

## CLASSIC AND FUTURE CHALLENGES OF THE SHADOW BANKING SYSTEM IN HUNGARY

*András Kecskés – Zoltán Zéman*

### ABSTRACT

The activities of the *shadow banking system* were behind the *global financial crisis of 2007–2009*. The aim of this study is to present the operational mechanisms of the shadow banking systems from an international perspective, primarily through examples from the domestic shadow banking system. In the study, internationally identifiable operational forms which overall encompass the conceptual system of the shadow banking system are described. The first part of the study seeks to present operational mechanisms through the example of shadow banking systems operating in other parts of the world. It is apparent that the operation of the shadow banking system is a global phenomenon that could carry significant risks. Hungary is affected, as well. The second part of the study aims to describe the characteristics of the domestic shadow banking system through broker scandals and the case of the Questor Group. The third part of the study aims to throw light on the risks of the shadow banking system related to the spread of cryptocurrencies, as currently, there is no comprehensive Hungarian regulation in this field, which could pose risks in the future.

*JEL codes:* E50, E59, G28

*Keywords:* shadow banking system, broker scandals, cryptocurrencies

### 1. THE COMPARISON OF MAJOR OPERATING SHADOW BANKING SYSTEMS

When examining global financial and economic systems, the operation of several *shadow banking systems* can be identified. The shadow banking systems of the *United States* and *China* have received the most attention by experts and the general public. The main reason for this is that the aforementioned two countries played a key role in the financial crisis of 2007–2009, as the share of the shadow banking system in the financial system and its importance went beyond the scope of the national economy. At the same time, Hungary should study two areas in a broader sense: the major participants of the developed countries (*European Union*) and the developing countries (*China*). The authors believe that due to the

different (*universal*) operation of its banking system, Europe should be examined separately, as well, regarding the operation of *shadow banking systems*.

### 1.1. Definition of the shadow banking system

Financial expert *Paul McCulley* was the first to use the term *shadow bank* at the conference of the Kansas City Federal Reserve Bank in 2007. According to his definition, the term shadow bank refers to all *non-bank financial institutions* which conduct *maturity transformation*. He defined maturity transformation as a process of financial intermediation during which short-term liabilities are typically transformed into long-term assets. Commercial banks act in a similar way when they transform deposits which expire within one year into mortgages with a *maturity of typically 5-10 years* in the course of their banking operation.

According to the Federal Reserve Bank of New York, the shadow banking system includes all legal entities which carry out maturity liquidity and credit intermediation activity without access to state guarantee or central bank funds (*Guttman*, 2016:124).

The Financial Stability Board (FSB) defines the shadow banking system as a *credit transformation system* that includes the market participants that fall outside the traditional banking system, as well as their activities. As entities, the aforementioned financial institutions carry out the following activities: raising funds in the form of deposits, maturity and/or liquidity transformation, reallocation of credit risk by applying indirect or direct leverage. Regarding the subject of these activities, three forms of financing are defined: *issue of securities, securities lending and the use of security repurchase agreements (repo deals)* (FSB, 2011).

Based on the above, the authors use the definition of the shadow banking system in a broader sense in this study. The name *shadow banking system* itself stems from the fact that *commercial banks* can accurately assess and record the available volume of their assets transformed from deposits, while in the case of *shadow banking system*, neither the volume of assets nor, in some cases, the subject of their investments can be accurately defined due to less transparent registration. The non-transparent investment policy is due to the fact that assets, which are marketed in the form of securities transformed into derivatives, are *multiply transformed* from savings, in other words, *investment banking activity* is connected to the *covert commercial banking profile*. *Shadow* as a metaphor is relevant, because the financial system evolving in this way casts a *shadow* on the traditional

commercial banking system in the form of alternative possibilities, whose scope and outlines cannot be accurately defined.<sup>1</sup>

### 1.2. The characteristics of the shadow banking systems of developing markets

There is a highly important difference between the *shadow banking system of developing markets* and the *shadow banking system* of countries with developed money and capital markets: less information is available on the *shadow banking systems* of developing countries, and the actually available information is not comprehensive. (Kecskés, 2016: 46). At the same time, the supposition seems to be substantiated that, compared to the balance sheet total of the whole financial system, the share of the *shadow banking system* does not exceed 39% in any of these country groups (Ghosh et. al., 2012:4). Moreover, in the case of developed countries, the overregulation of certain elements of the *traditional banking system* causes some kind of *regulatory arbitrage*, which drives product development satisfying financial needs towards loosely regulated or less strictly regulated and controlled areas.

At the same time, in the case of *developing countries*, *transformation solutions* which are similar to the above-mentioned solutions evolve owing to the deficiencies of regulation or under-regulation *within the shadow banking system*.

On the other hand, in the developed countries, *more complicated and less clear-cut transformation processes* evolve in the *shadow banking system*, typically due to the longer past of their money and capital markets and their more detailed and extensive regulatory system, while in the *developing markets*, the new financial innovations of the *shadow banking system* cover the areas of missing regulations.

### 1.3. Regulatory arbitrage through the example of the Chinese shadow banking system

As far as shadow banking activities are concerned, the so-called regulatory arbitrage phenomenon is the most characteristic of China (Kecskés–Bujtár, 2016). In the course of regulatory arbitrage, legal entities which carry out a specific activity by way of business resort to less strictly regulated or non-regulated economic areas regarding either the applied legal form or the specific activity.

---

<sup>1</sup> See: KECSKÉS ANDRÁS: Európai jogi szabályozás és annak magyarországi implementációja a pénzügyi intézményeket érintő új kihívások területén [European Legislation and its Interpretation in Hungary in the Field of New Challenges Financial Institutions Face]. In: TILK PÉTER [ed.] (2016): *Az Unió jog és a magyar jogrendszer viszonya* [The Relationship Between the EU Law and the Hungarian Legal System], Pécs: University of Pécs, p. 335.

Apart from China, the regulatory arbitrage phenomenon is also perceptible in the United States, but it is less prevalent in Europe. Basically, regulatory arbitrage can occur in two cases: On the one hand, if regulation is too strict. On the other hand, if the regulator or regulators do not realise certain phenomena owing to the underdevelopment of the market. The United States falls into the first, while China falls into the second category.

In the case of commercial banks, in China, similarly to the United States, the strict regulation of the interest rates on deposits provides the best example for the situation when overregulation finds the new and innovative possibility of satisfying the needs of the market in the shadow banking system even in a relatively regulated capital market.

In the United States, the interest rate ceiling stipulated by the significant 'Q' rule in the Banking Act of 1933 created the appropriate environment for the establishment of money market funds by 1971. In China, the extensive spread of the so-called wealth-management products (WMPs) was based on a similarly restricted regulatory environment determined by an interest rate ceiling of 3% (Awrey, 2015: 30). In the Chinese economy, wealth-management products (WMPs) are typically one-year forms of saving which satisfy market needs similar to those which are fulfilled by the money market funds in the United States.

Banks warrant the issued bonds of wealth-management products (WMPs) in the case of 37% of saving products only. Concerning the remaining two-thirds of the products, there is no guarantee behind wealth-management products (WMPs) by financial institutions. Neither does any investor protection system or any institutional guarantee by the central bank exist. However, in the event of non-payment, the Chinese government has intervened so far (e.g. in the case of Huaxia Bank Co. and Citic Trust Co. in 2012) so as to protect the investors and the market (Hong, 2014). In view of the above, investors suppose that there is some kind of verbal guarantee by the central bank behind each of such wealth management product (WMP) and similar saving product.

In 2017, the Chinese regulatory authority introduced significantly stricter regulations in the market of wealth-management products, as well, by obliging each market participant selling the product to implement considerable changes in the transitional period by 30 June 2019. A significant part of the comprehensive change is the use of net asset value calculation, which is a well-established method in the case of investment funds.

Another important change (still a recommendation) is that financial institutions have to abolish any form of capital guarantee related to wealth-management products. By this move, the market has to be and can be directed towards correct risk-reward ratios. The latter proposal raises the market's opinion about WMPs to

the higher and real risk level of equity and corporate bond investments instead of the risk level of deposits even for retail investors (*Chen–Ruwitch, 2017*).

It should be noted that there are no deposit guarantee and/or investor protection schemes in China, in spite of the fact that the Chinese central bank mentioned the establishment of a deposit guarantee scheme already in 2013. In the event of bank failures, the Chinese state undertook to indemnify the investors until 2015. (People's Bank of China, 2013).

#### 1.4. The European shadow banking system

Similarly to the *European Union*, the *European shadow banking system* has a very plural image. Within the *financial system*, on the *asset side* of bank balance sheets, the share of the *shadow banking system* is lower in the *European Union* than in the *United States*. (*Jeffers–Plihon, 2014:12*).

However, this value of 30% on average varies greatly. For example, in the *Netherlands*, this value reaches 45%, while it is only 20% in the *United Kingdom*. In the *European Union*, the *shadow banking system* typically developed closely tied to the *traditional banking system*.

Namely, the *universal banking system* offered a new opportunity for traditional banks to raise funds through *securitisation*, *money market funds* and *lending in the form of securities*.

The considerable exposure of the *European banks during the financial crisis of 2007–2009* threw light on a less special feature of the *European banking system*. Big *European banks* raised cheap funds through their *American money market funds*, a large and significant part of which they allocated to *securitised assets in the mortgage market through their offices in New York and London* in order to achieve higher yield (*Jeffers–Plihon, 2014:12*). As a result, when the crisis broke out, along with the management of liquidity problems due to *money market funds*, they had to suffer considerable *capital losses* arising from securities covered with *toxic mortgage-backed securities*. There is an interesting difference between *Europe* and the *United States*: in the *USA*, the scale of securitisation had dropped drastically (to one fifth of the volume from the previous year, i.e. *USD 400 billion*) over one year, by 2008, while in *Europe*, the volume of newly issued mortgage-backed securities had been increasing by 2010, though from a lower basis (*BIS, 2011*). The *UK*, the *Netherlands*, *Spain* and *Italy* played a key role in this process.

In these countries, the growth of property market was partly fuelled by the *process of securitisation*, which the *banking systems* concerned could overcome over a longer period after the collapse of the mortgage markets or have not even been able to overcome yet. In the case of *Europe*, it is clear that the expansion of the

shadow banking system was determined by a *regulatory arbitrage* that used securitisation for the avoidance of the creation of a reserve, therefore it provided a higher return for the shareholders of the *traditional banking system* by reaching higher yields (Bujtár, 2014).

This is in contrast with the expansion of the *shadow banking system* based on the regulation of deposit rates and borrowing rates, which has been typical of the United States and the developing markets, especially China, since the early 2000s.

## **2. THE HUNGARIAN SHADOW BANKING SYSTEM AND ITS FEATURES**

In Hungary, the shadow banking systems are very specific in the money market and the national economy. Moreover, there is very little relevant information available on this topic.

When defining and interpreting the shadow banking system as a term, not only the special institutions and methods linked to the shadow banking system in the traditional sense should be considered, but the special forms of appearance corresponding to the activity, as well. In Hungary, we can talk about this special form of appearance, but doubtlessly about the phenomena which can be defined as and which operate as a shadow banking system. For example, such phenomena include broker scandals and “pyramid schemes” resulting from the lack of financial awareness. Instead of investing the capital gained from issuing bonds in profitable and yield-producing assets and portfolios, on the one hand, they mainly pay maturing bonds and due interest rate from it, on the other hand, in the long run, they invest only in high-risk industries with high yields.

### **2.1. Economic deficiencies, deficiencies in legal regulation (Quaestor scandal)**

The fall of the Quaestor Group incensed the whole Hungarian public and economy, and revealed the weaknesses of the Hungarian financial system. The fall of the Quaestor Group was not a unique case in Hungary, as several similar enterprises have been liquidated since then. Not only Quaestor’s investors got into trouble, but Buda-Cash Brokerage House and Hungária Értékpapír Zrt.’s investors, as well. Quaestor Pénzügyi Tanácsadó Zrt. was founded by Hungarian private individuals on 13 January 1990. The enterprise was established as a limited partnership for the purpose of financial consultancy. In 1993, trading of securities and investment were added to the scope of activities of the company. Later, the company diversified its activities by associating with mutual savings banks, providing an

extended range of banking and credit services to private individuals and businesses. In addition, the diversification of the company's activities included mortgage lending and the management of venture capital, though the weight of these was insignificant compared with the scale of its other activities.

In 2001, the company issued a bond portfolio worth HUF 10 billion to finance real estates. The company as an investor was present in several sectors which are profitable and generate a return only in the long run provided the company applies proper business and diversification investment strategy. This category includes the healthcare, hotel, technology and energy industries. Questor aimed to develop the aforementioned industries, but it had a negative sign in all of these fields.

Concerning Questor Group, it can be stated that in the field of investments, its profit-generating ability and short-term potential was very poor, but it excelled in convincing investors and selling the bonds the group issued. In the industries referred to above, Questor Group tried to compensate for the loss by the fraudulent appropriation of the financial assets of private investors so as to maintain adequate liquidity. Questor managed to sell its "fictive" bonds with such efficiency that the group acquired financial instruments of more than HUF 150 billion typically from private individuals from the retail financial sector until the "collapse of the pyramid".

In 2008, the ripple effect of the global economic crisis could be felt in the international economy, as well. The companies holding the authorised positions of subprime loans offered their liabilities publicly to investors, through SPEs, in the form of securities.

Examining the issuing activity of the company group, it is clear that the use of SPEs was not only in connection with accounting independence, but also with legal liability arising from the separate legal entity of an SPE as an independent issuer. (Bujtár–Kecskés, 2015b). In the event of bankruptcy, the use of SPE did not only exclude the assets involved in the liquidation proceedings, but also hid the direct liability of the creditors and those who were responsible for securitisation in the form of independent entity.

Based on the above, the parent company of the Questor Group, operating independently of the security issuer Quaestor Financial Hrvria Kft., enabled the rescue of assets in a contingent bankruptcy. Based on the information revealed during the criminal procedure, there is growing evidence that the assumption described above is true. The diversified branches of business of the company group with mainly low revenue-generating ability were not able to finance the operation of enterprises which are primarily focused on real estate developments with long-term capital requirements of higher return, and in the second place, operate as managers of venture capital.

Based on the 2014 financial report of Quaestor Pénzügyi Tanácsadó Zrt., the mortgage financing business of Questor performed well below the market average. Neither were they able to implement the largest real estate development (Duna City Project). Nearly half of the bonds were issued with a maturity date shorter than three years, which is a form of short- or medium-term financing. Concerning such instruments, the possibility of continuous redemption made savers believe that regarding their maturity, the instruments were compliant, supposing that an operational mechanism similar to early withdrawal was available in the case of bonds, as well.

On the contrary, the resources from issuing bonds were almost always spent on long-term real estate and venture capital projects. The Hungarian Financial Supervisory Authority and the National Bank of Hungary as supervisory bodies had the right to continuously audit only the investment service provider of the company group, as the issuer (Quaestor Financial Hungaria Kft.) was not subject to either the capital market law, or the system of laws applying to credit institutions and the capital market, therefore it operated without the supervision of a supervisory body of the money and capital market. Based on the above, the current capital market supervisory authority could examine only the formal compliance of the issue prospectus. (Bujtár–Kecskés, 2015a).

As a result, certain activities could become unsuccessful and did not work properly. Such activities were the following:

- Mortgage financing
- Venture capital activity
- Trading of securities

In view of the above, system-level risks were not subject to the consolidated risk analyses conducted by supervisory bodies either.

### **2.3. Compensation after the broker scandals**

Within the topic of broker scandals in Hungary, compensation is one of the most divisive issues, which is also one of the most difficult to solve. This topic also raises legal, economic and philosophical (ethical, moral) questions. Based on the laws and operating principles of the neoliberal market economy, nobody is entitled to receive such compensation. The statement above is supported by the assumption that the operation of the market regulates everything properly, including the exchange rates of shares and bonds, as well as the expected returns. Securities promising returns which are unrealistically higher than the current level of market return carry high risks, therefore both the profit and the loss will exceed the market average. Examining the effects of the broker scandal on the



basis of the reasoning above, it becomes clear that any kind of compensation is to be dismissed.

However, considering the currently prevalent European conservative economic principles or the principles of a welfare state instead of the principles the neoliberal market economy, the different types of compensation might be legitimate, as the consumers, the bond buyers, were misled with false promises. The false promise was that they were definitely guaranteed unrealistically high return by means of different marketing tools and communication strategies. (Bujtár–Kecskés, 2015b).

In Hungary, in order to indemnify Questor's clients, the Questor loss adjustment fund was set up. The fund indemnified the injured parties through the institutional system of IPF (Investor Protection Fund).

#### **2.4. Broker scandal and “pyramid schemes” as a shadow banking system**

When interpreting the scandals and pyramid schemes described above, we must draw the conclusion that the operating and business models of these methods and institutions belong to the shadow banking system.

The companies issuing and trading securities promising extremely high return did not invest the capital they gained in profitable investments which generated real economic return that would have guaranteed the yield level the companies wanted to pay. The drastic fall in the real estate market made this unsustainable system collapse, as the main profit-generating investments in the portfolios of these companies and company groups were high-risk investments affected by the real estate boom of the 2000s.

These activities and money- and profit-generating schemes can be classified as activities and phenomena of the shadow banking system owing to another important aspect: the lack of their regulation. As explained above, the Hungarian supervisory bodies and institutions (the Hungarian Financial Supervisory Authority, the National Bank of Hungary) were not able to supervise the activities of these company groups adequately and drive them into the proper direction by means of different legal regulatory systems. (Bujtár–Kecskés, 2015b).

#### **2.5. The response of the Hungarian legislators to the broker scandals, regulatory changes**

On the one hand, the legal issues linked to Questor and other broker scandals raise general (conceptual) questions, which are recurrent in the legislation regulating international business. On the other hand, these issues involve special ele-

ments of the national legislation which may diverge from international and European standards. The summary of general aspects places special emphasis on the anomalies of the status of legal entity established for a special purpose, which also raise legal issues and concerns about publishing. The conclusion is that in several cases this does not serve the transparent operation of a specific company group.

When developing regulatory system in the future, more attention should be paid to the abolition of the causes which result in and motivate abuse. The excessively social approach based on the misinterpretation of financial and financial consumer protection aspects can have the opposite effect: all the investors and issuers will choose transactions based on excessive risk-taking without fundamental economic basis instead of transactions with realistic returns and a well-thought-out and reliable strategy. (Bujtár–Kecskés, 2015b).

### **3. THE POSSIBLE ROLE OF CRYPTOCURRENCIES IN THE HUNGARIAN SHADOW BANKING SYSTEM**

In the previous part of our essay, we provided an overview of a classic example of the Hungarian shadow banking system. At the same time, various cryptocurrencies are getting more and more popular and widespread. As cryptocurrencies are suitable for generating wealth outside the institutions of the traditional banking system, the functioning of cryptocurrencies and certain aspects of the crypto ecosystem may resemble a shadow banking system. Currently, there is no comprehensive regulation of cryptocurrencies, despite the fact that services linked to cryptocurrencies can already be used through businesses based in Hungary.

#### **3.1. An overview of cryptocurrencies**

The overview of cryptocurrencies should be started with bitcoin, the first and the most popular cryptocurrency. Bitcoin was created by an anonymous programmer. We only know him by the name he uses on forums: *Satoshi Nakamoto*. The IT and mathematical system created by him and his team is the basis of all types of crypto money which exist today. Nowadays, there are hundreds of cryptocurrencies, collectively known as alternative crypto money or altcoin (*Pedro*, 2015). Bitcoin is the only open source digital currency which was introduced to the market right after the outbreak of the 2008 American bank crisis on 3 January 2009. The system was being fine-tuned at the time. The name also refers to the open source instrument that handles the means of payment, as well as to the distributed ledger network. Bitcoin is a completely decentralised financial instrument, a currency independent of central issuers and authorities. As it relies on the shared

database stored by the main nodes of the peer to peer network, its centralised operation is unnecessary. The general ledger, which essentially functions as a database, contains the data of all the transactions so far, thus guaranteeing the fulfilment of the basic requirements on electronic means of payment. Security is provided by a system of digital signatures (Pedro, 2015).

In fact, bitcoin mining is a kind of logical problem solving in the course of which the computer that solves a problem correctly receives a definite number of crypto instruments as a reward. In order to prevent the falsification of the general ledger, as a kind of proof of their work (proof-of-work, POW), computers have to solve a complex mathematical task. Checking this task is easier than finding and creating a solution for it. The algorithm determining and operating the computer, therefore the presentation of the proof becomes more complicated depending on the overall performance and range of the network. Furthermore, the computers of the different miners (depending on the cryptocurrency) constituting the network check and approve of the public general ledger, which is available to all the members of the network, by using the appropriate software.

Apart from preventing falsification, the secondary aim of bitcoin mining and the special algorithm operating it is to guarantee smooth money supply. Within the system, commission is paid to the given miners based on a constant, pre-determined quantity of Bitcoins (currently 12.5 BTC) and the transactions accounted by the miner after a POW approved by several members of the network (Ittay-Emin, 2015).

### **3.2. Regulatory challenges in the field of cryptocurrencies**

There is no central bank or any other institution guaranteeing the value of the money and the debt relationship behind bitcoin and the cryptocurrency system itself. The confidence in cryptocurrencies is provided by the mathematical and IT background behind the system. As far as cryptocurrencies are concerned, this is the most important and contentious problem, to which neither international, nor regional solution has been found so far (Ittay-Emin, 2015). As the system is completely decentralised, the regulatory authorities and institutions face a lot of problems when taking different regulatory and restrictive measures.

Apart from their regulation, in connection with cryptocurrencies, several questions are raised by the anonymity arising from the system. Despite the fact that the mathematical and IT systems are completely transparent, it is almost impossible to find the owners of different accounts. The reasoning above in itself does not link cryptocurrencies to the shadow banking system, but they become part of it due to the transactions of the system and the lack of the regulation of earnings generated by various types of mining software and algorithms.

The definition and taxation of earnings from crypto instruments requires the appropriate categorisation of crypto instruments. The easiest solution is a type of taxation that is applied in the case of securities, where loss can also be accounted against exchange gain to purchase price. However, it requires correspondence to securities. Based on the *Howey test*, the aforementioned method works well in the United States. The different types of crypto instruments have been successfully integrated into system of regulation of the capital market in Switzerland, as well.<sup>2</sup> However, in Hungary, earnings from cryptocurrencies cannot be taxed without the modification or comprehensive amendment of the capital market regulations, therefore they can be taxed only as other earnings (Bujtár, 2018).

The aforementioned activities of checking and approval of the mining of crypto instruments during the security-type money-and wealth-generating activity definitely fulfil the requirements of the operation of the shadow banking system outside the traditional banking system. The Initial Coin Offering-ICO of crypto coins bears a significant similarity to Initial Public Offering- IPO of securities. Due to the above-mentioned similarity, raising capital in the course of the offering of crypto instruments is suitable for a maturity transformation typical of the shadow banking system, which is similar to the public offering of securities.

In the Hungarian capital market, the offering of crypto instruments has been realised only on a small scale and indirectly (with the involvement of derivative instruments and the use of secondary markets) so far. The first crypto coin has been issued,<sup>3</sup> therefore Hungarian legislators are prepared for the regulation of crypto instruments in the capital market.

#### 4. SUMMARY

The overall conclusion is that the Hungarian shadow banking system bears the characteristics of the shadow banking systems of developing markets. The short presentation of the Questor scandal clearly outlines the classic characteristics of

---

2 The *Howey test* was named after the *SEC vs. Howey* case in which the Supreme Court of the United States ruled in 1946 that the two defendants concluded a sale-and leaseback contract under which they offered a citrus fieldland to potential buyers. The buyers, who typically did not have any expertise in agriculture, brought the plot of land and leased it back to the selling company, which cultivated the area, harvested the crops and collected the yields. In the course of the transaction it was laid down that a transaction is considered to be an investment if it fulfils the following four criteria: money is invested; in the course of the investment, the investor expects results from the transaction; the money is invested in a company; the result depends on the performance of the issuer or a third party.

3 FARAGÓ (2018): Kriptoalutát hozott létre a FuturAqua [FuturAqua created a cryptocurrency], <https://www.vg.hu/penzugy/tozsde/kriptoalut-at-hozott-letre-a-futuraqua-2-985418/> (10 October 2018).

the shadow banking system, the considerable part of which derives from the low level of Hungarian financial culture and the deficiencies in the regulatory environment. In the light of the spread of cryptocurrencies, we should not forget the challenges of the future. As long as the Hungarian crypto ecosystem is not regulated in a reassuring manner, unfortunately, the community of Hungarian investors will be exposed to newer risks arising from the operation of the shadow banking system.

## REFERENCES

- ATIK, J. (2014): EU Implementation of Basel III in the Shadow of Euro Crisis Review of Banking and Financial Law, Vol. 38, 287–337.
- AWREY, D. (2015): Law and Finance in the Chinese Shadow Banking System. *Cornell International Law Journal*, Vol. 48, 1–50.
- BIS (2011): Report on asset securitisation incentives. Bank for International Settlements, Basel, <http://www.bis.org/publ/joint26.pdf>.
- BUJTÁR ZSOLT (2016): Az eszközalapú kereskedelmi kötvény egyesült államokbeli tüdőklésének és bukásának okai [Reasons for the Rise and Fall of the Asset-Backed Commercial Bonds in the United States]. *Jura*, 22(2), 214–224.
- BUJTÁR ZSOLT (2018): A kriptovaluták európai és máltai szabályozásának összehasonlítása [The Comparison of the European and Maltese Regulation of Cryptocurrencies]. *Európai jog*, 8(5), 6–16.
- CHEN, S. – RUWITCH J. (2017): China's new rules may bring a sea of change for millions of small investors. *Reuters*, <https://www.reuters.com/article/us-china-regulations-wealthmanagement/chinas-new-rules-may-bring-sea-change-for-millions-of-small-investors-idUSKBN1DQ0oS>.
- FARAGÓ JÓZSEF (2018): Kriptovalutát hozott létre a FuturAqua [FuturAqua created a cryptocurrency]. *Világ gazdaság*, <https://www.vg.hu/penzugy/tozsde/kriptovalutat-hozott-leltre-a-futuraqua-2-985418/> (2018.10.10.).
- FRANCO, PEDRO (2015): *Understanding Bitcoin*. Padstow, Cornwall: Wiley & Sons.
- FSB (2011): Shadow Banking: Strengthening Oversight and Regulation Recommendations of the Financial Stability Board. 27 October 2011, p. 1. [http://www.fsb.org/wp-content/uploads/r\\_111027a.pdf](http://www.fsb.org/wp-content/uploads/r_111027a.pdf) (downloaded on 10.10.2018).
- GHOSH, S. – DEL MAZO, I. G. – ÖTKER-ROBE, I. (2012): Chasing the Shadows: How Significant Is Shadow Banking in Emerging Markets? *Economic Premise*, No. 88, <http://siteresources.worldbank.org/EXTPREMNET/Resources/EP88.pdf>.
- GUTMANN, R. (2016): *Finance-Led Capitalism: Shadow Banking, Re-Regulation and the Future of Global Markets*. US: Palgrave MacMillan.
- HONG, S. (2014): China's Shadow-Banking Boom Is Over. *The Wall Street Journal*, <https://www.wsj.com/articles/chinas-shadow-banking-growth-slows-1419370402>.
- ITTAY EYAL – EMIN GÜN SIRER (2015): Majority Is Not Enough: Bitcoin Mining Is Vulnerable. *Communications of the ACM*, July 2018, 61(7), 95–102.
- JEFFERS, E. – PLIHON, D. (2014): Universal Banking and Shadow Banking in Europe. AFEP Congress, 2–4 July 2014.

- KECSKÉS ANDRÁS – BUJTÁR ZSOLT (2015a): Merre tart a gazdasági jogi szabályozás a Quaestor botrány után? [I. Where is heading the legal regulation after the Quaestor scandal? I] *Gazdaság és Jog*, 23(11), 3–8.
- KECSKÉS ANDRÁS – BUJTÁR ZSOLT (2015b): Merre tart a gazdasági jogi szabályozás a Quaestor botrány után? II. [Where is heading the legal regulation after the Quaestor scandal? II] *Gazdaság és Jog*, 23(12), 11–15.
- KECSKÉS ANDRÁS – BUJTÁR ZSOLT (2016): „Sárkányok tánca”: a hagyományos és az árnyékbankrendszer küzdelme a pénzügyi dominanciáért Kínában [“The Dance of Dragons”: Struggle Between the Traditional and the Shadow Banking Systems for Financial Dominance in China]. *Jura*, 22(1), 229–238.
- KECSKÉS ANDRÁS (2016): Kihívások az árnyékbankrendszerek jogi szabályozásában [Challenges in the Legal Regulation of Shadow Banking Systems]. *Miskolci Jogi Szemle*, 11(2), 42–54.
- KECSKÉS ANDRÁS (2018): A bankrendszer jogi háttere és deregulációja az Amerikai Egyesült Államokban [The Legal Context and Deregulation of the Banking System in the United States]. *Magyar Jog*, 65(3), 138–144.
- People’s Bank of China (2013): Financial Stability Analysis Group of the People’s Bank of China. China: Financial Stability Report 2013, [www.pbc.gov.cn/english/130736/2869239/index.html](http://www.pbc.gov.cn/english/130736/2869239/index.html).