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RISK ANALYSIS OF COUNTERFEITING MONEY IN HUNGARY AND IN THE EU

The article aims to analyze the risks of counterfeiting money. In the first part of the study we are going to analyze the theoretical and practical (statistical) side of counterfeiting money. We will look at the costs of combatting the crime, how fake money can effect the economy, the individual undertakers, and the monetary system. In a statistical standpoint how much financial damage is caused by the Forint and Euro currency counterfeiting in Hungary and in the area of the European Union. The second part of the contribution explores the possible solutions. What kind of legal and non-legal means can be used in combatting counterfeiting money? How effective, proportional and dissuasive is the current Hungarian regulation of the Criminal Code.

Key words: counterfeiting money, national security, risk analysis

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1. Introduction

Counterfeiting money is one of the oldest crimes that exist today. It is probably as old as the use of money. Karl Binding, German legal scholar stated that "the inventor of money invented counterfeiting money as well" (Binding, 1904: 306). The crime in every age breached the king and the state monopoly of issuing money and these conducts were always punished with strict sanctions. From the Principate period of the Ancient Rome counterfeiting money was valued as a crime against the Caesar, a treason crime. Nowadays counterfeiting money is considered as a crime against property or a crime against the economy. Franz von Liszt legal scholar summed up this in his work by stating: "counterfeiting money is a mixed crime, it breaches multiple legal objects. On one hand it breaches the financial interest of the individuals, on the other hand it attacks the security of legal tender" (Angyal, 1940: 36).

In the first part of the study we are going to analyze the theoretical and practical (statistical) side of counterfeiting money. We will look at the costs of combatting the crime, how fake money can effect the economy, the individual undertakers, and the monetary system. In a statistical standpoint how much financial damage is caused by the Forint and Euro currency counterfeiting in Hungary and in the area of the European Union.

The second part of the contribution explores the possible solutions. What kind of legal and non-legal means can be used in combatting counterfeiting money. How effective, proportional and dissuasive is the current Hungarian regulation of the Criminal Code.

2. The dangers of counterfeiting money

Counterfeiting money breaches the state monopoly of issuing money, the security of cash-flow and finally the trust in money as a legal currency. Large amount of counterfeit money in the circulation can endanger the order of economy of the state and the balance of funds and community funds.

John F. Chant (Chant, 2004: 42-54) in his article showed that we pay the costs of counterfeiting in three ways:

- there is the so called redistribution cost of counterfeiting,
- the prevention costs.
- and finally the confidence costs.

The redistribution cost refers to the decrease in the purchasing power. The person who first accepts a counterfeit banknote from the counterfeit is not necessarily the one who bears the loss. The actual victim is the person who is holding the note when it is detected. Until then the money circulates quasi as real money.

There is another redistribution cost from the fact that fake notes can crowd out the real money from the circulation. Lastly the National Bank of the state can lose the so called seignior age which is the difference between the value of money and the cost to produce and distribute it. The redistribution costs are mainly causing damage to the economy in an individual level and not on a national level.

The prevention costs come from the efforts of trying to reduce and stop counterfeiting money in the practice. There are two types of subjects:

– the individuals and the companies,
– the government and the national Bank.

The undertakes have to buy certain means and tools to detect fake money when it's received. They can buy UV lamps and counterfeit detectors. Furthermore they can and often have to participate in prevention trainings as well. The government and the national bank directly try to stop counterfeiting. From the government side, these costs include law enforcement and court expenses. The national banks have spent on developing the security of the cash and removing dated money from the circulation. A multi-author study (Viles, Rush, Rohling, 2015: 8) pointed out that the new issuing of the new banknotes can cause a lot of financial expenses. For example in the USA between 2003 and 2013 the government spent 11 million dollars on the security development on the dollar currency. The prevention costs are causing damage to the whole society in a national level. These costs are usually much higher than the redistribution costs. Brantingham and Easton evinced that the financial crimes in Canada in 1996 caused 12.5 million dollars while the prevention costs were two and a half times higher (Brantingham – Easton, 1998:9).

The confidence costs of counterfeiting are a resultant of the characteristics of money. Just as the telephone the money is not worth much if there are only a few person using it. Some people's decision to switch money over to their other payment methods (e.g. barter) will cost money to the money users because they have fewer transaction partners. Money would lose its value if a critical mass of people would stop using it (Nosala, Wallace, 2007: 994-1001).

This can be confirmed by the practice from Hungary. In 1999 the 5000 Forint banknotes had to be withdrawn from the circulation because there were so high quality counterfeit banknotes in the circulation that the trust in the money wavered.

The Committee (Committee, 2015: 13-15) on Technologies to Deter Currency Counterfeiting in the USA stated this as the psychological effect of counterfeiting money. The national states have recognized that, because of the psychological impact of counterfeiting, it poses a national security risk it can become a weapon of warfare as well. A good example of this is when the British government aimed to destabilize the American Continental Government during the war of independence with counterfeit money (Cooley, 2008:69). It was a similar case in the American Civil War when the North sent fake dollars to the South (Smith, 1944:82).

Fake money can cause inflation as well. The reason of this is that suddenly big amounts of money are in the economy (there are more in circulation than ideally should have). The Purchasing power increases. Furthermore the demand for goods and services also increases. The supply cannot meet demand, the goods become scarce and naturally the prices will increase. After this, the consumers have to pay more for the same amount of goods. The higher the inflation, the less value a single banknote has. Money will become gradually worthless. The supply scarcity caused by large amounts of counterfeit money may also have another negative impact on the economy. It can divert the consumption to the black or gray economy. The devaluation of money and the spread of the black economy together can cause serious damage to the economy. It can further aggravate the adverse effects of inflation if other countries are dumping goods at a lower price to the county. The security of economy will be destabilized. According to Monnet (Cyril, 2005:5) there may be a serious inflationary impact of counterfeiting if the costs of producing counterfeit money are significantly reduced.

3. Actual damage caused by counterfeiters in Hungary

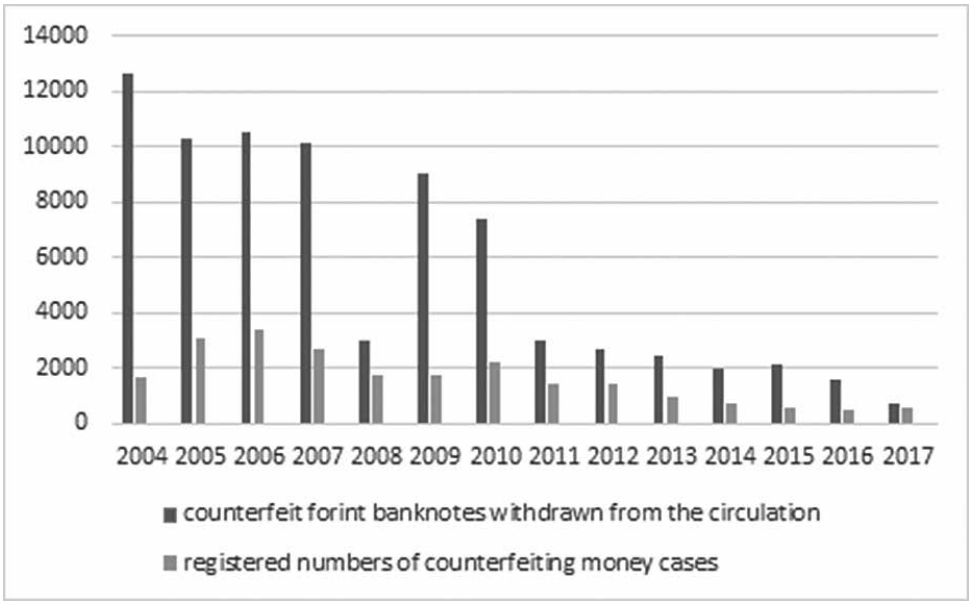
The following table 1 and diagram 1 show that how many counterfeit Forint banknotes were withdrawn from the circulation and how many counterfeiting currency cases were registered by the authorities yearly.

Table No. 1. *The numbers of Counterfeit Forint banknotes withdrawn from the circulation and the number of registered counterfeiting currencies yearly in Hungary.1*

year	counterfeit Forint withdrawn from the circulation	registered numbers of counterfeiting currency
2004	12638	1640
2005	10257	3097
2006	10507	3413
2007	10139	2676
2008	2986	1767
2009	9041	1748
2010	2972	2211
2011	7375	1390
2012	2655	1429
2013	2448	920
2014	1935	695
2015	2149	584
2016	1549	497
2017	716	540

1 Sources: https://www.mnb.hu/kiadvanyok/jelentesek/eves-jelentesek and https://bsr.bm.hu/ accessed on 06.10.2018.

Diagram No. 1. *The numbers of Counterfeit Forint banknotes withdrawn from the circulation and the number of registered counterfeiting currencies yearly in Hungary.*[2]



Since 2012 the number of counterfeit banknotes withdrawn from the circulation in Hungary is low. Both the registered numbers of crimes and the registered counterfeits have a decreasing tendency. Generally speaking if the number of counterfeiting currency cases were higher the numbers of counterfeit banknotes were also higher. There are a few exceptional years. These can explain by the fact that every case is different and there can be significant differences between them. One case is registered if a casual perpetrator wants to sell a few fake counterfeits and one case is registered when a criminal organization generates a huge amount of high quality counterfeit money.

In the most recent year (2017) 716 Forint counterfeits were seized by the authorities. Every year the higher denomination banknotes (mostly 10 and 20 thousand Forints) are counterfeited in a higher percentage. These are the most rewarding for the criminals.

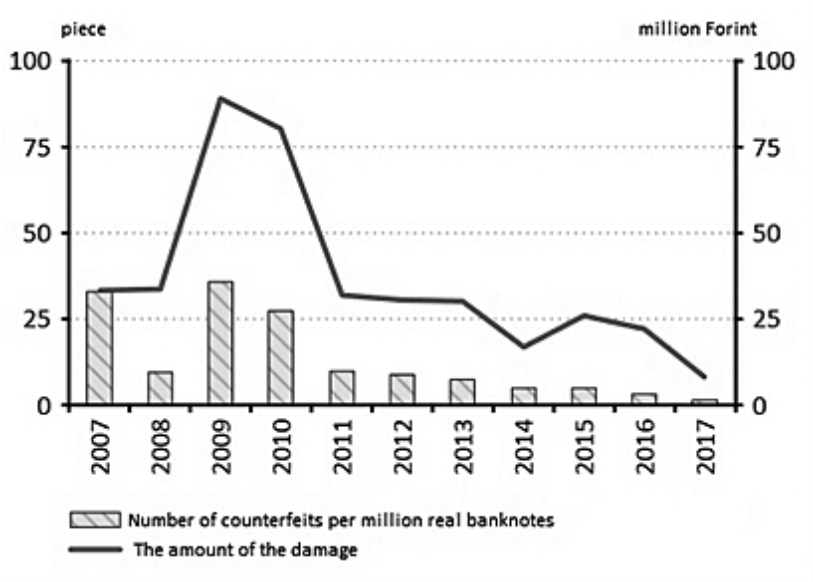
2 Sources: https://www.mnb.hu/kiadvanyok/jelentesek/eves-jelentesek and https://bsr.bm.hu/ accessed on 06.10.2018.

Table No. 2. *The numbers of counterfeit Forint banknotes withdrawn from the circulation in 2017 detailed in denomination.*[3]

Denomination	500 Forint	1000 Forint	2000 Forint	5000 Forint	10000 Forint	20000 Forint
numbers	26	22	20	53	401	194
Percentage	3,5%	2,9 %	2,8%	7,5%	56%	27,2%

According to the report of the National Central Bank of Hungary from 2017[4], the falsification methods did not change considerably, which are mainly committed with office duplicators (colour copiers, printers). Counterfeits can be traced by checking with the help of simple tests e.g. with UV lamps.

Diagram No. 2. *The number of counterfeits in comparison with the numbers or real banknotes and the amount of damage caused by the counterfeit yearly in Hungary.*[5]



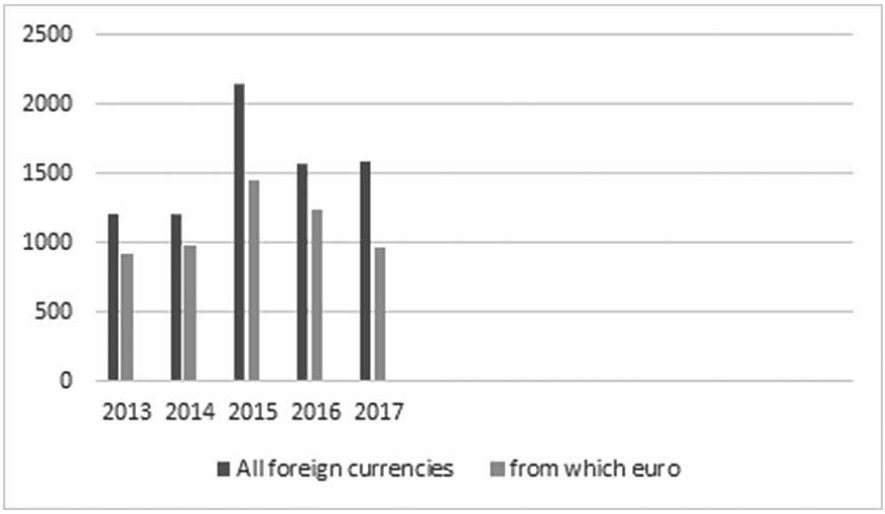
The damage caused by counterfeiters is decreasing in Hungary since 2015. After Hungary joined the European Union euro and foreign currency counterfeiting has slightly increased in the beginning but in recent years it stays relatively low.

3 Source: https://www.mnb.hu/letoltes/mnb-eves-jelentes-2017-hun-digitalis-vegleges.pdf accessed on 06.10.2018.

4 https://www.mnb.hu/letoltes/mnb-eves-jelentes-2017-hun-digitalis-vegleges.pdf accessed on 06.10.2018.

5 Source: https://www.mnb.hu/letoltes/mnb-eves-jelentes-2017-hun-digitalis-vegleges.pdf accessed on 06.10.2018.

Diagram No. 3. *Foreign and euro currency counterfeits withdrawn from the circulation in Hungary*[6]



The number of counterfeit euros in 2017 was only 970 (see Diagram No. 3).

4. Actual damage caused by counterfeiters in the European Union

In the world there are around €913 billion worth of euro notes and €16 billion worth of euro coins are in circulation. The euro is one of most important currency in the world. This currency is continued to be targeted by organized criminals active in money forgery. Since the introduction of the euro (2002) counterfeiting has led to financial damage amounting to at least €500 million. This is confirmed by the seizure of large amounts of counterfeit euro notes and coins and the continuous dismantling of illegal print shops and mints each year inside and outside the EU.[7]

According to the latest figures of the European Central Bank the numbers of counterfeit euro banknotes withdrawn from circulation is moreover decreasing since 2015.[8]

6 Source: https://www.mnb.hu/kiadvanyok/jelentesek/eves-jelentesek accessed on 06.10.2018.

7 http://europa.eu/rapid/press-release_IP-13-88_hu.htm accessed on 06.10.2018.

8 https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.pr180727.en.html accessed on 06. 10. 2018.

Table No. 3. *Numbers of counterfeit euro banknotes withdrawn from the circulation in the EU*[9]

Year	numbers of counterfeit euro banknotes withdrawn from the circulation in the EU
2010	751 000
2011	606 000
2012	531 000
2013	670 000
2014	838 000
2015	889 000
2016	684 000
2017	694 000
2018 first half of the year	301 000

Table No. 4. *Denomination breakdown of counterfeit euro banknotes in 2018*[10]

Denomination	€5	€10	€20	€50	€100	€200	€500
Percentage breakdown	1.2%	1.9%	23.8%	59.3%	10.9%	0.8%	2.1%

Counterfeiters preferably falsify 20 and 50 euro denominated banknotes. These denominated banknotes are widely used and easier to counterfeit than higher denominated banknotes. Lastly higher denominated banknotes are more often controlled.

Most of the counterfeit euros (88.8%) were found in euro area countries, around 10.3% were found in EU Member States outside the euro area and 0.9% were found in other parts of the world.[11]

5. Combatting counterfeiters

5.1. Possible tools: Criminal law

In the fight against counterfeiting criminal law has a vital role. This legal area has the function of general and special prevention by prescribing a criminal law sanction for offender. The Hungarian criminal law has to comply with the international and EU directives as well. Lastly there are formal and content requirement against the statutory provisions. Namely they have to precise, clear and obvious (Kőhalmi, 2012: 37).

9 Source: https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.pr180727.en.html accessed on 06.10.2018.

10 Source: https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.pr180727.en.html accessed on 06.10.2018.

11 https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.pr180727.en.html accessed on 06.10.2018.

Counterfeiting money has become an international phenomenon since the 20th century. After the Great scandal of the counterfeiting of the French currency (franc) the 1920s where around 30thousand counterfeit banknotes were withdrawn from the circulation and the place of perpetration was in several countries it was clear that the criminals have no boundaries. The scandal had a positive outcome, that they adopted the International Convention for the Suppression of Counterfeiting Currency in 1929. This was drafted by the League of Nations whereby states agree to criminalize acts of currency counterfeiting. Even today it is the primal international agreement on currency counterfeiting. This was adopted in Hungary as well with the Act XI of 1933. It was a problem before that foreign currencies weren't as well protected as national currencies in some states (Fritz-Maurice, 1932: 533).

The EU has adopted a Directive in 2014.[12] Before the adoption of the Directive there were 3 main weaknesses in the legal framework on the protection by criminal law measures of the European single currency against counterfeiting:

1. Insufficient sanctions
2. Cross-border investigations hampered and
3. Insufficient prevention

The level of penalties for currency counterfeiting was not sufficiently dissuasive and effective.

There were important differences between the sanctions foreseen in Member States, which was one of the reasons for insufficient deterrence and uneven protection of the euro and other currencies across the European Union. Criminals intend to counterfeit euros in countries where the sanctions are not as strict as in other Member States. (so called „Forum Shopping"). Cross-border investigations and prosecutions were unsuccessful due to cooperation problems resulting from differences in availability of efficient investigative tools, (such as interception of communications, the monitoring of bank accounts and other financial investigations).

There are three punishable conduct groups in the Directive:

1. Productive type of conducts:
– any fraudulent making or altering of currency, whatever means are employed;

12 The EU Directive 2014/62/EU.

2. Distributive and transit type of conducts:

– the fraudulent uttering of counterfeit currency;

– the import, export, transport, receiving or obtaining of counterfeit currency with a view to uttering the same and with knowledge that it is counterfeit;

3. Preparatory type of conducts

– the fraudulent making, receiving, obtaining or possession of

– instruments, articles, computer programs and data, and any other means peculiarly adapted for the counterfeiting or altering of currency; or

– security features, such as holograms, watermarks or other components of currency which serve to protect against counterfeiting.

The sanctions are differentiated by these conduct groups:

– the productive type of conducts should have maximum penalty at least 8 years imprisonment.

– the distributive and transit type of conducts should have 5 years imprisonment.

– There is an exception from the above rule. If a citizen receives counterfeit currency without the knowledge that it is counterfeit, but passes it on with the knowledge, this is clearly criminalized, but Member States may decide to set, as the maximum penalty, a penalty of less than 5 years of imprisonment or a fine.

– The preparatory type of conducts should be punishable by a maximum sanction which provides for imprisonment.

Member States shall take the necessary measures to ensure that legal persons can be held liable for the offences:

– committed for their benefit by any person acting either individually or

– as part of an organ of the legal person who has a leading position within the legal person based on

- a power of representation of the legal person;
- an authority to take decisions on behalf of the legal person; or
- an authority to exercise control within the legal person.

If we look at the comparison between the Hungarian and the EU legislation the Criminal Code of Hungary complies with every aspect of the Directive.

Table No. 5. *Comparison of the Directive and the Hungarian Criminal Code*[13]

The Directive	The Hungarian Criminal Code
Productive type of conducts: the maximum penalty shall be at least 8 years imprisonment	ay person who: imitates or counterfeits currency with the purpose of distribution is guilty of a felony punishable by imprisonment between 2 to 8 years.
Distribution conducts: maximum penalty shall be at least 5 years imprisonment	Who imitates or counterfeits currency with the purpose of distribution; obtains counterfeit or falsified currency with the purpose of distribution, exports or imports such currency or transports it in transit through the territory of Hungary; is guilty of a felony punishable by imprisonment between 2 to 8 years
Preparatory acts: the maximum penalty shall contain imprisonment	Preparation of counterfeiting maximum 3 years imprisonment Aiding in counterfeiting max. 2 years

The Directive and the Hungarian criminal law (specifically in the Act CIV of 2001 on the Criminal law measures against legal persons) have sanctions against legal entities.

Table No. 6. *Comparison of the Directive and the Hungarian Criminal Code*[14]

The Directive	Act CIV of 2001
shall include criminal or non-criminal fines (compulsory)	1. imposing a fine.
May include judicial winding-up (facultative)	2.winding up the legal entity,
temporary or permanent disqualification from the practice of commercial activities (facultative)	3. limiting the activity of the legal entity,
Other facultative sanctions: exclusion from entitlement to public benefits or aid placing under judicial supervision; temporary or permanent closure of establishments which have been used for committing the offence.	

13 Sources: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0062 and https://net.jogtar.hu/jogszabaly?docid=A1200100.TV accessed on 06.10.2018.

14 Sources: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0062 and https://net.jogtar.hu/jogszabaly?docid=A0100104.TV accessed on 06.10.2018.

The Directive contains only one compulsory sanction (fine) for the Member States which is in the Hungarian regulation. There are other facultative sanctions as well.

Overall the Hungarian regulation complies with the Directive. Under this rule there is no need to modify the Criminal Code.

The Hungarian Criminal Code also punishes the aiding in counterfeiting money in a separate statutory provision though the preparation of the crime is already punishable. Under our opinion this is unnecessary and we recommend that the aiding in counterfeiting should be abolished. The only difference between aiding and preparation is that the offender has concrete aim in the first to use the tools for counterfeiting which is problematic. Furthermore in the practice the aiding statutory provision is rarely used there are usually between zero and three registered crimes per year.

Otherwise the statutory provisions are all together clear and well rounded.

5.2. Possible tools: Non-legal means

There are two groups concerning the tools for combatting counterfeiting money.

- The passive tools can be found in the technology of production of the coins and banknotes by the National Banks.
- The active measures can be explored in the financial professionals working with banknotes, training and information of citizens and other crime prevention toolkits.

In the passive tools we can highlight the minimal requirement that the original banknote should have a different material than the regular office paper. They should weigh more, be more durable. There is a new technology that money can be made from polymer (plastic like material). Today many countries like England and Romania are adopting these technologies to defend their currencies. Polymer banknotes can be harder to counterfeit than regular banknotes.

In Hungary the National Central Bank did not use the new technology but they introduced new banknotes with more security features. This progress started in 2014. Recently the 1000, 2000, 5000, 10000, and 20000 Forint denominated banknotes were changed in the circulation.[15]

Just to illustrate on one banknote the 20 000 Forint has the following new security features:

15 https://www.mnb.hu/en/banknotes-and-coins/news accessed on 06.10.2018.

– The banknote has a holographic foil. On the front of the banknote a person can see an articulated holographic foil strip to the right of the watermark area. On the surface, the repeating elements are the coat of arms of Hungary.

– There is a hidden image in the banknote. If the banknote is held near eye level and rotated in plane an inscription appears in ornamental motif.

– The 20 000 Forint has a security thread. Under a magnifying glass, the inscription "MNB" (the abbreviation of the Hungarian Central bank) and the number' "20000"appear repeatedly which is visible from both sides.

– The banknote has a watermark. If you hold up the banknote to the light, you can see the mirror image of a multi-toned watermark of the portrait of Ferenc Deák.

– Also it has a UV motif. If you someone looks at the watermark area under UV-A and IIV-C light on the front, the image of a man and a woman walking in period historic clothing and the number 20 000 appear. The clothing of the walking people and the upper number fluoresce green under UV-A light and red under UV-C light. The lower number and a few elements of the walking people are of orange and brown colour under UV-A and UV-C light, respectively.

– It has a variable ink. When tilted the central motif of the front side of the money changes from gold to green.
– It has an iridescent printing, on the back of the banknote, there is a golden stripe to the left of the watermark area, in which the number 20000 and the inscription '"MNB" appear when the banknote is tilted.
– The banknote has fibres embedded in the banknote paper fluoresce under UV-light in blue and green, and randomly spread red dots are also visible.
– Lastly every single banknote has a unique serial number. Under UV A light, the horizontal serial number on the left and the vertical serial number on the right fluoresce green.[16]

After the production of the banknotes the citizens should detect and identify the differences between the real and fake money. This is the active measure in the fight against counterfeiting money. The citizens, financial workers, shop assistant should be educated to prevent the crime. The media has a vital role as well to give attention of the recent counterfeits in the circulation. There is a positive example in the European Union for the active measures it is called the Pericles Programme 2020.

The Pericles Programme 2020 spends on staff exchanges, seminars, trainings and studies for law enforcement and judicial authorities, banks and others

16 https://www.mnb.hu/letoltes/2017-forint-fuzet-eng.pdf accessed on 06.10.2018.

involved in combating euro-counterfeiting. According to the programme the actions can take place not just in the EU but in the euro area as well (e.g. in Montenegro). Since 2015 applications by all the EU Member States' competent authorities can be introduced to receive co-financing. The Pericles 2020 programme dedicates around 7,3 million euros for the implementation of the programme, for the period between 1 January 2014 and 31 December 2020. The goal of the action programme is to prevent and combat counterfeiting and related fraud. With these actions the competitiveness of the Union's economy and securing the sustainability of public finances will be enhanced. The Programme especially protects the euro banknotes and coins against counterfeiting and related fraud, by supporting and supplementing the measures undertaken by the Member States. Currently there are two forms of the technical, scientific and operational support:

– grants – co-financing for specific projects proposed by the relevant national authorities in response to its calls for proposals. This includes:

– exchange and dissemination of information, in particular through organising workshops, meetings and seminars, including training, targeted placements and exchanges of staff of competent national authorities and other similar actions.

This programme especially provides assistance to:

– national law enforcement agencies, national central banks and issuing institutions and judicial authorities in the public sector and

– commercial banks, money exchange offices and the cash-operated industry in the private sector.[17]

6. Summary

In conclusion counterfeiting is not primarily a quantity but a quality problem of crime. The real threat of this crime is the damage it can cause to the economy. High numbers of fake money in the circulation can destabilize the economics relations, and the trust in a country's money.

The EU Directive obliges the Member States to protect the euro and other currencies with efficient investigational tools like in the organized crime cases.

The comply with the Directive we suggest that in the case of the more serious counterfeiting the competence of the investigation of counterfeiting money should be delegated to the Counterterrorism Centre (Terrorelhárítási Központ: TEK). In our opinion this would enhance the investigation tools in the Hungarian

17 https://ec.europa.eu/info/business-economy-euro/euro-area/euro/anti-counterfeiting/pericles-2020-programme-exchanges-assistance-training_en accessed on 06.10.2018.

investigative system. Under the actual statistics the registered numbers counterfeiting currency and the fake money withdrawn from the circulation has a decreasing tendency. We also expect that this trend continues but the lawmaker and the law enforcement should prepare for newer counterfeiting waves in the future.

According to Article 10 of the Directive Member States have to ensure that during criminal proceedings the examination by the National Analysis Centre and Coin National Analysis Centre of suspected counterfeit euro notes and coins for analysis, identification and detection of further counterfeits is permitted without delay. The authorities have to transmit the necessary samples without any delay, and at the latest once a final decision concerning the criminal proceedings has been reached.

In our view the Hungarian National Bank fulfills this function correctly and should keep this in the future. In a preventive point of view, it is important that the normative regulation is comprehensive and adequate. Under our opinion the statutory provision of aiding of counterfeiting money is unnecessary and we recommend that the aiding in counterfeiting should be abolished.

Alongside the law it is important to have active and passive measures against counterfeiters. There are positive examples for both are like renewal of the Hungarian Forint and the Pericles Programme in the EU.

The fight against counterfeiting can only be successful if the state keeps pace with technical modernization.

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