa "Acta Catallactics, časopis za ekonomska i opšta društvena pitanja" koji je osnovan 2019. godine i izlazi dva puta godišnje u izdanju udruženja "Multi" i Visoke škole "Internacionalna poslovno-informaciona akademija" Tuzla. Prvi i drugi brojevi časopisa su prigodni, na bazi knjige "Populizam, izabrane teme" i DIEC, treće međunarodne naučne konferencije o digitalnoj ekonomiji.

Časopis je usmjeren prema naučnicima i stručnjacima koji se bave istraživanjem ekonomskih i opštih društvenih pitanja. Objavljuje radove koji doprinose teorijskom, metodološkim i empirijskim spoznajama u svim ekonomskim oblastima, kao i drugim oblastima koje pokrivaju društvene nauke. Radovi se mogu temeljiti na kvalitativnim i

kvantitativnim analizama, mogu predstavljati sinteze dosadašnjih istraživanja i ukazivati na otvorena pitanja u izdvojenim područjima društvene i ekonomske prakse.

Prihvataju se radovi različitih nivoa istraživanja (od pojedinačnih slučajeva do manjih ili velikih uzoraka) i različitih kontekstualnih okvira (od mikro jedinica do širih društvenoekonomskih okvira). Radovi se objavljuju na engleskom, ali i bosanskom/srpskom/ hrvatskom jeziku.

Časopis pruža mnoge koristi za autore poput besplatnog printanog izdanja časopisa u kojem je objavljen članak autora i popusta na učešće na naučnim i stručnim konferencijama u organizaciji uredništva časopisa. Također, određeni autori će na poklon dobiti aktuelna izdanja udruženja Multi i Visoke škole "Internacionalna poslovno-informaciona akademija" Tuzla.

Iskreno se nadamo da će se časopis ostvariti vlastitu misiju i doprinjeti boljem razumijevanju ekonomskih i opštih društvenih pitanja.

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POPULISTIČKE BARIJERE RAZVOJA BIZNISA I SLOBODNOG TRŽIŠTA

Doc. dr. Dino Arnaut

Populizam izgleda kao da se niotkuda pojavio i počeo dobivati na popularnosti, ali on je u porastu već duže vrijeme. Da bi se govorilo o populizmu, najbolje je krenuti od jednostavne definicije samog populizma koja sadrži njegova najosnovnija obilježja. Većina autora bi se najviše složila s politologom Casom Muddeom (2007) koji kaže da je u svojoj osnovi populizam oblik politike koja se temelji na suprotstavljanju korumpirane elite s poštenim narodom.

Studije populizma ne bave se presudom da li su takve moralne prosudbe tačne nego više s razumijevanjem kada ovaj oblik politike postaje prevladavajući, zašto je u stanju dobiti javnu podršku, kako utječe na postojeće političke moći i kakav utjecaj ima na političke institucije i samu politiku (Bonikowski, 2017).

Iako je svim populističkim retorikama zajednička binarna moralna klasifikacija, ipak one se razlikuju prema identitetima elita, čime često uključuju različite političke aktere ali i akademike, novinare i poslovne lidere. Također, neke vrste populizma iskorištavaju anti-patije prema određenim grupama, poput etničkih, rasnih ili vjerskih manjina, optužujući ih da su inkorporirali elite za ostvarenje svojih ciljeva.

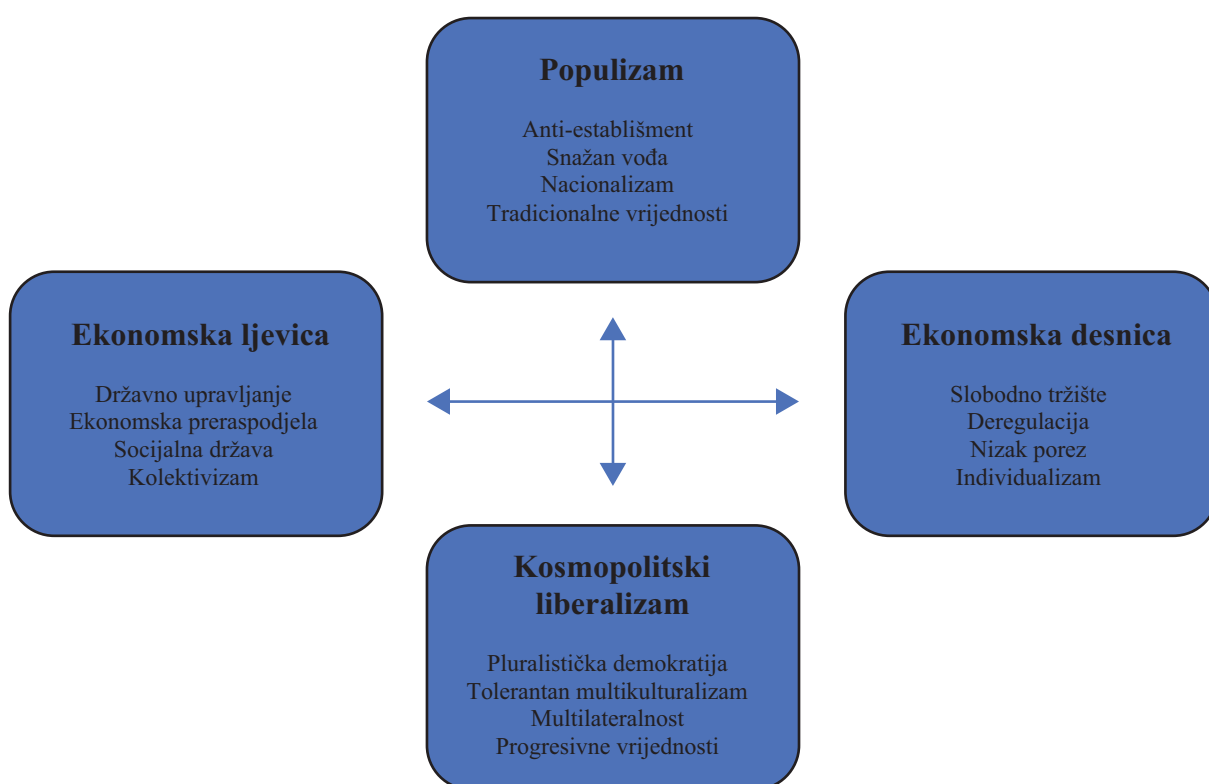
Definiranje populizma

Politički populizam može se okarakterizirati kao posebna ideologija i politički stil kako ga Albertazzi i McDonnell (2008) definiraju kao ideologiju koja suprotstavlja pošten i homogen narod protiv skupa elita i opasnih "drugih koji su zajedno prikazani kao oni koji oduzimaju (ili pokušavaju oduzeti) prava, vrijednosti, prosperitet, identitet i glas suverennog naroda.

I drugi autori se slažu s njima, pa tako Kaltwasser i Taggart (2016) definiraju populizam kao ideologiju koja smatra da je društvo razdvojeno na dvije homogene i antagonističke skupine, pošten narod i korumpirana elita.

Inglehart i Norris (2016) klasificiraju političke stranke u dvije dimenzije (slika 1) gdje u vertikalnoj dimenziji, populizam stoji nasuprot kozmopolitskog liberalizma, koji predstavlja pluralističku demokratiju, tolerantni multikulturalizam, multilateralnost i progresivne vrijednosti. Duž horizontalne dimenzije, stranke mogu varirati od ekonomske ljevice koja favorizira upravljanje državom, ekonomsku preraspodjelu, socijalnu državu i kolektivism, pa do ekonomske desnice koja favorizira slobodna tržišta, deregulaciju, nisko oporezivanje i individualizam.

Ekonomске implikacije populizma danas su od izrazite važnosti, ali populizam je koncept o kojem se uveliko govori izvan diskusija o ekonomskoj politici. Riječ populizam seže do latinske riječi *populus*, što u kolektivističkom smislu te riječi znači narod. Oxfordski rječnik definira riječ populistički kao cilj da se dopadne običnim ljudima. Samim time, prema svojoj definiciji populizam je dio demokratije.



Slika 1. Četverosmjerna klasifikacija političkih stranaka
Izvor: Inglehart and Norris (2016).

Ekonomija i populizam

Iako najviše o populizmu obrađeno u domenu politologije, ekonomisti su toj tematici posvetili dosta manje pažnje. Izuzeci su autori Dornbusch i Edwards (1990, 1991) i Acemoglu i saradnici (2011). Dornbusch i Edwards (1990) su svoj fokus usmjerili na populističku makroekonomsku politiku koja je obično povezana s lijevim populizmom i ima sličnosti s politikom favoriziranom od nedavnih ljevičarskih populističkih pokreta u Evropi.

S druge strane Acemoglu i saradnici (2011) nastoje riješiti pitanje sprovođenja populističkih politika kada one obično dovode do loših ekonomskih rezultata, polazeći od stava da su populističke makroekonomske politike u konačnici štetne i postavljaju pitanje zašto se te politike ipak provode. Oni tvrde da je ključni izazov shvatiti zašto političari usvajaju takve politike i nakon toga dobivaju izbornu podršku (Acemoglu et. al., 2011:2). Njihov odgovor leži u tome da političari, da bi bili izabrani, trebaju istaknuti da nisu pod utjecajem elita, što je jedino moguće postignuti usvajanjem radikalnih redistributivnih i intervencionističkih politika koje političar kontroliran od strane vladajućih elita nikada ne bi proveo (Acemoglu et. al., 2011).

Dosta analitičara sugerira da je nagli rast populizma prouzrokovan kao revolt birača, čija se ekonomska situacija pogoršala zbog međunarodne konkurencije ili tehnoloških promjena, protiv globalizacije (Colantone i Stanig, 2017; Iversen et al., 2017; Rodrik, 2017; Autor et al., 2016; Mayer et. al., 2016). Popularizacija populizma se ponekad objašnjava kao kulturna reakcija protiv porasta imigracije i izraženosti post-materijalističkih vrijednosti od strane onih koji se drže tradicionalnijih stavova (Inglehart i Norris, 2017; Kaufmann, 2017; McElwee i McDaniel, 2017; Ivarsflaten, 2008).

Populističke barijere

Kriza ima posebnu ulogu u prirodi i porijeklu populizma kao jedan od glavnih pokretača populističkih pokreta, kao što je naglasio Taggart (2004:275) da je populizam reakcija na osjećaj ekstremne krize koja se pretvara u kritiku politike i u osjećaj da se politika ne može nositi s neobičnim kriznim uvjetima. Panizza (2005:11) tvrdi da populizam obično nastaje iz kritičnih okolnosti koje proizvode raspad društvenog poretka i gubitak povjerenja u sposobnost političkog sistema da ga obnovi. Analize Pappasa i Kriesia (2015) pružaju empirijsku potporu tvrdnji da populizam ima koristi od ekonomske krize, koju potvrđuje činjenica da su populističke formacije imale bolji učinak u zemljama koje su bile ozbiljnije pogođene globalnim ekonomskim padom.

Globalizaciju i međunarodnu trgovinu populističke stranke promatraju kritički, što ima snažan utjecaj na uspostavljanje i razvoj biznisa. Populistički gledajući, ekonomska kretanja poput strukturalnih promjena i nesigurnosti i gubitka radnih mjesta vide se kao rezultat međunarodne ekonomske integracije, zbog čega populisti optužuju strane kompanije ili vlade da se bave dampingom i različitim drugim oblicima nelojalne konkurencije. Stoga, nije ni čudno da se većina populističkih stranaka protivi evropskim integracijama, u šta ubrajaju i protivljenje stvaranju nadnacionalnih institucija, unutrašnjem tržištu i euru.

Postoje mnogi značajni ekonomski primjeri populističke suprotnosti i suprotstavljenosti ekonomskoj i političkoj integraciji. Najčešće, primjeri obuhvataju regije koje su bile izloženije utjecajima međunarodne ekonomije koje daju svoju podršku populističkim politikama koje su protiv globalizacije i evropskih integracija (Dorn i Hanson, 2013). To se odnosi čak i na zapadnoevropske zemlje (Colantone i Stanig 2018), naročito Francusku (Malgouyres, 2017) i Brexit (Becker et. al., 2017).

Ovakvim stavom, populističko stajalište zanemaruje koristi otvorenog slobodnog tržišta kao potencijala za razvoj domaćih biznisa s međunarodnim karakterom, jer globalizaciju predstavljaju kao proces u kojem je domaće stanovništvo na gubitku, a elita profitira šireći dezinformacije putem svojih pristrasnih stručnjaka.

Također, populističkim stajalištem, ugrožen je i potencijalni rast malih biznisa i preduzetničkih poduhvata koji nastoje kapitalizirati svoje ideje prodajući ih velikim firmama ili integrirajući se s njima. Populisti sugeriraju da se treba bojati i strahovati od velikih firmi (Foer, 2017; Galloway, 2017), a akvizicije manjih, naročito tehnoloških, kompanija treba tretirati s posebnom dozom nevjerice kako u Evropi, tako i u Sjedinjenim Državama (Angelov et al., 2012).

Populističko stajalište nije učinkovito integriralo znanje o startup ekosistemima koje je neophodno za razumijevanje efekata novonastalih akvizicija. Preduzetnička firma može pozicionirati i osnovati s ciljem da bude kupljena, tj. njen poslovni model se može zasnovati na vlastitoj akviziciji. Cilj takve preduzetničke firme je da kreira svoju vrijednost na osnovu koje se druge firme natječu za njene specijalizirane vrijednosti.

Zaključna razmatranja

Značajan dio svjetskog ekonomskog rasta u posljednjih nekoliko decenija može se pripisati poslovanju i djelovanju u duhu međunarodne saradnje i otvorenosti tržišta. Stoga, ako pravimo barijere prema drugim zemljama mi zatvaramo vrata daljem napretku i svoj svijet činimo manjim i siromašnijim.

Prednosti otvorenosti su vidljive kod velikih svjetskih ekonomija. Međunarodna saradnja i otvorenost unutar EU dovela je do snažne ekspanzije prekograničnih preduzetničkih poduhvata. Otvorenost EU je iznimno dobra za poticajne ekonomije svih njenih članova. Otvorena tržišta omogućavaju ljudima saradnju i kreiranje više prilika za sve. Također, interesantan je podatak istraživanja Andersona (2016) koje ukazuje da je preko polovice američkih startupa u vrijednosti od milijardu dolara imalo najmanje jednog osnivača koji je rođen izvan SAD-a.

Preduzetničko djelovanje je neophodno u siromašnim zemljama da bi se generiralo bogatstvo i kreiranje radnih mjesta pri tome izbjegavajući populizam. Dominacija politike populizma unutar državne ekonomije može generirati veći stepen siromaštva kao direktna posljedica povećanja javnog trošenja i obeshrabrivanja preduzetničkog djelovanja (Management Association, 2017).

Startup ekosistem je neodvojiv od globalne ekonomije. Bez prisustva slobode da kompanije, kao i ljudi, prelaze granice ne bi nastao bezbroj radnih mjesta. Takvo stvaranje bogatstva moguće je samo zauzimanjem liberalnog stava otvorenosti tržišta u svim aspektima.

Populističke stranke i politički pokreti često ističu i naglašavaju relevantne probleme. Međutim, politike koje predlažu da se bave tim problemima su najčešće kontraproduktivne jer ne uzimaju u obzir važne aspekte i kompromise između različitih ciljeva politike.

Dobivanje populizma na značaju i popularnosti predstavlja izazov ne samo za prosperitet i političku stabilnost ekonomija širom svijeta. Primjena politika koje favoriziraju stvorila bi značajne troškove i, stoga, mogla bi dovesti do novih ekonomskih kriza koje dodatno narušavaju uravnoteženo racionalno donošenje politika. Također, predložena rješenja populističkih ekonomskih agendi su pretjerano pojednostavljena i čak se dijelom temelje na lažnim informacijama. Ako populizam ostane na marginama, vlade mogu imati vremena i prostora da se pozabave uzrocima popularnosti populizma.

Razvoj biznisa i preduzetništva može biti narušen stavovima zastupljenim na anti-akvizicionim populističkim politikama koji onemogućavaju razvoj preduzetničkih strategija baziranih na prodavanju vlastitog biznisa uvećanog za njegovu specijalističku stvorenu vrijednost. Stoga, postoji opasnost da sve veći populistički utjecaj dovede do protekcionizma i sukoba između zemalja, što u konačnici ima negativan utjecaj na razvoj biznisa. Međutim, članstvo u EU može se smatrati alatom za obuzdavanje populizma.

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EMPOWERING SMEs THROUGH BLOCKCHAIN BASED JUNIOR STOCK EXCHANGE

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Abstract

The problem of financing of small and medium-sized enterprises (SMEs) has been a concern especially for developing countries over the last couple of decades. In recent years, stock exchanges in developing economies and emerging market already established dedicated market segments intended specifically for SMEs. Creation of these so-called junior markets dedicated to SMEs are more and more seen as an alternative to prevailed bank financing. Equity funding in developing countries experienced different developments, but some problems remain unsolved. This would improve the key problem of developing countries' stock exchanges, which is their liquidity. Blockchain, as a decentralized and distributed ledger technology which enables high transparency, data security and integrity, have great potential in the financial world. Because it cannot be forged or tampered with this technology can be solution for junior stock exchange since it is secure, efficient and a low-cost solution for the registration of stocks and shares of SMEs. Blockchain technology even simplifies the transaction and transfer of equities by enabling peer to peer transactions between SMEs or entrepreneurs and investors, therefore. Because of the role these SMEs can play in job creation and diversifying economies, improving access to finance can become a long-term policy goal in developing as well as developed countries. This paper will propose model of junior stock exchange based on blockchain technology. SMEs act as catalysts in the economic development and growth of the developing and developed countries.

Keywords: *SMEs, blockchain, junior stock exchange, equity, entrepreneurship, crowd-funding.*

1. Introduction

The financing of SMEs has been, and it still is a central concern for industrialized countries in the last decades. Emerging so called junior markets, that are stock markets especially dedicated to SMEs, are an attractive alternative to bank financing SMEs generally face minimal opportunities to receive funds and loans due to information asymmetries as well as a lack of collateral, especially in high-tech sectors. This has become more difficult after the 2007-2008 financial crisis (Filippetti and Archibugi, 2010; North et al, 2013; Colombo et al, 2016).

To overcome this financial gap, and to find a suitable solution, several large international bodies, such as the European Commission, have promoted the development of capital markets that are appropriate and designed for SMEs, the so-called junior stock markets, or second-tier stock markets. (Posner, 2005; Harwood and Konidaris, 2015; Eberhart and Eesley, 2018). Also, in recent years, alternative financial channels such as crowdfunding have been developing (Assadi, 2018). The junior stock markets are characterized by simplified listing processes and customized information standards in comparison with the rules that are in force on the main markets. Introducing blockchain and smart contracts we can even more simplify availability of financing SMEs.

When we talk about *smart contracts*, we immediately think about scientist cryptographer Szabo, who defined smart contract is a set of promises specified in digital form including protocols within which the parties perform on these given promises (Szabo, 1996). He also stated his famous example where he analogised smart contracts to the vending machines. Machines are taking coin and with quite simple mechanism they then dispense the change as well as the product according to the price that was displayed. Of course, it is normal that smart contracts are more convenient than vending machine and, therefore, they go beyond it and are embedded in different kind of properties that are in digital form (Szabo, 1997). Using clear logic as well as cryptographic protocols Szabo suggests that smart contracts could be even more functional than their previous paper versions. Nevertheless, the basic idea of smart contracts did not see the light of day or its application until the emergence of the blockchain technology. This new technology made it possible to implement smart contracts in their true and pure form.

We can define smart contracts as a computer protocols that facilitate, verify and enforce contracts made between two or more parties in digital form using blockchain technology. Smart contracts are typically secured and deployed by blockchain giving them some unique set of characteristics. Another characteristic is that smart contract is intelligent agent that has its own digital assets or cryptocurrencies which are executed and transferred when predefined conditions are met. Final characteristic is that program code of the smart contract is recorded and verified on blockchain. This enables smart contract to become resistant any sort of tampering with it. Another characteristic is execution of smart contract is enforced by Anonymous individual nodes without any sort of centralized control or coordination of any kind of third-party authorities (Stark, 2016).

With the development of blockchain technology, smart contracts are being utilised as computer programs that run on blockchain nodes and can be issued among anonymous and untrusted parties without the involvement of any third party. So, the first successful implementation of this kind of blockchain-based smart contract was Bitcoin Script that

is a purposely not-turing-complete language with a set of simple, pre-defined commands (Antonopoulos, 2014).

Famous *Bitcoin* is one of the most widely recognised and one of the first cryptocurrencies that had support for basic smart contracts. Bitcoin scripting language features only some basic arithmetic crypto and logical operations and, therefore, it is not possible to design smart contract by using complex logic. Its' basic support of smart contracts can be seen in its ability to validate transactions only if certain conditions are met and satisfied.

Also, platforms that enable more complex contractual functionalities and flexibilities exist, like Ethereum which adopts a turing-complete language for smart contracts (Wood, 2014). Ethereum is the first public blockchain platform that has support for customized and advanced smart contracts. This platform uses Ethereum virtual machine that is runtime environment for smart contracts. Ethereum network runs by using Ethereum virtual machine and several high-level programming languages can be used to write Ethereum based smart contracts. Contract code is then being compiled down to Ethereum virtual machine bytecode after which is being deployed in the blockchain for its execution. This currently makes Ethereum one of the most popular development platform for smart contracts. (Wang et al, 2019). Therefore, it can also be used to design different kinds off decentralized applications for management, crowdfunding, digital rights, financial application etc.

Even though smart contracts have become popular and made great progress in recent years they still have some challenges that they need to overcome. One drawback they had was in 2016 when Decentralize Autonomous Organization (DAO), whose venture capital fund was secured by Ethereum Blockchain, was compromised by exploiting a severe smart contract bug called *Recursive Call* and thus enabling the attacker to drain more than \$50 million Ether into *Child DAO*. Even though your hard work enabled to bring back funds from the attacker this event was important because it violated the principle code is law. Some other challenges for blockchain and smart contracts, besides security, include the legal issues, privacy, performance etc. (Wang et al, 2019).

Because of its significance this paper provides a comprehensive overview off research on blockchain and smart contracts and their functioning as well as applications and future trends. Also, this paper proposes model for junior stock market based on blockchain technology.

2. Junior stock markets

Junior stock markets are specialized stock exchanges, or segments, that are devoted to listing firms that do not fulfil the listing requirements of senior exchanges (Revest and Sapio 2013). In todays' market they encompass a large spectrum of markets, so the average market capitalization of firms listed on junior markets in 2014 ranges from a just few million dollars, in Canada and Poland, to more than US\$100 million that we saw in UK, Hong Kong, Germany and Japan (WFE2016 p.10). The crisis of 2007-2008 highlighted the financing problems of small businesses by reducing both the availability of venture capital as well as banks' readiness to provide risky loans, especially to high-tech entrepreneurial firms (Cowling et al. 2012; North et al. 2013; Mason and Harrison 2013; Lee et

al.2015). Large international bodies like the World Bank and the European Commission, argue that capital markets play an imperative role in order to bridge this financing gap through the creation of the alternative funding sources for high-growth and innovative firms (like high-tech), and, thus they recommended fostering the development of junior markets (Harwood and Konidaris 2015; IOSCO 2015; EC 2015; Nassr and Wehinger 2015; Eberhart and Eesley 2018). These markets set lower listing standards, charge lower initial costs than senior stock exchanges and they require less extensive disclosure, and, therefore, they are generally considered a stepping stones to main stock exchanges for companies smaller companies, like SMEs, that have important growth prospects (Schwartz 2014; Nassr and Wehinger 2015). When there is a presence of junior market, growth-oriented entrepreneurs can select one of two strategies in order to reach the senior exchange. The first strategy is represented in classical financial growth cycle that consists in using initial resources, internal funding, business angels, bootstrapping, or venture capital until the venture meets the listing requirements of the senior exchange and then makes an initial public offering (IPO) in order to get public equity (Gregory et al. 2005). Alternative strategy to the classical approach is to list the firm on the junior stock market in order to get public equity much earlier, and then slowly graduate to the senior exchange. By simplifying the listing rules, junior stock markets allow companies (SMEs) that could not access the main list to go public. The two most representative markets regarding regulatory architectures and the most successful ones are the National Association of Securities Dealers Automated Quotations (NASDAQ) in the United States and the Alternative Investment Market (AIM) in the United Kingdom. These were initially expected to act as screening devices for promising companies that would eventually graduate to the main segment, and they became providers of exit opportunities for venture capitalists (Posner, 2005; Vismara et al., 2012; Revest and Sapio, 2016). An increasing number of emerging markets have an interest in implementing junior stock markets in order to support their SMEs (Harwood, Konidaris, 2015). Crucial for decision-makers and stock markets' operators is the market organization issue. The contribution of Granier, et al. (2019) sheds some light on the fact that SMEs do not always list to obtain financing and the choice of an existent junior market's organization is linked to the goal pursued, and, therefore, they cannot be viewed as a substitute to crowdfunding, microfinance or even lending since they fulfil a specific role, either exit or feed according to countries.

3. Blockchain

The concept of blockchain has its origin in Bitcoin which is famous and popular cryptocurrency invented in 2008 by an unknown person or a group of people under the pseudonym Nakamoto (2008). Blockchain represents a continuously growing list of records stored in so called blocks which are linked and secured by using principles of cryptography. In order to tolerate single point of failure blockchain adopted P2P protocol which insured unambiguous and common ordering of all transactions in blocks and thus guaranteed consistency and integrity of blockchain across all its graphically distributed nodes. Therefore, by its design, blockchain has Characteristics such as decentralization, integrity and auditability (Yuan and Wang, 2018).

Xu et al. (2016) claim that blockchain can be applied as a novel kind of software connector which should be considered as a decentralized alternative to already existing centralized shared data storage. Blockchains can be divided in three types regarding different levels of access permission. Those are:

- Public blockchain like *Ethereum* and *Bitcoin*,
- Private blockchain, and
- Consortium blockchain like *Hyperledger* and *Ripple*.

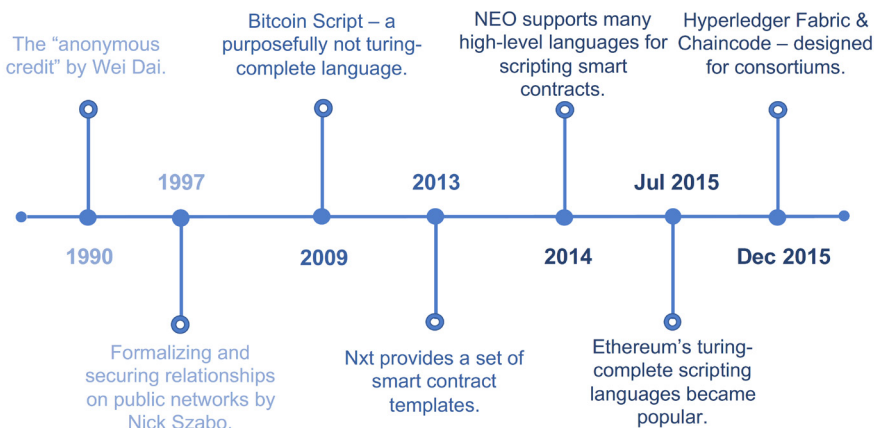


Figure 1. Evolution of smart contracts
Source: Hu et al, 2019

Smart contracts are presented as a computer programs that are running across the blockchain network; can express triggers, conditions, and business logic in order to enable complicatedly programmable transactions (Xu et al, 2016). Figure 1 gives overview of the evolution of smart contracts.

4. Smart Contracts

In general, smart contracts have two attributes, value and state. The operational mechanism of smart contracts can be seen in Figure 2. By using triggering condition statements like *If-Then*, the triggering conditions and their corresponding response actions of the contract terms are pre-set. After Smart contracts are agreed upon and signed by all parties, they are then submitted in transactions to the blockchain network. Afterward, the transactions are broadcasted using P2P network which is verified by the miners and stored in the specific block of the blockchain. When miners receive the contract creation, they create contract or execute contract code in their local Sandboxed Execution Environment. Miners get motivated by the system's inbuilt incentive mechanism and thus they contribute by sharing their computing resources in order to verify the transaction. Based on the input of Oracles (name for trusted data feeds) as well as the system state, the contract evaluates if the current scenario meets the triggering conditions. If conditions are met, then the response actions are executed strictly, and transaction is validated and packaged into a new block. When the whole network reaches a consensus, this new created block is chained into the blockchain (Wang et al, 2019).

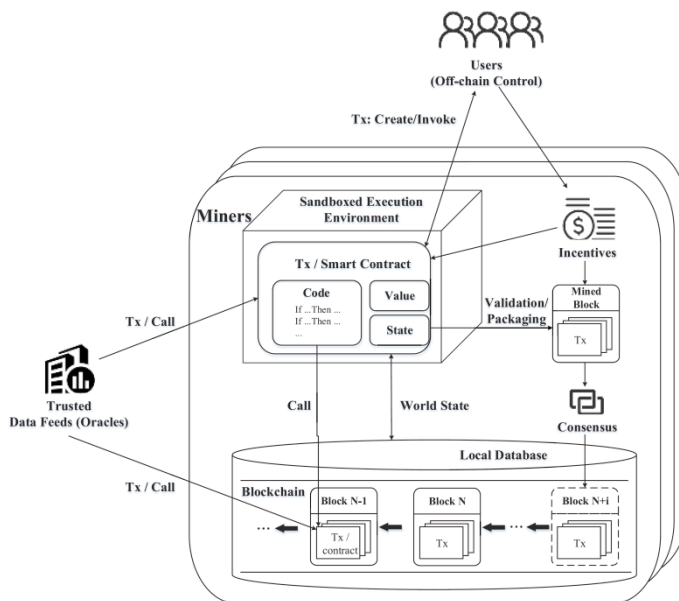


Figure 2. Operational mechanism of smart contract

Source: Wang et al, 2019

Ethereum and Hyperledger Fabric are best examples in order to introduce the operational process of smart contracts. *Ethereum* and *Hyperledger Fabric* have several key differences. Ethereum is a public blockchain platform, while the Hyperledger Fabric is a consortium blockchain infrastructure with limited number of participants that are permissioned to join the network.

Hyperledger Fabric has high degrees of scalability, resilience and confidentiality since it provides a modular architecture with a delineation of roles between the nodes as well as configurable consensus and membership services. Also, in Hyperledger Fabric, there is no already built-in cryptocurrency and the chain code only defines a set of assets which are presented as key-value pairs and provides the functions for operating on the assets and changing their states.

The contract code in Ethereum is included in a transaction and thus any miner who receives this transaction can execute it in their local virtual machine, while in Hyperledger Fabric the chain code is hosted by peers.

Ethereum is currently one of the most widely used development platforms for smart contracts that can be interpreted as a transaction-based state machine that begins with genesis states and incrementally executes transactions in order to morph it into some final states. These final states are accepted as the canonical version in the world at Ethereum (Ethereum Yellow Paper, 2018). Ethereum introduced the concept of accounts which can be externally owned accounts and contract accounts. The main difference between these two accounts is that the externally owned accounts are control by private keys without any code associated with them while and contract accounts are controlled by their contract code with associated code.

As it can be seen in Figure 3, through externally owned accounts users can initiate transaction that can include binary data (payload) and Ether. A smart contract is created if the recipient of this transaction is the zero-account or if the recipient is contract ac-

count then the account will be activated and associated code is executed in the local sandbox execution environment, where the payload is provided as an input data. Afterwards, the transaction is broadcast to the blockchain network where miners do the verification (Bhargavan et al, 2016).

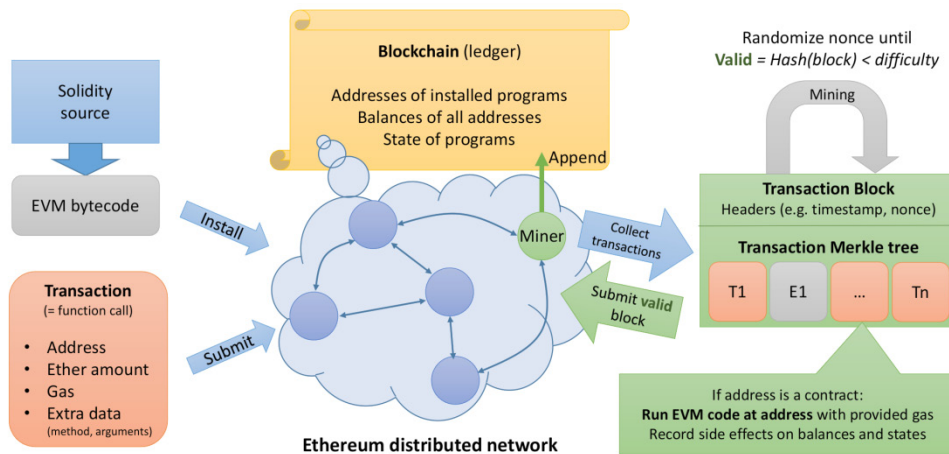


Figure 3. Overview of workflow in the Ethereum network
Source: Bhargavan et al, 2016

To avoid any issues of possible network abuse as well as the inevitable problems stemming from Turing completeness, in Ethereum all programmable computations such as creating contracts, utilizing and accessing account storage, executing operations in the virtual machine, etc. are subject to a reward (a fee) for miners who contribute their computing resources. The unit that is used to measure these rewards (fees) that are required for the computations is called *gas* (Ethereum Yellow Paper, 2018).

Hyperledger Fabric is one of the Hyperledger projects hosted by The Linux Foundation that is essentially a blockchain framework implementation. Hyperledger Fabric is a permission based and only a collection of business-related organizations can join through a membership service provider. Therefore, its network is built by peers who are owned in contributed by organizations that joined. On the other hand, Ethereum and Bitcoin are public blockchain platforms where anybody can participate in network. Hyperledger Fabric peers are hosts for smart contracts and ledgers that are sequenced and temper-resistant records of all transactions/state transitions. State transitions represent the result of chain code transaction, where each transaction represent results in set of asset key-value pairs that are combined to the ledger whenever it creates, updates or deletes (Wang et al, 2019).

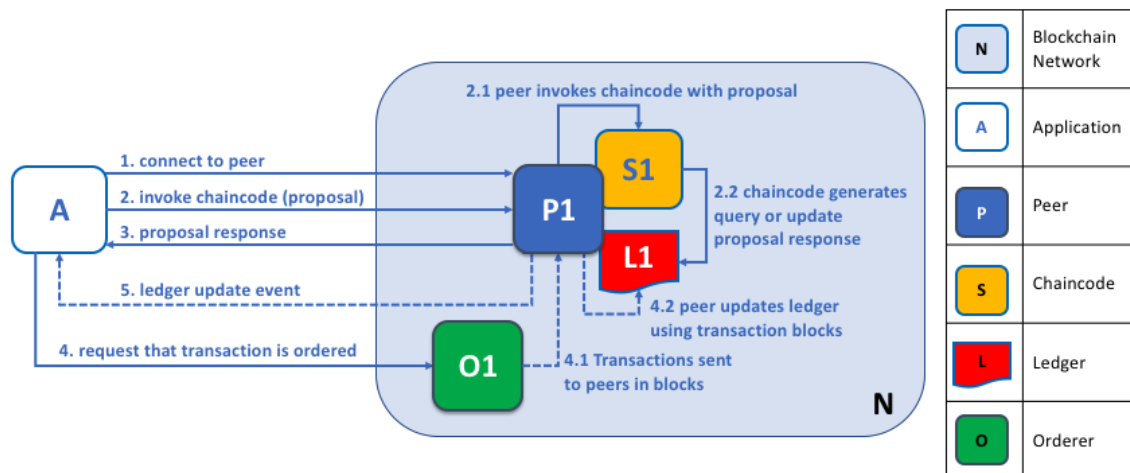


Figure 4. Transaction workflow of Hyperledger Fabric
Source: Hyperledger Fabric Docs

Figure 4 shows the transaction workflow of Hyperledger Fabric which is consisted of three phases (Hyperledger Fabric Docs). First phase is *proposal* in which an application sends a transaction proposal to different organizations' endorser (endorsing peers). The proposal represents request to invoke a chaincode function so that data can be read and/or written to the Ledger. The transaction results consist of a response value, read set, and write set. Endorsers' signatures and set of these values are then returned to the application as a transaction proposal response.

Second phase is *packaging* where the application verifies the endorsers' signatures and checks if the proposal responses are identical. If they are, then the application submits the transaction to the orderer (ordering service) in order to update the ledger. The orderer then sorts the received transactions from the network, and packages batches of transactions into a block that is ready to be distribute back to all peers that are connected to it.

Final phase is *validation* in which the peers that are connected to the orderer validate every transaction within the block in order to ensure that it has been consistently endorsed by required organizations according to the endorsement policy. When validation is complete, each peer appends the block to the chain, and then the ledger is updated.

Framework of Smart Contracts

According to the operational mechanism of smart contracts Wang et al. (2019) summarize the life cycle of a smart contract into five stages:

1. negotiation,
2. development,
3. deployment,
4. maintenance, and
5. learning and self-destruction.

By using this life cycle, they proposed basic research framework of smart contracts. They are not the first to propose such framework. Risius and Spohrer (2017) presented a research framework to structure the insights of the current body of research on blockchain technology, and Glaser (2017) developed a comprehensive conceptual framework of blockchain systems and further divided blockchain systems into two code layers, the fabric layer and the application layer, and Xu et al. (2017) proposed a taxonomy in order to classify and compare blockchains and blockchain-based systems.

Wang et al. (2019) proposed research framework consists of six-layer architecture:

1. *Infrastructures layer* encapsulates all the infrastructures that supports smart contracts as well as their applications, including the trusted development environments, trusted execution environments, and trusted data feeds.
2. *Contracts layer* encapsulates the static contract data, including contract terms, scenario response rules, and interaction criteria. Therefore, this layer can be considered as the static database of smart contracts which includes all the rules about contract invocation, execution, and communication.
3. *Operations layer* encapsulates all the dynamic operations on the static contracts, including mechanism design, formal verification, security analysis, updates, and self-destruction.
4. *Intelligence layer* encapsulates various intelligent algorithms, including perception, reasoning, learning, decision-making, and socializing, which add intelligence to the smart contracts built on the first three layers.
5. *Manifestations layer* encapsulates various manifestation forms of smart contracts for potential applications, including decentralized applications, decentralized autonomous organizations, decentralized autonomous corporations, and decentralized autonomous societies.
6. *Applications layer* encapsulates all the application domains that built upon the manifestation layer.

Proposed research framework represents an ideal framework and it has a certain theoretical and practical value for researchers and practitioners.

Limitations and Vulnerabilities

The limitations in blockchain are important factors that can obstruct the development of smart contract. Typical limitations in blockchain are performance issues, irreversible bugs, lack of standards and regulations and lack of trusted data feeds (Oracles). Dickerson et al. (2017) presented an innovative way to permit miners and validators to execute smart contracts in parallel that is based on techniques adapted from software transactional memory, and thus combating performance issues. Juels et al. (2016) proposed the concept of *criminal smart contracts* and listed some typical criminal smart contracts like theft of cryptographic keys, leakage of confidential information, as well as various real-world crimes in order to combat lack of standards and regulations. Zhang et al. (2016) created a *town crier* solution that acts as a reliable connection between HTTPS-enabled websites and blockchain in order to provide authenticated data feeds for smart contracts.

Contract vulnerabilities mostly appear in the contracts layer since the malicious miners or users can exploit them in order to gain profit. Typical cases (Dika and Nowostawski, 2018) of these vulnerabilities are timestamp dependence, transaction-ordering dependence, mishandled exceptions, call stack depth and re-entrancy vulnerability. In order to minimize these contract vulnerabilities, security analysis tools are developed. Luu et al. (2016) developed a symbolic execution tool called *Oyente* to find potential security bugs in Ethereum smart contracts. Also, Securify (Tsankov et al, 2018) is a security analyser for Ethereum smart contracts. It symbolically analyses the contract's dependency graph in order to extract precise semantic information from the code, and then it checks compliance and violation patterns that capture enough conditions for proving if a property holds or not. Securify can analyse many vulnerabilities, but there are other symbolic execution tools for analysis of binaries and smart contracts like Manticore or Remix.

The privacy issues of smart contracts are becoming more notable, and they can be divided into two categories, that is *contract data privacy* and *trusted data feeds privacy*. Contract related information as well as transactions are publicly available (Chang and Svetinovic, 2018) especially for the information on the public blockchain.

To tackle this problem, Kosba et al. (2016) proposed a decentralized smart contract system called *Hawk* that allows developers to write privacy-preserving smart contracts without the need of implementing any cryptography. Hawk's compiler automatically generates an efficient cryptographic protocol where contractual parties interact with the blockchain by using cryptographic primitives. Also, Watanabe et al. (2015) proposed to encrypt smart contracts before deploying them on the blockchain, so that only those participants who involved in a contract can access its content by using the decryption keys.

Applications

Applications of smart contracts are on a constant rise. Most of the applications are in the area of management, finance, IoT and energy. For this paper, the most interesting application is in area of finance and management.

In financial world, blockchain and smart contracts enable increased visibility as well as the trust across the participants while bringing huge savings in infrastructures, transactions, and administrative costs (36). Therefore, typical applications of smart contracts in finance are in domain of insurances, securities and trade finance.

For the purpose of this paper, the trade finance is important application of blockchain and smart contracts, since the trade finance industry is currently full of inefficiencies and it is extremely vulnerable to fraud. Also, the paper-based processes of trade finance urges for upgraded which can be done simply with smart contracts that will allow businesses to automatically trigger commercial actions based on predefined criteria that will boost efficiency by streamlining processes, and thus will reduce fraud as well as compliance costs. This was already done in 2017, when a trade transaction was completed between Japan and Australia. This trade transaction completed all the trade-related processes, from issuing a letter of credit to delivering trade documents via the Hyperledger Fabric platform, which enabled reduction of time required to transmit documents, labour and other incurred costs (Peyton, 2017).

In management world, blockchain and smart contracts can provide appropriate and transparent accountability in terms of roles, responsibilities and decision processes. Most notable uses of smart contracts in management are in domain of organizational management, digital properties and rights management, and e-government.

For purpose of this paper, the organizational management is important application of blockchain and smart contracts in management. It is believed that the future of organizational management will be flattened and decentralized, and therefore smart contracts can remove unnecessary intermediaries that impose artificial restrictions and unnecessarily complex regulations, especially in junior markets where SMEs don't have complex structure. Project powered by Ethereum, named *Aragon*, aims to disintermediate the creation and maintenance of organizational structures, and empowers people around the world to securely and easily manage their business organizations. Aragon has tokens that represent stake in the organization, which can utilize crowdfunding to raise funds globally as well as use voting for achieving more effective results.

5. The Model

This paper tends to present a comprehensive overview of smart contracts, their operational mechanism, mainstream platforms as well as applications in order to propose a basic model framework of junior stock market based on blockchain-enabled smart contracts. This market would be blockchain based equity platform operating on the Ethereum blockchain consisted of smart contracts. These equity tokens represent a hybrid model of junior stock market (Figure 5) as an investment platform that combines advantages of a traditional market that is IPO and venture capital (VC), as well as blockchain technology via initial coin offering (ICO).

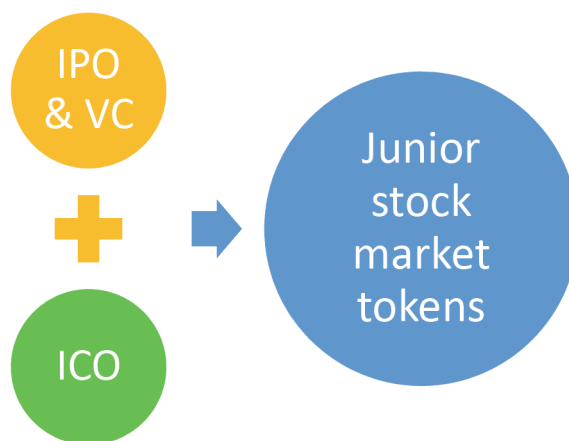


Figure 5. Simplified framework for hybrid model of junior stock market
Source: Authors

Tokens are mutually interchangeable and tradable and thus unique since their value is derived from something that is purely digital. Equity tokens are a subcategory of security tokens and they represent an ownership of an asset, such in our case an ownership of

SMEs company stock. We are proposing equity tokens because they are the most proven token economy in the world since they are almost identical to stocks or shares. They will retain value if a company is in business and it is possible to issue these tokens as non-voting shares so that company owners don't necessarily have to give out control of the company. Figure 6 shows proposed model of junior stock market based on blockchain-enabled smart contracts and its operational mechanism.

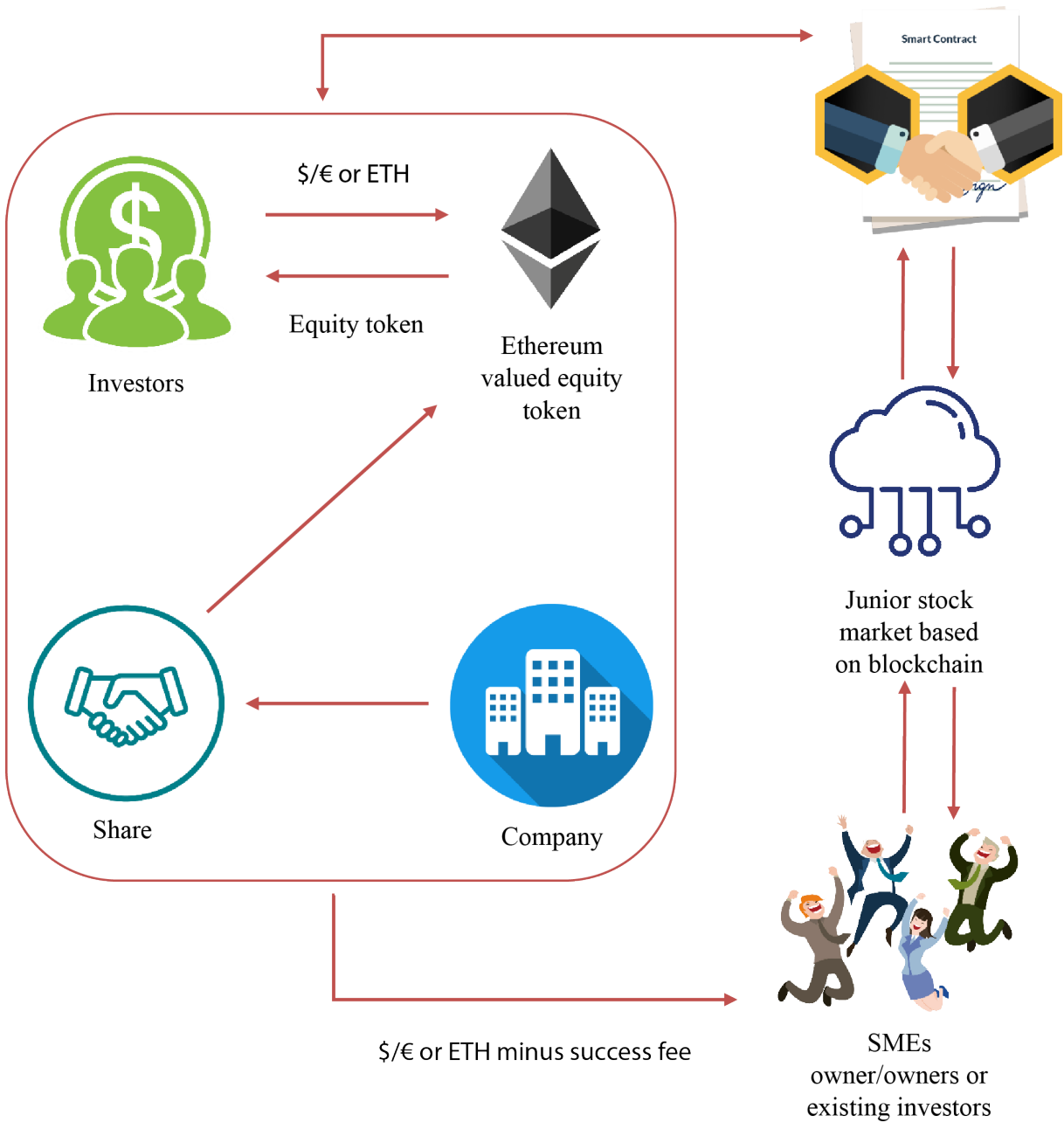


Figure 6. Proposed model of junior stock market based on blockchain-enabled smart contracts
Source: Authors

This type of junior stock market functioning would operate through six simple steps as follows:

1. The company must be registered on platform of junior stock market based on blockchain by its owner or owners that want to have access to this type of funding.
2. Owner/owners specify the terms of their offer which will be viewable to the potential investors. By doing this, their company becomes visible to the investor on the junior stock market.
3. Investors (that are also registered via this Platform) chose for them favourable company and buy equity tokens on specific terms set by company owner/owners.
4. When investors' and owners' terms are met then the smart contract is generated.
5. Equity tokens are transferred to the investors.
6. Value of equity tokens in USD or EUR or ETH is then transferred to company owner/owners deducted by success fee that will be proposed by the Platform in order to maintain its long-term functionality and existence.

These equity token represent a new way of fundraising for SMEs which allows them to issue tokens on the blockchain in a public or a private placement. They would guarantee equity and would be easily available to purchase and trade.

To be successful equity token offering hybrid junior stock market platform would be designed to be a true token economy, and thus, would shape a future-proof environment in which blockchain technology can reach and unfold its true potential. This type of platform can act as an intermediary that connects investors with SMEs through equity tokens by sustaining the necessary transparency and legal compliance.

6. Trends and recommendations

Formal verification is one of the future development trends of blockchain and smart contracts and it means applying a proof that the program behaves according to the specification. Therefore, smart contracts formal verification involves proving that a contract program satisfies a formal specification of its behaviour (Amani et al, 2018).

Hildenbrandt et al. (2018) presented an executable formal specification of the EVM bytecode, so called KEVM, stack-based language built with the K Framework (Roşu and Şerbănuţă, 2010), which is designed in order to serve as a solid foundation for further formal analyses. Also, Bhargavan et al. (2016) outlined a framework in order to analyse and formally verify the functional correctness and run time safety of Ethereum smart contract. Formal verification will become an important research direction in the future since it provides the highest level of confidence about the correct behaviour of smart contracts. Most of these formal verification tools are still in the experimental stage and are not been used, so future research should focus on these.

The rapid and continuous development of the Internet and its binding with the physical world has fundamentally changed the management pattern of modern organizations as well as societies. Therefore, the future development trend of organizations and societies is

bound to a transformation from cyber-physical systems to cyber-physical-social systems (CPSSs) in which social and individual factors must be considered (Zhang et al, 2018). The concept of parallel societies based on CPSS has bloomed, and their substantive characteristics are uncertainty, diversity, and complexity due to the social complexity (Wang, 2015).

Wang et al. (2018) proposed the conceptual framework, as well as fundamental theory and research methodology of parallel blockchain in which they believe that the ACP (artificial societies + computational experiments + parallel execution) approach can be naturally combined with blockchain to realize smart contracts-driven parallel organizational or societal management.

7. Conclusion

If a junior stock market fulfils its promises, many growth-oriented, especially high-tech, entrepreneurs can rapidly reach the senior exchange, even if they are listed on the junior market in their early development stage. The graduation number of graduations and graduation rate are good indicators of the likely success of the junior market financing strategy.

When there is a presence of junior market, growth-oriented entrepreneurs can choose strategy to list the firm on the junior stock market in order to get public equity much earlier, and then slowly graduate to the senior exchange. By simplifying the listing rules, junior stock markets allow SMEs that could not access the main list to go public.

The increasing popularization and deepened applications of blockchain technology, emerging smart contracts have become significant topic in academic as well as in industrial communities. The fast development of cryptocurrencies and their underlying blockchain technology revived Szabo's 90s original idea of smart contracts. Smart contracts have a wide spectrum of potential application scenarios in today's digital economy from financial services, management, healthcare, IoT, energy etc.

Key characteristics of smart contracts like decentralization, verifiability and enforceability enabled contract terms to be achieved between untrusted parties without any involvement of a trusted authority or a central server. Therefore, smart contracts are expected to revolutionize many of the traditional industries, such as financial, management, IoT, energy etc.

Smart contracts are integrated into the mainstream blockchain-based development platforms like Ethereum and Hyperledger Fabric. Nevertheless, smart contracts are still not mature, and they have technical challenges such as privacy issues as well as security, and, therefore, further research efforts are needed in order to this technology reach its peak.

Smart contracts are constantly gaining an increasing popularity in public as well as private domains since they enable P2P operation on public blockchains and have the potential to improve overall efficiency and transparency in business collaborations.

This paper presents a comprehensive overview of smart contracts, their operational mechanism, mainstream platforms as well as applications. Specially, this paper proposes a basic model of junior stock market based on blockchain-enabled smart contracts. The

market functions via equity token that represent a new way of fundraising for SMEs which allows them to issue tokens on the blockchain in a public or a private placement, and thus they guarantee equity and can easily be available to purchase and trade.

To be successful equity token offering hybrid junior stock market platform would be designed to be a true token economy. In this way, it would have a potential to shape a future-proof environment in which blockchain technology can unfold and reach its true potential. This type of platform can act as an intermediary that connects investors with SMEs through equity tokens by sustaining the necessary transparency and legal compliance.

This paper also discusses the open challenges of smart contracts and blockchain technology and the recent research progresses. Also, it considers the future development trends and recommendations for future research. In the future, the proposed model can be tested and implemented in order to solve the problem of financing SMEs by using modern technologies such as blockchain. It also represents the basis for future research and evaluation of viability of this type of junior stock exchange.

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FINTECH AND ISLAMIC FINANCE: A CRITICAL APPRAISAL

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Abstract

Although the term “fintech” was coined by Bettinger in 1972, it was only in 2014 that the idea gained a momentum and attracted the attention of the masses. Financial technology or fintech represents one of the latest developments and the hottest subject being discussed within the financial industry. The Islamic fintech is at its infancy with a very small size and a limited number of platforms. The paper aims to analyze the fintech principles from the Shari’ah perspective and how this evolution will affect the Islamic finance industry (IFI). Although there are some Shari’ah issues in relation to certain aspects of the fintech industry, there is nothing in particular that makes this industry, in principles, Shari’ah non-compliant. Accordingly, this study deals with the overall idea of fintech and its application to Islamic finance. It will apply qualitative method to review and analyze Shari’ah and other issues related to fintech and briefly discuss its potential for further development of IFI. Certainly, the development of fintech will have a great impact on both conventional and the IFI and the response of the IFI to this development will determine its future place in the global financial arena. Hence, there is a need for the IFI to embrace this fintech revolution even further and stronger, thus avoiding not to be left behind.

Keywords: *fintech, Islamic fintech, Islamic finance industry, Shari’ah-compliant.*

1. Introduction

Since its inception, some fifty years ago, and especially in the last two decades, the Islamic finance industry (IFI) evolved into a respectable and essential part of the international financial system. The global financial crisis, that shook financial world, brought Islamic finance into the limelight as an alternative to mainstream conventional finance. Although Islamic finance had been affected by the crisis, the true impact on Islamic finance is more indirect through the worsening economic conditions in general. Nevertheless, the industry showed some degree of resilience to economic shocks.

The global financial crisis also led to the financial evolution of the global financial sector. Financial technology or fintech represents an answer to a number of issues in the global financial sector that surfaced during and after the global financial crisis. Development and rising of the fintech industry globally have far-reaching implications for all market participants including the IFI. It is expected to change the way we conduct day-to-day business and how we interact in financial markets.

It is believed that in the near future more than half of the global GDP will be digitized and that every company will turn out to be a fintech company. In general, fintech can be seen as both a challenge and an opportunity. The IFI and all its stakeholders are at the crossroad and need to respond wisely to this challenge and take all that this technology can offer to its advantage and future development. Failing to do so can cause the IFI to fall behind its conventional counterpart.

The main objective of this study is to review the principles of the fintech industry in light of Shari'ah principles and its implications for the IFI. Debates are still going on among Shari'ah scholars about its permissibility, especially about certain segments of the fintech industry such as cryptocurrencies.

The authors are, however, of the opinion that Islamic fintech, following Shari'ah rules and regulation, is permissible or Shari'ah-compliant industry. It would become impermissible only if it clearly goes against certain Shari'ah principles. Since Islamic finance is calling for risk-sharing, justice, equity, and ethical values to play a major role in the Islamic economy, Islamic fintech is seen as a perfect platform for implementing all these principles and developing a model of the ideal Islamic economy.

This paper consists of five sections including this introductory part. The second section provides a brief overview of Islamic finance and its current development globally. A short review of fintech, its definition, and trends globally are discussed in section three, while Islamic fintech is discussed in section four. Finally, section five is reserved for concluding remarks, where adequate recommendations are given.

2. Islamic Finance: An Overview

The term Islamic finance generally refers to financial activities that are guided by the teachings of Shari'ah (Islamic law). Linguistically, the word Shari'ah is an Arabic term that literally means 'the way' or 'the path to the watering place', 'a clear path to follow', or more precisely 'the path which leads to a source.' From this, we can understand that Shari'ah is the path a believer should follow in order to receive guidance in this world and salvation in the next.

The primary sources of Shari'ah are the Qur'an and the Sunnah. Sunnah is an Arabic word meaning 'custom', 'action' or 'practice'. Technically, this term refers to what is conveyed that Prophet Muhammad, peace be upon him, said, did, or tacitly approved. The Qur'an and the Sunnah are followed by the consensus of the jurist (*ijma'*) and the analogy (*qiyas*). Shari'ah law strictly prohibits paying and receiving interest (*riba*). However, describing the Islamic economic and financial system simply as "interest-free" does not reflect the true and complete picture of this system (Iqbal, 1997). Islam in general, and Islamic finance and banking in particular, are committed to safeguarding property

rights, emphasizing ethical standards, sharing risks, and promoting socio-economic justice (Askari, Iqbal, & Mirakhor, 2010; Shanmugam & Zahari, 2009, p. 5). Moreover, not only that investment activities must be in accordance with the ethical principles of Shari'ah, they must also take into account the public interest (*maslahah pl. masalih*).

Although Islamic financial instruments have been used throughout history, the first experiments with Islamic banks occurred much later, in particular during the 1960s and 1970s. Mit Ghamr, which was founded in Egypt in 1963, is considered the first Islamic bank. Subsequently, the Nasir Social Bank was established in 1967 and it was the first social bank to operate in accordance with Shari'ah principles.

Today, Islamic finance attracts both Muslims and non-Muslims around the world. The global Islamic finance industry's assets grew to about US\$ 2.5 trillion in 2018 from US\$ 2.4 trillion in 2017, a rise of 3% – according to the *Islamic Finance Development Report 2019* – see Figure 1 below. This growth is much slower than it was in previous years, although it is projected to grow to about \$3.47 trillion by 2024. According to some reports, the global Islamic finance assets are projected to grow at a 6% growth rate, a growth rate that is far higher than the conventional financial industry's annual growth rate (Deloitte, 2019). The market for so-called 'Shari'ah-compliant' financial products is dominated by Iran, Saudi Arabia, and Malaysia each one recording more than US\$ 500 billion in assets. Still, the share of the Islamic financial industry in global finance is very low (ICD-REFINITIV, 2018; IFSB, 2019). Table 1 below shows global breakdown of the IFI by major sectors and regions. In addition, Figure 1 shows the major factors contributing to the global growth of the IFI.

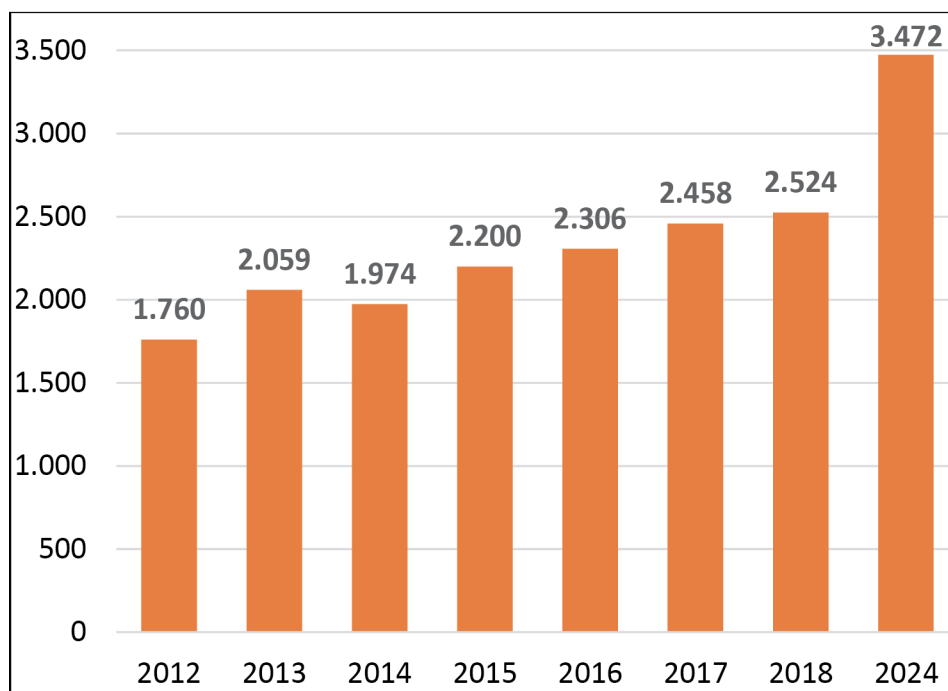


Figure 1: Islamic Finance Assets Growth 2012-2018 (US\$ Billion)
Source: Islamic Finance Development Report 2019

This growth, however, depends from a country to a country as their approach to and development of Islamic finance depends significantly. According to *Islamic Banker*, there

are two models of Islamic finance today. First, there is a systematic approach to Islamic finance as implemented by Malaysia and its dual-banking model. In this model, conventional and Islamic finance operate side-by-side with separate (yet similar) rules and regulations governing them. Second, there is the “*ad hoc* approach”, *Islamic Banker* further claims, “where neither the government nor the regulator even acknowledges the need for a stand-alone Islamic banking and regulatory framework, let alone enabling laws” (*Islamic Banker*, 2010, p. 2).

Region	Banking Assets	Sukuk Outstanding	Islamic Funds Assets	Takaful Contributions	Total	Share %
Asia	266.1	323.2	24.2	4.1	617.6	28.21%
GCC	704.8	187.9	22.7	11.7	927.1	42.34%
MENA (ex-GCC)	540.2	0.3	0.1	10.3	550.9	25.16%
Africa (ex-North)	13.2	2.5	1.5	0.01	17.21	0.79%
Others	47.1	16.5	13.1	--	76.7	3.50%
Total	1571.4	530.4	61.6	26.11	2189.51	100.00%

Table 1: Breakdown of the Global IFI by Sector and Region (US\$ billion, 2018)
Source: IFSB, Islamic Financial Services Industry Stability Report (2019)

Notes:

- Data for *ṣukuk* outstanding and Islamic funds are for full-year 2018; for Islamic banking are as at June 2018 (1H18); and for *takaful* are as at end-2017.
- Data are mostly taken from primary sources (regulatory authorities' statistical databases, annual reports and financial stability reports, official press releases and speeches, etc. and including IFSB's PSIFI database).
- Where primary data are unavailable, third-party data providers have been used, including Bloomberg.
- *Takaful* contributions are used as a basis to reflect the growth in the *takaful* industry.
- The breakdown of Islamic funds' assets is by domicile of the funds, while that for *sukuk* outstanding is by domicile of the obligor.

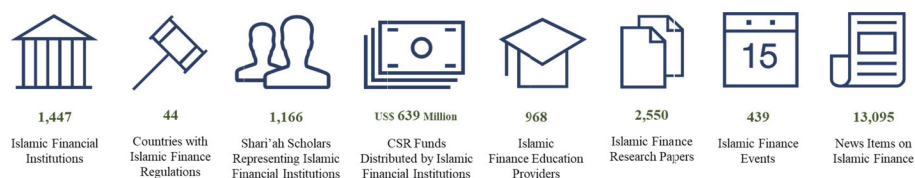


Figure 2: Factors that led to the growth of IFI in 2018
Source: Islamic Finance Development Report (2019)

Today, Malaysia is recognized as the leader within IFI for its comprehensive and systematic approach. This comprehensive approach bravely taken by the Government of Malaysia and the Central Bank of Malaysia facilitated the development of Islamic finance in Malaysia. As a result, the Malaysian Islamic financial system consists of Islamic banking, *takaful* (Islamic insurance), Islamic debt and equity capital markets, Islamic money market, Islamic derivatives, and non-banking financial institutions (NBFIs).

Simultaneously, Malaysia amended relevant laws and created comprehensive regulatory and supervisory frameworks to support its goal of becoming a global Islamic financial hub. Furthermore, as human capital plays an important role for the future growth of the industry, Malaysia took proactive steps in establishing various educational, training, and research institutions to meet the industry's needs for highly educated and professional human capital.

Apart from Malaysia, Islamic finance is the most developed in Iran and the majority of Middle Eastern countries. However, Islamic finance is making great progress in other countries as well, such as Pakistan, Bangladesh, Indonesia, Turkey, Sudan, Egypt, Jordan and Syria.

The name 'Islamic finance' may lead someone to believe that it is only for Muslim countries with a majority Muslim population. However, it is been argued that the majority of Islamic finance customers are actually non-Muslims.

In fact, the United Kingdom (UK) is leading the western, non-Muslim, countries in developing Islamic financial services. With around \$4.7bn of reported banking assets in 2017, the UK is ranked 17th out of 48 countries and the first among non-Muslim-majority nations making it as Europe's premier place for Islamic finance. This was attained by joint efforts of the UK Government, Bank of England and Financial Services Authority (FAS) who identified main barriers for the introduction of Islamic finance and took proactive steps in creating a level playing field for Islamic finance (TheCityUK, 2019).

Other countries are joining the bandwagon. For example, Singapore, Hong Kong, France, Germany, Luxemburg, Ireland - just to name a few - all of them either amended laws or are on the right track to do so in order to facilitate the development of the Islamic financial industry.

It seems that there is a trend among EU countries to introduce legal and tax neutrality measures with regard to Islamic finance. This is especially true for Islamic capital market products such as Sukuk (Islamic bonds). In this regard, Luxembourg is considered as a leader in tax neutrality proactiveness. Apart from Luxembourg and UK, the Irish Ministry of Finance introduced the Finance Bill 2010 that brought along several amendments to facilitate the development of Islamic financial services in Ireland. Malta, Gibraltar, Cyprus and Turkey are also reported undergoing a review of their laws and drafting new ones that will facilitate Islamic finance. When it comes to South-East Asia, Singapore has already amended its laws to avoid double taxation of some Islamic financial products and treats Sukuk as conventional bonds. On the other hand, Hong Kong is currently changing its laws to facilitate the development of Islamic finance.

3. Fintech: Definition and Global Development Overview

The financial sector is developing and evolving every day. Financial technology or fintech is the latest step in its revolutionary evolution that has far-reaching implications for all market participants including the Islamic finance industry. While utilizing blockchain technology, fintech is able to provide new instruments and services that are available to everyone even to those who were left out of conventional financial institutions and their services. In other words, fintech is a land of opportunities for all people, relatively poor

and undeveloped communities, small business ventures and entrepreneurs that are marginalized by the current financial industry. In fact, fintech is changing the way the finance industry operates and how we do business in similar ways that the internet changed the written press, information communication, and music and video industries.

According to *The Global Fintech Index 2020 by 2022* more than half of the global GDP will be digitized and this digitalization that will affect every industry will lead the global economy to IR4.0 or the fourth industrial revolution (Findexable, 2019; Mohamed & Ali, 2019). Digitalization is changing the way how we do business as it provides new opportunities for value and revenue creation. Blockchain, artificial intelligence (AI), augmented reality (AR), biometrics, internet of things (IoT), and cloud computing are some of emerging digital technologies that are facilitating this process of digitalization and that are causing certain disruptions that will eventually lead to the transformation of the financial sector (Alam, Gupta, & Zamani, 2019).

The term *fintech* consists of two words, *finance* and *technology*. Among the first definitions of this term was given by Bettinger (1972) who said that it refers to “combining bank expertise with modern management science techniques and the computer” (p. 62). It can also be defined as “computer programs and other technology used to support or enable banking and financial services”.¹ A more detailed definition would be that “*FinTech companies are businesses that leverage new technology to create new and better financial services for both consumers and businesses. It includes companies of all kinds that may operate in personal financial management, insurance, payment, asset management, etc.*” (Sanicola, 2017).

Although the term fintech is considered relatively new, it was coined in 1972 by Bettinger (1972) who first mentioned in his article. Its application and implementation, however, started more than 65 years ago when the first credit cards were introduced in the market. After that, other fintech products were slowly introduced starting with ATM (automated teller machines), electronic stock trading and with the introduction of computers and internet revolution, fintech-like products and businesses mushroomed.

A relationship between financial innovation and economic developments has been a focus of a number of studies during the 1980s and 1990s. They showed that economic growth can be increased through the implementation of new technologies (Santarelli, 1995). However, it was only after the global financial crisis that the fintech industry started to pick up and gain momentum. This trend was further accelerated after 2014 when it attracted all market participants, from ordinary people, researchers and academicians, to financial professionals and governments all over the world. The development of the fintech industry is remarkable to the point that Angela Strange believes that every company will be a fintech company in the future (Strange, 2019). Those aware of fintech advantages and benefits that it offers started creating a friendly environment and incentives for its development. They are aware of the role fintech plays in changing the financial environment and in order to remain competitive in such a market embracing fintech is considered the only way forward (Mohamed & Ali, 2019).

When it comes to the global fintech market size then the data are somehow different depending on the source. According to the *QYResearch*, the global fintech market size is

1 See the Oxford Advanced Learner's Dictionary at <https://www.oxfordlearnersdictionaries.com/definition/english/fintech?q=fintech>

expected to grow to \$124.3 billion by the end of 2025 at a Compound Annual Growth Rate (CAGR) of 23.84% (QYResearch, 2019). However, according to the FinTech Global Market Report 2020, its size was valued at about \$127.66 billion in 2018 alone and it is expected to grow to \$309.98 billion through 2022 at a CAGR of 24.8% (The Business Research Company, 2020).

So, what is driving the global growth of the fintech industry? There are a number of technological megatrends that positively impact the global growth of the fintech industry. These are as follows: (i) *Blockchain technology* – It can be defined as ‘distributed ledger technology’ that records all data and transaction over a decentralized network of computers. Each “block” stores immutable time-stamped information of every transaction. (ii) *Regulatory technology (RegTech)* – Since the 2008 global financial crisis, financial institutions were faced with an increase in regulatory and compliance requirements. This led to emergence of the *regtech*² companies that, while working with financial institutions and regulators, provided innovative technological solutions and increased efficiency and cost-effectiveness for both sides. (iii) *Insurance technology (InsurTech)* – Financial innovations within the insurance industry are growing and attracting a lot of investments. These innovations are there to help the insurance industry improve its efficiency and provide better products and services. (iv) *Open banking* – It is a part of fintech that utilizes an application programming interface (API) for development of financial applications and services that promote financial transparency. (v) *Artificial intelligence (AI)* – Using algorithms, data analytics and machine learning processes to provide better solutions for decision making, risk management, etc. (DIEDC & Dinar Standard, 2018).

Besides these technological megatrends mentioned above, there is also greater demand from customers that are driving these changes. In particular, there are these factors: (i) *The internet generation* – Today’s youth is born and raised with the internet and they are online most of the time. As such, they look for online-based solutions for their financial needs. (ii) *Banking the unbanked* – There is a large number of world population that is still not using banking services and there is a need for greater financial inclusion. Fintech solutions are meant to address these issues and provide efficient solutions. (iii) *Customer expectations* – Customers demands and their needs are becoming more and more sophisticated. Therefore, financial institutions are embarking on fintech solutions to meet these demands and needs in order to compete in the market for existing and new customers (for detail discussion see DIEDC & Dinar Standard, 2018).

4. Fintech and Islamic Finance

Islamic finance is based on Islamic teachings, rules and regulations – commonly referred to as Shari’ah – derived from the Qur’an and the Sunnah. Shari’ah consists of certain immutable principles, mostly related to religious rituals (*ibadah*), and other principles related to worldly affairs (*mu’amalat*) that can be and *should* be revised and updated according to the time and place needs. Islamic fintech falls under the second category of Shari’ah principles. That means that while fintech needs to be free from generally prohibited elements (e.g. *riba*, *gharar*, *maysir*, etc.), it is permissible following the legal maxim that says ‘All acts are considered permissible unless there is evidence to prove their prohibition’ (*al-asl*

² Regtech is the management of regulatory processes within the financial industry through technology.

fi al-ashya'i al-ibadah). In other words, Islamic fintech is permissible and becomes impermissible only if it clearly contravenes the basic Shari'ah principles.

In general, Islam seeks to establish justice, equality, stability and ethical society free from all sorts of inefficiencies. Traditionally, it is argued that Islamic banking and finance should rely more on risk-sharing instruments as they promote equity and solidarity. As discrimination is not allowed in Islam, it means that Islamic banking and finance should strive for financial inclusion and excellence in offering its services to all customers as these are also considered as Shari'ah objectives. Furthermore, it should promote the equal distribution and avoid hoarding of wealth among rich people only thus bridging the gap between rich and poor within a society. This is where Islamic fintech can play an important role through its innovative ways of dealing with all these issues mentioned above. It is believed, as pointed out by Mohamed and Ali (2019) that "Islamic fintech provides the opportunity for the adoption and application of a risk-sharing model in Islamic financial institutions through small innovative start-ups who want to contribute to the Islamic finance industry ... The modus operandi of the Islamic fintech should be highly congruent with the asset-backed, interest-free, risk sharing, under-leveraged real sector model of the ideal Islamic economy (Mohamed & Ali, 2019, p. 71).

Throughout history, on a number of occasions, Muslims missed the global trends and opportunities to play a more important role in global developments that shaped world history for years that followed. For instance, when the printing press was introduced at the beginning of the 16th century, the Ottoman Empire failed to recognize its importance and banned it initially. The consequences of this position led to a decline of the Ottoman Empire and *Ummah* (Muslim nations) in general. Similarly, the rise of the fintech industry represents both a challenge and an opportunity and it can be seen as a crossroad for not only the IFI but also for the global financial services industry. The way how the main stakeholders – governments, institutions and professionals (both Shari'ah and otherwise) – respond to this challenge-cum-opportunity will determine the future development and success of the IFI.

What is important to note, however, is that digital transformation is taking place globally and that in order to stay competitive, the Islamic finance industry needs to embrace it wholeheartedly and provide the impetus for its fast development. This means that all stakeholders within Muslim countries need to provide their support for the establishment, development and promotion of the fintech industry based on the Shari'ah principles. This trend has been recognized within the IFI as about 72% out of 103 Islamic bank managers surveyed consider fintech and digital transformation as an extremely important area in strategic planning decisions (CIBAFI, 2018). Similarly, a number of initiatives have been taken by a number of OIC member countries to foster the development of Islamic fintech. In particular, UAE, Malaysia, Bahrain and Indonesia have been at the forefront with their initiatives through Dubai International Financial Centre (DIFC), Malaysia Digital Economy Corporation (MDEC), Bahrain Fintech Bay, and the Financial Services Authority (OJK), respectively (for details see DIEDC & Dinar Standard, 2018). On top of that, regulatory frameworks have been issued by Brunei Darussalam, Bahrain, Malaysia and UAE allowing collaboration between banks, financial institutions and start-up and development of fintech models (Mohamed & Ali, 2019).

According to the *Islamic Fintech Report 2018*, the estimated value of the Islamic fintech industry was expected to grow at 7.7% CAGR to reach \$3.8 trillion by 2023 from \$2.4 trillion in 2017. Indonesia is the leader when it comes to the largest number of Islamic fintech companies followed by the US, UAE, the UK and Malaysia. Potentials for the growth of Islamic fintech are enormous. For instance, while the global median age is 32 years it is 24 years for Muslims worldwide. In addition, there is 72% of the unbanked population within the Organisation of Islamic Cooperation (OIC) member countries as compared to 49% globally (DIEDC & Dinar Standard, 2018).

While the Islamic fintech industry is growing it is still lagging behind the conventional fintech industry that is dominating the global fintech market. Notwithstanding great potentials and room for development of Islamic fintech, it still has a long journey ahead (DIEDC & Dinar Standard, 2018).

The IFI could benefit a lot and achieve a number of its objectives while leveraging on digitalization. For example, the IFI can use digitalization to “achieve financial inclusion, offer customer-oriented financial services, operation excellence and gain a competitive advantage over their peers.” To this end, the IFI can utilize a number of existing channels of digital transformation such as “[c]rowdfunding, peer-to-peer model and payment platforms, smart contracts and blockchain, cryptocurrencies, cybersecurity and so on” (Alam et al., 2019, p. 6).

Even though Islamic fintech is Shari’ah-compliant, there might be a number of Shari’ah and non-Shari’ah issues when it comes to the implementation of financial transactions via digitalized platforms. Implementing certain rules pertaining to the Islamic law of contract can pose serious hurdles unless Shari’ah scholars are willing to leverage on the flexible portion of the Shari’ah that caters for these needs. On the other hand, lack of existing legal and regulatory frameworks, relevant standards and standardization of products and practices in different markets of the IFI could pose a real obstacle for development of Islamic fintech in a similar way that they posed and still pose barriers for the development of the IFI in general (Alam et al., 2019; Smolo, 2009, 2013; Smolo & Habibovic, 2012). In short, these are the main impediments for the development and growth of the Islamic fintech industry:³

Non-existence and a lack of regulatory support – The financial industry, being the most regulated industry, needs regulatory support and initiatives that will be innovation-friendly and supportive in general.

Financial support – Coming up with fintech solutions is a costly business that may not be feasible for all players in the market. There is a need for financial support at this initial stage of the Islamic fintech development, be it from the government or the private sector.

Shari’ah compliance – As mentioned earlier, Shari’ah scholars have, perhaps, the most important role within the Islamic fintech industry. Until now, within the IFI they should be well-versed not only in Shari’ah matters but also in economics and finance. With the rise of Islamic fintech, they should also be aware of technological advancement and the use of digital solutions in financial activities.

3 Adapted from Mohamed and Ali (2019). For details, please refer to pages 106-107. See also DIEDC and Dinar Standard (2018, p. 31).

Agility and adaptation – There is a lot to be done and no time to lose. The financial market is a merciless creature that eliminates those who are not ready for a change. Survival of fittest is the name of the game and without acting immediately, Islamic fintech will be left behind and miss the opportunity to take its rightful place in the global financial market.

Entrepreneurial courage and persistence – To embrace the change one needs a courage, but to succeed in the time of changes needs persistence. All these values need to be instilled in minds of Muslims who are taking on this road and bringing positive changes to the IFI. (Mohamed & Ali, 2019)

All in all, it can be said that while still in its infancy, Islamic fintech has a bright future given the existing market conditions. The sooner the IFI accepts and embraces this technological revolution the better end results will be. The future success of the IFI lies in embracing fintech and digitalization and taking full advantage of their possibilities.

5. Conclusion

Fintech represents an inevitable evolution of the financial sector that cannot be ignored by any particular industry, financial or otherwise. We are moving towards a digitalized era where every financial institution or every company will be, more or less, a fintech institution/company.

Even though, there are some scholars who oppose certain aspects of the fintech industry from the Shari'ah point of view, the general principles of the fintech industry are in line with Shari'ah and should be embraced wholeheartedly unless its activities are in direct conflict with the Shari'ah teachings. Not only that, but it is also believed that Islamic fintech can be of great assistance to the IFI in promoting principles of risk-sharing, justice, equity, and ethical values that are the fundamental principles of Islamic economics and finance.

The IFI, being a part of the global financial industry, cannot ignore this trend as well. In fact, the IFI should embrace it wholeheartedly and provide incentives to all market players who can contribute to this transition. Even though a number of Islamic fintech has been developed and implemented successfully, the Islamic fintech industry is lagging behind the global fintech industry. Nevertheless, there are great potentials for the development of Islamic fintech within the OIC member countries. There are also gaps that need to be filled if Islamic fintech are to prosper. Regulatory and financial supports are the need of the hour. The sooner governments make necessary changes the sooner we can expect more Islamic fintech to emerge and contribute to the overall development and success of the IFI.

The study, however, has its own limitation. It provides an overview of Islamic fintech through the prism of Shari'ah and its application to Islamic finance. As mentioned briefly, there are parts of the fintech industry that are challenged by a number of Shari'ah scholars. For example, cryptocurrency is yet to be fully accepted by Shari'ah scholars. Hence, further research is needed to understand the mechanism and principles of cryptocurrencies and how they fit Shari'ah principles. Furthermore, as smart contracts have not been addressed in the classical *fiqh* literature, we need to revise and update basic rules and conditions related to the Islamic law of contracts to reflect the current needs of the industry. Failing to do so will hinder the future development of the Islamic fintech industry in particular and the IFI in general.

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POPULIZAM, OBRAZOVANJE I FINANSIJSKA PISMENOST

Naida Čamdžić

*“Trudio sam se usrdno da se ljudskom djelovanju ne smijem,
a da ga ne oplakujem i da ga ne prezirem, nego da ga shvatim.”*

Baruch Spinoza

Uvod ili u kakvu vezu možemo dovesti populizam i finansijske krize

Poslije završetka Drugog svjetskog rata, Evropske zemlje su provele iduće 74 godine zajednički gradeći put mira i saradnje formirajući Evropsku Uniju - uniju 28 zemalja koja garantuje i štiti osnovna ljudska prava i individualne slobode. S obzirom na to da je unija sačinjena od država koje zadržavaju svoj suverenitet, čiji se različiti kulturni identiteti i jezici poštuju, ponekad se “uniji” prigovara nejednakost zemalja članica, ili zakoni ili prava koji se ne sprovode svuda jednako. Međutim, posebno nakon finansijske krize koja se desila 2008. godine mnoge zemlje u EU bilježe porast populizma i retorike izdvajanja iz unije do te mjere da je sam pojam “populizam” postao dio svakodnevnog govora iako je sama definicija predmet diskusija i oko koje se teško složiti (Allcock, 1971). Svijet je također ostao šokiran rezultatom referendumom koji je doveo do pregovora o izlasku prve članice iz Evropske Unije - Velike Britanije (Brexit) od njenog osnivanja. Ništa manje iznenađenje nije izazvala i pobjeda Donalda Trumpa kao Predsjednika Sjedinjenih Američkih Država iako je možda sve više stručnjaka upozoravalo da bi se mogao desiti (Rodik, 2017).

Kako god populizam definirali, možda važnije pitanje tiče se samih uzroka koji su doveli do jačanja populizma i retorike izdvajanja iz posebno Evropske Unije, odcjepljenja dijelova država (Španija i Katalonija) ili generalnog kršenja već potpisanih i garantovanih prava i sloboda unije u određenim državama od strane izabраних predstavnika (Poljska, Mađarska).

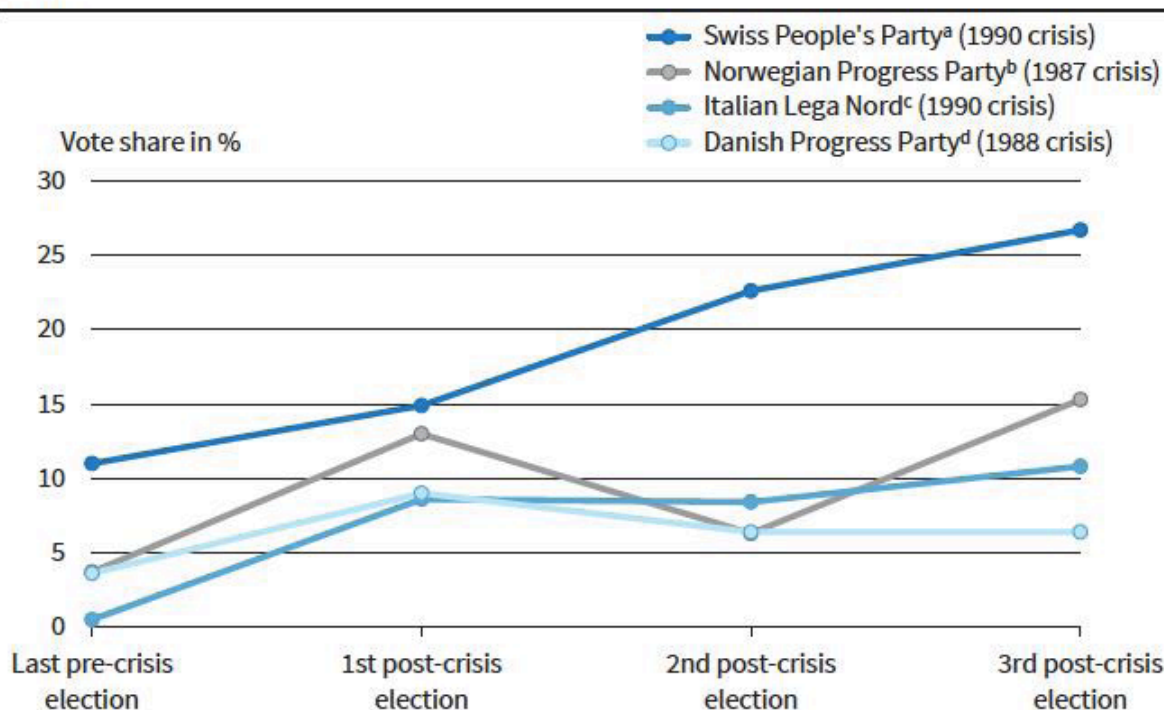
S obzirom na to da tematika populizma uzima sve više zamaha, srećom, sve je i više istraživanja šta je dovelo do stanja globalnog svijeta trenutno (ne samo u Evropi). Populizam ima mogućnost da naruši demokratske procese i iako se možda liberalnim stanov-

nicima ne čini kao logičan, potpuno bi pogrešno bilo ne sagledati zbog čega je došlo do populističkih kretanja u posljednje vrijeme i ne adresirati ih na adekvatan način. Naime, populizam upućuje na slabosti modernih demokracija te na političke vrijednosti, želje i afekte građana koji ostaju bez predstavnštva u političkoj areni. Populistički akteri svojom radikalizacijom politike mogu otvoriti pute k reduciranju ekonomskih nejednakosti i uključivanju većeg broja građana kao kritičkih aktera u političku sferu, kao i djelovati prema isključivanju, širenju netolerancije i daljnjem udaljavanju populacija od demokratskih načela. (Derado, 2011)

“Financijska kriza je bila kap koja je prelila času” prema riječima Raghurama Rajana. Iako je svijet ostvario jedan od Milenijskih razvojnih ciljeva pet godina prije roka, onaj gdje se stopa siromaštva upolovila 2010. godine u odnosu na 1999. godinu, po podacima Svjetske Banke, skoro pola populacije i dalje se bori da zadovolji osnovne životne potrebe što znači da je akumulirano bogatstvo koncentrisano u rukama nekolicine povećavajući možda subjektivan osjećaj većine populacije kako su socijalno, politički i ekonomski isključeni.

U prilog ovoj izjavi Rajana i statistici Svjetske Banke, stoje i preliminarni rezultati dvogodišnje studije Kiel Instituta koja se bavi mapiranjem populizma i ekonomskih preokreta od 1870-ih godina (Slika 1 npr. prikazuje glasanje za desničarske stranke u Švicarskoj, Norveškoj, Italiji i Danskoj kasnih 80-ih/ ranih 90-ih godina) koji ukazuje na jedan od potencijalnih uzroka – financijske krize, odnosno posebno financijska kriza 2008. godine koja je zahvatila skoro pa cijeli svijet.

Right-wing Populist Vote Shares after the Financial Crises of the Late 1980s/Early 1990s



Slika 1. Glasanje za desne populističke stranke nakon financijskih kriza
Izvor: Funke, Trebesch, 2017

Talijanska bankarska kriza 1920. godine propelirala je Mussolinija na vlast; finansijska kriza u Njemačkoj 1930-ih godina je potpomogla nacističkoj stranci Njemačke da postane najveća stranka (i ostalo je historija, po izreci). Nakon 2008. godine, desnica i ljevica Evrope su uduplale svoje glasače u Francuskoj, Švedskoj, Finskoj, Holandiji, Portugalu.

Sama riječ populizam dolazi od latinske riječi za narod ("populus"), odnosno populizam se oslanja i crpi autoritet na podršci naroda. Pojam nije novi za 21. stoljeće, s tragovima već i u 1870-ih godina u Rusiji, te nekim od prvih analiza 1969. godine od strane Ernest Gellnera i Ghite Ionescu (LSE). Međutim, u odnosu na populizam "od prije," dio problema danas jeste da se proširio na skoro globalnom nivou i prijeti urušavanju institucija i multilateralnih odnosa koji su osnovani i ispregovarani posebno nakon Drugog svjetskog rata, i koje nisu "bez mana," ali su postavljene na temeljima pokušaja da se ratovi takvih razmjera više ne ponove (Cox, 2017).

Čini se da je većina populističkih političara uspjela ispričati priču razočaranim, nezaposlenim i osiromašenim glasačima kako su za njihove nedaće krivi neki drugi – bili to imigranti, momci iz Silikonske doline (Google, Facebook), bankari (ipak je finansijskom krah 2008. komandovao pad najveće investicione banke na svijetu / Lehman Brothers), eksperti i akademska elita (na posebnoj meti je George Soros) koja zagovara globalizaciju i liberalan poredak, te najčešće spomenuto ime nakon i tokom finansijskih kriza – Međunarodni Monetarni Fond (MMF).

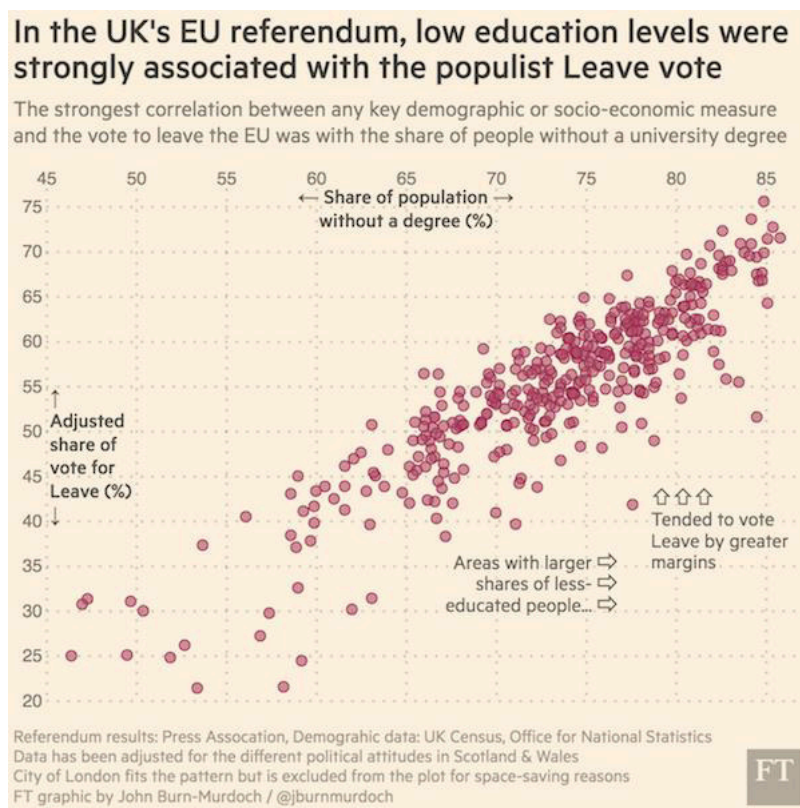
Način na koji su populistički političari apelirali na građane, međutim, u dosta slučajeva se pokazao kao netačan. Druga razina uporabe pojma jest ona u političkom diskursu, pri čemu se izraz dominantno rabi u pogrdnom smislu, za označavanje političkih aktera koji nastupaju demagoški i skloni su davati nerealna i lažna obećanja kako bi zadobili potporu građana (Berto Šalaj, 2016). Najpoznatiji simbol Brexit kampanje je bio crveni autobus koji je obećavao da će sedmično 350 miliona funti biti vraćeno u budžet zdravstva Velike Britanije ako se ocijepi od Evropske Unije, zbog čega je trenutni premijer Boris Johnson čak i tužen (Badshah, 2019). Kada je inflacija u Turskoj porasla za 20%, Predsjednik Turske objasnio je to "voljom supermarketa" i "izdajničko profiterstvo," umjesto tržišnim opadanjem vrijednosti lire i zabrinutosti investitora zbog političke situacije u zemlji (Yackley, 2019).

U našoj zemlji, Bosni i Hercegovini, čini se da su stranke naklonjene populističkoj retorici na vlasti od samog završetka rata 1995. godine, dijeleći zemlju na zemlju tri konstitutivna naroda, pa tako imamo i tri predsjednika na 3.5 miliona stanovnika kako bi svaki od njih predstavljao i branio "svoj narod" od onog drugog, i samim time vrlo neefikasnu državu-vladu kao najvećeg poslodavca u zemlji (po zaključcima Fraser Instituta iz Kanade BiH je na 127. mjestu po veličine vlade na svijetu) koja koči razvoj privatnog sektora i dovodi do, čini se, masovnog iseljavanja iz zemlje (Huseinović, 2019).

Uloga obrazovanja u načinu glasanja

Po brojnim analizama, jedan od glavnih faktora koji su donijeli glasove populističkim strankama (što desničarskim, tako i ljevičarskim) je bio nivo obrazovanja. U slučaju glasanja za Donalda Trumpa – u okruzima gdje je postotak ljudi imao većinom, srednjoškolsko

obrazovanje, više je i ljudi glasalo za njega, odnosno Republikansku partiju. Čak i kada su se isključili drugi faktori, poput prihoda kućanstva, nezaposlenosti, rase, godina, najvažnija korelacija je ipak bio nivo obrazovanja (u ovom slučaju formalnog obrazovanja) (Brennan, 2016). Slični rezultati su se pokazali i u slučaju glasača u Velikoj Britaniji, po analizi Financial Times nakon referenduma gdje je Velika Britanija izglasala i pokrenula postupak izlaska iz Evropske Unije.



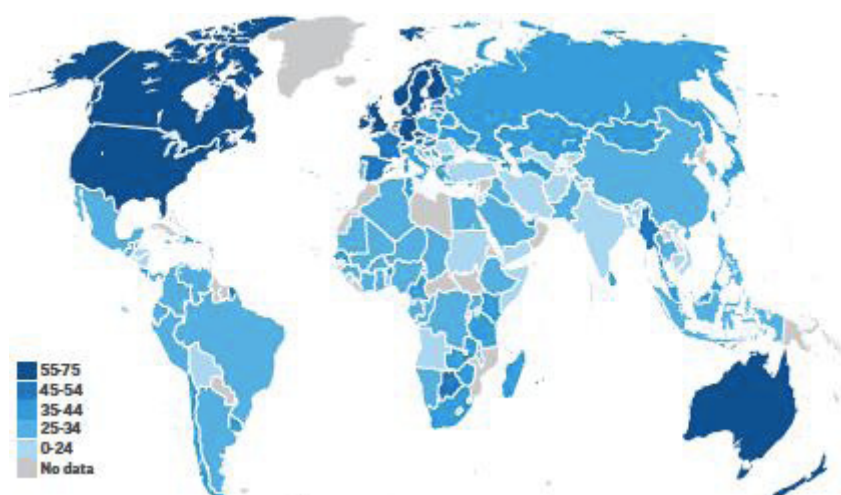
Izvor: Financial Times

Stoga, iako analize pokazuju nivo obrazovanja kao jedan od glavnih faktora glasačkog ponašanja, ipak bi bilo pogrešno zaključiti da je recimo imati minimalno fakultetsko obrazovanje za sve stanovnike neke zemlje (ili svijeta) faktor koji bi potpomogao da se populizam u današnje vrijeme smanji. Staviše, primjeri glasanja u npr. Skandinavskim zemljama ili Holandija, gdje su također populistu dobili više glasova nego ikada, koje se smatraju jedinim od najnaprednijih i obrazovanijih područja na svijetu. Više je riječ možda o samoj definiciji obrazovanja, o razlici između formalnog i neformalnog, te usađenih ličnih vrijednosti, posebno u svijetu gdje su nam sve informacije dostupne unutar jednog upita na Google pretraživaču.

Davne 1948, tačnije 10. decembra, na Općoj skupštini Ujedinjenih naroda u San Franciscu, donesena je Opća deklaracija o ljudskim pravima koja kaže: "Odgoj i obrazovanje mora biti usmjereno punom razvoju ljudske osobe i jačati poštovanje ljudskih prava i temeljnih sloboda. Ono mora promicati razumijevanje, snošljivost i prijateljstvo među svim narodima, rasnim ili vjerskim grupama te podupirati djelatnost Ujedinjenih naroda u održavanju mira."

Postavlja se pitanje da li bi glasači, opskrbljeni s više znanja, posebno onog možda neformalnog, koje se tiče globalnih tema i vezanog za ekonomska kretanja u zemlji i svijetu, bili u stanju prepoznati neistine (ili poluistine) koje im se plasiraju i na taj način spriječiti dalja cijepljenja i odvajanja zemalja, trgovinske i druge ratove.

Organizacija za ekonomsku saradnju i razvoj (OECD) definisala je finansijsku pismenost kao znanje i razumijevanje finansijskih koncepata i rizika, kao i vještine, motivacija i samopouzdanje da se to znanje i razumijevanje primijeni kako bi se donosile efikasne odluke u različitim finansijskim kontekstima, unaprijedile finansijske dobrobiti pojedinaca i društva i omogućilo aktivno učestvovanje u ekonomskim zbivanjima (OECD, 2012). Međutim, po Slici 2 (ispod), na globalnom nivou, nivo finansijske pismenosti stanovništva je ispod 50%. Prednjače razvijene zemlje svijeta (Skandinavske zemlje, Sjedinjene Američke Države, Kanada, Australija s pismenošću populacije preko 60%), dok su zemlje u razvoju, uključujući i BiH najčešće ispod 40%.



Slika 2. Globalne varijacije u finansijskoj pismenosti (% odraslih koji se smatraju finansijski pismeni)

Izvor: S&P Global FinLit Survey

Primarno istraživanje autora ovog teksta na temu finansijske pismenosti u BiH, koje je uključilo tri grupe studenata i srednjoškolaca, pokazalo je da je 65% ispitanika nije znalo odgovoriti tačno na pitanje koje se smatra jedinim od osnovnim za ocjenu nivoa finansijske pismenosti (Ukoliko imate 100KM na bankovnom računu i kamatnu stopu od 2%, koliko novca imate na kraju na računu nakon npr. dvije godine), ili na koji način se recimo država finansira i koje su njene odgovornosti prema građanima. Možda onda ne bi ni trebalo čuditi kada na izborima u našoj zemlji redovno pobjeđuju iste stranke s manje više istom separatističkom retorikom posljednjih skoro četvrt stoljeća.

Zaključak

Može se doći do zaključka da je opće obrazovanje, bilo formalno ili neformalno, posebno ono koje se tiče ekonomskih kretanja i finansija jedne države, snažno povezano s populističkim pokretima s obzirom na to da se čini da UN-ova definicija iz 1948. godine nije u potpunosti zaživjela ni 70 godina nakon usvajanja. Brojne su studije pokazale kako je način promovisanja liberalnih vrijednosti upravo omogućiti ljudima da se više obrazuju (Norrlof, 2019). Ponavljam, kao obrazovanje, u ovom slučaju ne uzimamo nužno izjave da su osobe s fakultetskim diplomama više obrazovane po UN definiciji – više je to stvar odgoja i obrazovanja koji usađuje liberalne vrijednosti i kritičko razmišljanje da se bar prepoznaju osnovane sumnje da određene populističke izjave lidera kako u Evropi, Americi pa i BiH nužno ne moraju biti istina ili biti dobre za funkcionalno društvo dugoročno gledajući.

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PSIHOSOCIJALNE KARAKTERISTIKE OSOBA SA SADOMAZOHISTIČKIM SEKSUALNIM INTERESTIMA

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Abstrakt: Cilj ovog rada je da na osnovu relevantne literature i rezultata istraživanja pokušamo prikazati savremeni pogled na sadomazohističke seksualne interese kao i da ih pokušamo depatologizirati. Sve veći fokus modernog društva na ljudsku seksualnosti zahtjeva drugačiji pogled na sadomazohizam i njegove praktikante. U ovom radu navedeni su rezultati istraživanja koja su se bavila psihosocijalnim karakteristikama osoba sa sadomazohističkim seksualnim interesima. Suprotno popularnom vjerovanju, prema navedenim rezultatima, osobe koje se uključuju u sadomazohističke aktivnosti nisu 'bolesne' niti češće pate od određenih mentalnih poremećaja. Sadomasochizam se jednostavno može prikazati kao uobičajena varijacija u seksualnom ponašanju koja ne oslikava nikakvu patologiju, već samo potrebu ljudi da na različit način izraze svoju seksualnost.

Abstract: The aim of this paper is to attempt to present a contemporary view of sado-masochistic sexual interests and to try to depathologize them based on relevant literature and research results. The increasing focus of modern society on human sexuality requires a different view of sadomasochism and its practitioners. This paper provides the results of studies that dealt with the psychosocial characteristics of people with sado-masochistic sexual interests. Contrary to popular belief, according to the above results, people who engage in sado-masochistic activities are not 'sick' or more likely to suffer from certain mental disorders. Sadomasochism can simply be portrayed as a common variation in sexual behavior that does not reflect any pathology, but merely the need for people to express their sexuality in different ways.

Uvod

Tačan broj osoba sa sadomazohističkim seksualnim interesima teško je odrediti iz brojnih razloga, u koje spadaju stigma i patologizacija. Moser i Kleinplatz (2005) su na osnovu svog dugotrajnog iskustva u radu sa sadomazohističkim zajednicama, procjenili da se vjerovatno oko 10% opće populacije uključuje u neku vrstu sadomazohističkih aktivnosti. U studiji Richtera i suradnika (2008) koja je provedena na oko 20,000 Australaca pronađeno je da je 1,8% osoba iz uzorka u toku prethodne godine bilo uključeno u sadomazohističke aktivnosti od čega 2,2 % muškaraca i 1,3% žena. Powls i Davies (2012) su u svojoj metaanalizi članaka koji se odnose na prevalenciju sadomazohizma zaključili da 61% muškaraca i 64% žena fakultetske dobi fantazira ili je fantaziralo o određenim aspektima razmjene moći i dominacije i submisivnosti. U nastavku navodimo neke od najviše istraživanih psihosocijalnih karakteristika osoba sa sadomazohističkim interesima.

Svjesnost o sadomazohističkim preferencijama

sadomazohističkim seksualnim interesima postale svjesne svojih preferencija. Različiti autori su u svojim istraživanjima došli do različitih rezultata, te su rezultati različiti za muškarce i žene. Što se tiče muškaraca, u istraživanju Breslowa i suradnika (1985) polovina je ispitanika izjavila da je postala svjesna svojih interesa već sa 14 godina. Moser i Levitt (1987) su pronašli da je prosječna dob spoznaje o interesima bila 20 godina, dok je dob prvog iskustva bila 23 godine. Oni su također pronašli da su se heteroseksualni muškarci uključivali u sadomazohističke aktivnosti ranije nego homoseksualni muškarci. Sandnabba i suradnici (1999) izvještavaju o rasponu od 18 do 20 godine (doba prvog sadomazohističkog iskustva kretalo se između 21 i 25 godine života). Zaključno se može reći da muškarci postaju svjesni i počinju istraživati svoje sadomazohističke interese u ranim dvadesetim godinama. Rezultati istraživanja također upućuju na to da razvoj sadomazohističkog seksualnog ponašanja započinje nakon "običnih" seksualnih iskustava i etabliranja seksualne orijentacije (Sandnabba i sur., 2002).

Empirijski podaci, iako mali broj, prikupljeni na ženskim sudionicima ukazuju na kasniju svijest o sadomazohističkim interesima Breslow i suradnici (1985) izvijestili su da više od 40% njihovih ispitanica bilo svjesno svojih preferencija u dobi od oko 23 godine i njihovi partneri su bili ti koji su ih uveli u tu scenu.

Spolne razlike u interesima

Osim za dob istraživači su se zanimali za razlike u interesima između spolova i orijentacija. Richters i suradnici (2008) su ispitivali seksualne interese Australaca i njihovi rezultati pokazuju da će se u sadomazohističke aktivnosti najvjerovatnije uključiti biseksualni i homoseksualni muškarci bez obzira na dob. U uzorku žena, u sadomazohističke aktivnosti su se najčešće uključivale žene u dobi od 16 do 19 godina, dok su one starije od 50 godina bile najmanje uključene. U usporedbi sa heteroseksualnim ženama, lezbij-

ke i biseksualne žene su se vjerovatnije uključivale u sadomazohističke aktivnosti. Alison i suradnici (2001) su, kako je gore naznačeno, podijelili sadomazohističke aktivnosti u četiri facete: hipermaskulnost, poniženje, zadavanje fizičke boli i ograničavanje kretanja tijela. Njihovi rezultati na finskom uzorku pokazuju da su žene i heteroseksualni muškarci preferirali aktivnosti povezane s ponižavanjem, dok su homoseksualni muškarci bili zainteresirani za hipermaskuline aktivnosti. Ovi rezultati sugeriraju da je pravi doživljaj fizičke boli mnogo bitniji homoseksualnim muškarcima, dok je ženama i heteroseksualnim muškarcima važnija simbolička reprezentacija boli. Levitt i suradnici (1994) su ispitivali relativno mali uzorak žena uključenih u sadomazohističke aktivnosti (N=34) i njihovi nalazi ukazuju na to da žene češće uživaju u submisivnim ulogama, dok samo manjina uživa u dominantnoj ulozi.

Yost i Hunter (2012) smatraju da se odgovori osoba na pitanje koje je porijeklo njihovih sadomazohističkih interesa mogu podijeliti u dvije skupine: sadomazohizam kao dio intrinzičnog selfa i sadomazohizam je nastao usljed vanjskih uticaja.

Kada su u pitanju vanjski uticaji sudionici njihovog istraživanja naveli su da su najčešće njihovi partneri ti koji su ih zainteresirali za sadomazohizam. Ostali izvori su bili prijatelji i mediji. Druga grupa ispitanika je sadomazohizam opisala jednostavno kao dio njihovog selfa. Nisu mogli lako objasniti svoje interese, niti su ih imali potrebe objašnjavati, smatrajući da je njihov interes za sadomazohizam ono što oni jesu kao osobe. Navodili su kako su sadomazohistički interesi uvijek postojali i protezali se duboko u djetinjstvo i adolescenciju, dajući primjere fantazija i igara koje su se pojavljivale u tim razdobljima.

Nivo obrazovanja

Glede obrazovanja i godišnjih prihoda istraživači se slažu da su osobe sa sadomazohističkim seksualnim interesima obrazovanije i da imaju veće prihode u usporedbi sa općom populacijom. Sandnabba i suradnici (1999) su utvrdili da 38% osoba iz njihova uzorka ima neki vid fakultetskog obrazovanja u usporedbi s manje od 6% u općoj populaciji. Također, sudionici su ostvarili veći mjesečni prihod (24% sudionika imao je prihod veći od 3000 dolara) u usporedbi s općom populacijom (13,6%). U uzorku koji je ispitala Connolly (2006) većina osoba (96,9%) je završila je srednju školu, 57,8% njih je imalo diplomu bakalera, a prilično veliki postotak (17,2%) je imao titulu magistra ili doktora nauka. Među ispitanicima bili su pisci, učitelji, redatelji, dizajneri, tajnici, računovođe i vladini dužnosnici. U izvještaju Levitta i suradnika (1994) stoji da su njihove ispitanice bile obrazovanije u usporedbi sa općom populacijom, te su također češće bile same. Cross i Matheson (2006) su dobile zanimljiv podatak koji kaže da su mazohiste češće zaposlene u usporedbi sa sadistima ili osoba koje ne prakticiraju sadomazohizam.

Karakteristike porodice i rana iskustva

Istraživači koji su istraživali sadomazohizam su bili zainteresirani i za privrženost, odnose u obitelji i zlostavljanje u djetinjstvu. Međutim veza između ovih varijabli i sadomazohizma samo je djelomično potvrđena empirijskim dokazima (Powls i Davies, 2012). Većina studija koje su povezivale sadomazohizam i traume u djetinjstvu su se bazirale na psihoanalitičkoj teoriji i Frojdovom viđenju sadomazohizma (Blos, 1991). Međutim, Sandnabba i suradnici (2002), smatraju da ova istraživanja imaju velike nedostatke. S jedne strane, nedostaje im sustavna empirijska podrška, dok se druge strane isključivo temelje na ljudima koji su tražili psihološku pomoć. Isti autori smatraju da je pitanje povezanosti sadomazohističkih seksualnih interesa i zlostavljanja u djetinjstvu uglavnom zanemareno u istraživanjima. Pretpostavlja se da je malo vjerovatno da će se naći jednostavna povezanost između te dvije varijable jer je sadomazohističko seksualno ponašanje jako kompleksno i veoma podložno socijalnim utjecajima. Breslow i suradnici (1986) su izvijestili o malom postotku osoba koje se uključuju u sadomazohističke aktivnosti, a koje su doživjele zlostavljanje u djetinjstvu (5,4%). Nordling i suradnici (2000), slično kao i Sandnabba i suradnici (2002), su zaključili da se jednostavna veza između ta dva fenomena nikada neće moći pronaći (iako su u svom istraživanju pronašli mali procenat zlostavljanih osoba u sadomazohističkom uzorku 20% žena i 8% muškaraca). Međutim žene koje su bile seksualno zlostavljane su se češće uključivale u mazohističke aktivnosti u usporedbi sa ženama koje nisu bile zlostavljane. Muškarci koji su bili seksualno zlostavljani nisu se uključivali ni u sadističke ni u mazohističke aktivnosti češće od muškaraca koji nisu bili seksualno zlostavljani. Ovi nalazi podržavaju pretpostavku Messmana i Longa (1996) da zlostavljane žene traže veze u kojima će biti 'kažnjene', a koje često uključuju zlostavljanje i nasilje. Richters i suradnici (2008) nisu pronašli vezu između uključivanja u sadomazohističke aktivnosti i seksualnog zlostavljanja prije šesnaeste godine života. Santtila i suradnici (2000) su na muškracima sa sadomazohističkim interesima ispitivali kako porodične interakcije dovode do različitih stilova privrženosti, te kako te interakcije utječu na zadovoljstvo osobe svojom seksualnošću. Autori su naglasili da je većina njihovih ispitanika živjela u tradicionalnim porodicama sa dva roditelja i da je pretpostavka da strukturalni aspekti primarne porodice utječu na kasniji razvoj sadomazohističkih preferencija samo bias. Njihovi rezultati upućuju na to da se distribucija stilova privrženosti kod sadomazohističnih muškaraca nije razlikovala od one u općoj populaciji. Kada se radilo o privrženosti ocu 47% ispitanika je bilo sigurno privrženo, 28% ih je bilo izbjegavajuće privrženo, 9,8% ambivalentno privrženo, dok se ostatak (15,2%) nije mogao svrstati niti u jednu kategoriju. Ispitivana je i privrženost majci: 53,7% je bilo sigurno privrženo, 12,8% izbjegavajuće privrženo, 18,9% ambivalentno privrženo i 14,6% nesvrstanih. Odgovori ispitanika ukazuju na vezu između privrženosti ocu i očevog alkoholizma, upotrebe fizičke kazne i emocionalne privrženosti. Privrženost majci je bila povezana sa emocionalnom bliskošću majke i njene upotrebe fizičke kazne, no ne i sa alkoholizmom. Rezultati također pokazuju da privrženost majci ima utjecaja na zadovoljstvo vlastitom seksualnošću i seksualnim preferencijama: izbjegavajuće privrženi ispitanici imali su viši nivo seksualnog neutoricizma i bili su manje zadovoljni vlastitom seksualnošću u usporedbi sa sigurno privrženim ispitanicima. Seksualno sadistički orijentirani muškraci češće bili ambivalentno privrženi svojim majkama, dok su seksualno mazohistički orijentirani muškraci bili češće sigurno privrženi svojim majkama. U rezultatima je bio vidljiv zanimljiv patern vezan za ispitanike sklone sadizmu: kao djeca su izražavali svoja mišljenja, ali ih niko nije slušao. Autori

smatraju da je možda sadizam u odrasloj dobi jedna vrsta kompenzacije za nedostatak utjecaja u djetinjstvu. Drugo objašnjenje ovog fenomena je da ispitanici već kao djeca bili dominantni, ali da ih drugi iz nekog razloga nisu slušali.

Partnerski odnosi

Čini se da sadomazohističke seksualne preferencije otežavaju uspostavljanje trajne veze. Na taj zaključak navode rezultati koji govore da postoji veći broj samaca sa sadomazohističkim seksualnim interesima u usporedbi sa općom populacijom (Sandnabba i sur, 2002). U istraživanju Sandnabbe i suradnika (1999) osobe sa sadomazohističkim seksualnim interesima su masturbirale češće u odnosu na opću finsku populaciju što je vjerovatno rezultat težeg pronalaska partnera. Međutim, pored tih problema, njihovi ispitanici imaju pozitivan i ego sintoni stav prema svojim seksualnim preferencijama. Connolly (2006) je u svom uzorku osoba sa sadomazohističkim seksualnim interesima ispitala uznemirenost povezanu sa uključivanjem u preferirane aktivnosti. Rezultati ukazuju da više od polovine (54,3%) ispitanika nije nikada bilo uznemireno zbog svoje uključenosti u sadomazohističke aktivnosti, 44,9% je ponekad bilo uznemireno i samo 0,8% je bilo često uznemireno. Ovi nalazi potvrđuju da su sadomazohistički seksualni interesi ego sintoni. Onda kada su osobe sa sadomazohističkim seksualnim interesima involvirane u neku vrstu intimne veze one izvještavaju o visokim nivoima zadovoljstva vezom. Istraživači nisu pronašli razliku između sadistički i mazohistički orijentiranih partnera kada je u pitanju zadovoljstvo vezom (Rogak i Connor, 2017).

Karakteristike ličnosti

Wismeijer i van Assen (2013) su u svom istraživanju psiholoških karakteristika osoba sa sadomazohističkim seksualnim interesima ispitali ličnost preko petofaktorske teorije. Njihovi rezultati pokazuju da su osobe koje prakticiraju sadomazohizam, u usporedbi sa onim koji ne prakticiraju, manje neurotične, više ekstravertirane, otvorenije prema novim iskustvima, više savjesne i manje ugodne. Nadalje, rezultati ove studije sugeriraju da su osobe koje praktikuju sadomazohizam manje osjetljive na odbijanje, manje su sklone traženju odobrenja i manje izbjegavajuće privrženi kada ih se upoređi sa osobama koje ne prakticiraju sadomazohizam. Konačno, subjektivna dobrobit osoba uključenih u sadomazohističke aktivnosti bila je viša od kontrolne skupine. Zajedno, ovi nalazi ukazuju na to da osobe koje praktikuju sadomazohizam karakterizirana veća psihološka i interpersonalna snaga i autonomija, a ne psihološki maladaptivna svojstva kako se to mislilo.

U istraživanju Gosselina, Willsona i Barretta (1991) u kojem je korišten Eysenckov upitnik ličnosti dobiveni su slični rezultati kao u studiji Wismeijera i van Assena (2013). Njihove ispitanice koje su prakticirale sadomazohizam su bile više ekstravertirane, manje neurotične, te su postizale viši rezultat na skali psihotoicizma (povišeni rezultati nisu bili klinički značajni) od žena iz kontrolne skupine. Rezultati ove studije također pokazuju da su sadomazohistički orijentirane žene više seksualno avanturistične od žena iz kontrolne skupine, što se može vidjeti na visokim skorovima na česticama koje su se odnosile

na homoseksualnost (ove čestice na Willsonovom upitniku seksualnosti se nisu odnosile na seksualnu orijentaciju već više na tendenciju k istraživanju). Ispitanice u ovoj studiji su također pokazale visok nivo nekonformizma i preuzimanja inicijative u izražavanju svog visokog seksualnog nagona. Ličnost osoba sa sadomazohističkim interesima je ispitivana i u studiji Gosselina i Willsona (1980). U poređenju sa kontrolnom grupom, osobe sa mazohističkim seksualnim interesima su bile nešto više introvertirane, dok su one sa sadističkim seksualnim interesima bile jednako ekstravertirane kao i osobe iz kontrolne skupine. Rezultati na skali neuroticizma su također bili povišeni kod ovog uzorka. Ponovo su dobiveni visoki rezultati na skali psihoticizma kod dominantnih žena (njihovi rezultati su bili jednako visoki kao i kod zatvorenika ili osoba sa poremećajima ličnosti, ali autori ih nisu željeli okarakterisati kao patološke). Također su pronašli malu razliku između sadista i mazohista na skali psihoticizma, odnosno sadisti su imali malo viši rezultat (vjerovatno zbog bliske veze skale s konceptom maskulnosti).

Herbert i Weaver (2014) su ispitivali želju za kontrolom, empatiju, ekstraveziju, pristojnost-skromnost, emocionalnost, altruizam, savjesnost, otvorenost prema novima iskustvima, ugodnost, samopoštovanje i zadovoljstvo životom kod osoba koje su se otvoreno izjašnjavale kao dominantne ili submisivne. Zatim su poredili rezultate dominantnih i submisivnih na svim skalama. Pronađeno je da oni koji se deklariraju kao dominantni postižu znatno veće rezultate od onih koji se deklariraju kao submisivni na skalama želje za kontrolom, ekstraverzije, samopoštovanja i zadovoljstva životom. Submisivni su od dominantnih postigli više skorove na skali emocionalnosti. Dominanti i submisivni se nisu razlikovali na skalama empatije, pristojnosti-skromnosti, savjesnosti, otvorenosti za nova iskustva, altruizma i ugodnosti.

Luo i Zhang (2017) su se bavili pitanjem empatije i mazohizma/submisivnosti u seksualnom kontekstu. Rezultati njihovog prvoistraživanja jasno pokazuju smanjenu sposobnost empatije kod submisivnih žena u usporedbi sa kontrolom skupinom, dok taj pad nije zabilježen kod žena koje u sadomazohizmu igraju obje uloge (switch) niti je zabilježen kod muškaraca koji prakticiraju sadomazohizam. Pokazali su također da osobe koje prakticiraju sadomazohizam, u poređenju s kontrolnom skupinom, imaju smanjen subjektivni osjećaj bol kada su bili izloženi stimulusu (slici facijalne ekspresije boli), što sugerira da prakticiranje sadomazohizma modulira subjektivni osjećaj empatije za patnju drugoga, a ne sposobnost empatije generalno. Objašnjenje za ovakve nalaze je da često izlaganje situacijama koje uzrokuju bol dovodi do smanjenog subjektivnog osjećaja empatije.

Psihopatološke karakteristike

Connolley (2006) je u svom istraživanju koristila niz kliničkih testova (MMPI-2, MMCI-III, Beckovu skalu depresije, TSI, PDS, MDI, BAI) kako bi provjerila popularnu pretpostavku kako osobe koje prakticiraju sadomazohizam češće pate od određenih mentalnih poremećaja. Analizom rezultata testova koje je primijenila, došla je do zaključka da nema dokaza koji bi podržali hipotezu da mentalni poremećaji (depresija, anksioznost, opsesivno kompulzivni poremećaj) prevladavaju među uzorcima osoba koje se uključuju u sadomazohističke aktivnosti. Nije bilo nikakve razlike između njih i opće populacije. Nisu pronađeni ni dokazi koji potvrđuju češće javljanje PTSP-a, psihološkog sadizma ili mazohizma

i poremećaja ličnosti kod osoba sa sadomazohističkim seksualnim interesima. Međutim u njenom uzorku su pronađene povišene razine nespecifičnih disocijativnih simptoma i narcizma. Richter i suradnici (2008) nisu pronašli povišen nivo distresa (tuga, zabrinutost, beznađe i slično) kod osoba koje prakticiraju sadomazohizam. Upravo suprotno, muškarci koji su bili uključeni u ovu vrstu aktivnosti pokazivali statistički značajno niže nivoe distresa od kontrolne skupine. Među ženama je pronađen povišen nivo psihološkog distresa međutim on nije bio statistički značajan. Isti autori nisu pronašli dovoljno dokaza ni za pretpostavku da osobe sa sadomazohističkim seksualnim interesima pate od neke vrste seksualne disfunkcije. Cross i Matheson (2006) su koristile nekoliko skala (SCL-90-R, Neuroticism EPI subskalu, Stress DPQ subskalu) kako bi izmjerile komponentu koje su nazvale 'Komponenta mentalne nestabilnosti' kod mazohista. Rezultati ponovo ukazuju da osobe sa sadomazohističkim seksualnim interesima nisu podložnije psihološkom distresu u poređenju s kontrolnom grupom. Ispitivale su i da li osobe sa sadističkim seksualnim interesima češće imaju antisocijalni poremećaj ličnosti u usporedbi s kontrolom skupinom. Na osnovu analize rezultata na skalama hostilnosti i autoritarizma zaključile su da osobe koje se uključuju u sadomazohističke aktivnosti postižu jednake, pa čak i manje rezultate na obje ove skale.

Studija Brownove i suradnika (2017) je međutim pokazala da su osobe koje se uključuju u sadomazohističke aktivnosti pod povećanim rizikom za suicidalna ponašanja. Oni su u svom uzorku pronašli da je čak 12% ispitanika pokušalo suicid jednom ili više puta. Potvrđene se i rodne razlike koje se često pronalaze u skupinama ljudi koji su pokušali ubiti, odnosno i u ovom uzorku su žene češće pokušavale suicid od muškaraca (19% žene, 8% muškarci). Autori smatraju da nepostojanje straha od smrti i percipirana tolerancija na bol posreduju vezi između čestog uključivanja u sadomazohističke aktivnosti i pokušaja suicida za muškarce, ali ne i za žene. Dakle, što su nepostojanje straha od smrti i percipirana tolerancija na bol veći, veći je rizik za pokušaj suicida.

Smatra se da uključivanje u sadomazohističke aktivnosti povećava obje ove varijable. Također je pronađeno da su više dominantno/sadistički orijentirane osobe 'sposobnije' da pokušaju suicid, što se objašnjava povećanom željom za kontrolom i donošenjem odluka. Kako takve osobe imaju kontrolu nad sadomazohističkim aktivnostima koje mogu sličiti različitim metodama suicida (asfiksija, rezanje), može se povećati 'stečena sposobnost' za pokušaj suicida. Objašnjenje za nepronalazanje veze između pokušaja suicida, nepostojanja straha od smrti, percipirane tolerancije na bol i uključivanja u sadomazohističke aktivnosti kod žene je da je ženska seksualnost češće fluidnija od muške i da uključivanje u sadomazohističke aktivnosti nije stabilan prediktor ranijih pokušaja suicida.

Zaključak

Nakon velikog uspjeha trilogije "Pedest nijansi sive" o sadomazohizmu se više počelo govoriti javno. Međutim, mnogi ljudi sadomazohizam vide ili kao nasilje ili kao način da se začini ljubavni život, a ovaj pojam je mnogo kompleksniji od bilo kojeg od ta dva viđenja. Definicija sadomazohizma Mosera i Kleinplatzove govori da sadomazohizam uključuje aktivnosti koje odražavaju implicitnu ili eksplicitnu razmjenu moći, najčešće kroz zadavanje ili primanje fizičke boli.

Mnoga istraživanja s kraja 20. i početka 21. stoljeća su se bavila pitanjem psihosocijalnih karakteristika osoba sa sadomazohističkim seksualnim interesima s ciljem depatologizacije i destigmatizacije. Rezultati tih istraživanja pokazuju da se muškarci češće uključuju u sadomazohističke aktivnosti, međutim ovo je jedina parafilija u koju se više od svih ostalih uključuju i žene. Osobe sa ovim interesima su obrazovanije i imaju veće prihode u usporedbi s općom populacijom. Češće su same i smatra se da je razlog tome teži pronalazak pogodnog partnera. Suprotno popularnom vjerovanju, rezultati istraživanja nisu pokazali veću stopu ranijeg seksualnog zlostavljanja kod osoba koje prakticiraju sadomazohizam u usporedbi s općom populacijom. Sadomazohistički su interesi ego sintoni i osobe najčešće imaju pozitivan stav prema njima. Glede ličnosti, postoje razlike na osnovi uloga koje osobe zauzimaju u sadomazohističkom odnosu. Nema dokaza da osobe koje se uključuju u sadomazohističke aktivnosti češće pate od određenih mentalnih poremećaja, niti imaju viši nivo psihološkog distresa. Štaviše, rezultati Wismejiera i van Assena (2013) pokazuju da ove osobe karakterizira veća psihološka i interpersonalna snaga.

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