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Money Creation in the Modern Economy

SUMMARY: An age-old debate has recently resurfaced in the columns of a daily newspaper Money creation in practice. Misconceptions and reality. Is the issue still topical; indeed, is it one of journalism? Especially since the crisis, the public is still highly preoccupied with how banks have come to have so much money. Experts in professional circles believe they know how money is created. The textbooks used in economics education to this date teach the theory of traditional money multiplication. But nobody seems to be interested in what the essence of money is – which in fact is not independent of its creation. As the saying goes, it is not important what money is, only the effect it has.

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Even though there have been numerous articles on the financial crisis itself and crisis management in recent years, it is a fact that Hungarian finance has not really addressed the changes that have occurred from a money theory perspective.

A BIT OF HISTORY

It was some fifty years ago that university professors *István Hagelmayer* and *Miklós Riesz*, experts of “socialist finance”, debated money creation. István Hagelmayer was of the view that the MNB (which at the time also functioned as the only commercial bank in the country) created money simultaneously with credit rather than lending against liabilities. Miklós Riesz insisted on traditional tenets of finance. In principle, a commercial bank must have liabilities so that it can engage in lending. A commercial bank buys and sells money, it trades in money.

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Obviously, today’s reality is very different from the reality of fifty years ago. Today there are commercial banks in private ownership in Hungary as well. In the socialist era, the central bank was also the financier of companies and as such, the issue was merely theoretical. Finances played an absolutely passive role. The decision on what must be produced was made by the planned economy, and financial institutions merely arranged for financing. Financing for production, the extension of production, or investments, was granted only to entities that were authorised to carry out such operations, i.e. those featured in the plan. The MNB balance sheet included cash holdings as well as OTP deposits. On that basis, it was easy for planning to shift financing ratios to favour heavy industry.

Even after the 1968 reform, financial government (using indirect methods) procured that the economy produced what it needed to export to the other planned economies. (The country was bound by transnational agreements, which specified the numbers and tons

to be produced.) They also provided numerous state incentives in an effort to influence capitalist exports. (In order to have enough as foreign currency was in very high demand.) If unsecured money happened to flow out into the consumption market as a result, it was not considered a problem. The money ended up in the straw mattresses or in the OTP anyway. If there is nothing to spend our incomes on, what else can we do but to save it... A sort of household deposit generation could therefore be established *ex post facto*. (Note that foreign currency management was fixed, and neither were products allowed into the country from abroad without a permit. As a result, HUF incomes could not involve imports.) That is to say, subsequently the funds for forced industrialisation were raised in the form of these forced savings. The money creation process can thus also be conceived in a way that forced savings provided the funds for forced industrialisation.

After the regime change, in an economy that already operated on market terms, Hungarian financial literature argued explicitly that loans were not created from deposits, but rather deposits from loans. (Tarafás, 2002). Note that well before that, the book *Invisible Money* by *Gubcsi and Tarafás* (1977) described very clearly how, in general, created money came to appear in the banking system, by means of promissory notes. Promissory notes, being debt securities which banks considered worthy of discounting were counter-discounted by the central banks. As a result, money was created by the central bank. According to this model, the funding underlying the (created) money was the loan itself, which was secured not by the deposits, but rather by the portfolio of promissory notes. A promissory note embodies a payment commitment by debtors. However, this is only a promise. Nevertheless, being valuable securities, promissory notes were considered to be secure collateral, as the

legal regulations on promissory notes were rather strict at the time. Even then it happened that the obligor of the promissory note was unable to pay on time. But everybody was trying really hard to avoid the consequences: debtors' prison. Many chose to commit suicide rather than live with the shame.

In Europe, the German economy also operated through the mechanism of created money as early as before World War II. After World War II, West Germany clearly got back on its feet with the help of money created by central bank refinancing.

MONEY CREATION IN THE MARKET ECONOMY

Also in the modern market economy, the primary question is whether financial institutions, and in particular commercial banks actually create money or simply mediate money. For a long time, we used to talk about the banking system as a set of institutions engaged in the mediation of money.

Nonetheless, money creation by means of promissory notes, as in our historical example, has taken a backseat today. Why? Because the situation is very different today. There is an abundance of liquidity in the financial system. Loans are virtually forced down the throats of potential debtors. (We refer to liquidity because when we are looking for the relationship between the real economy and finances, we are not looking at quantities of money but rather quantities of liquidity – which is the sum of money plus assets that can be turned quickly into money –, which also include, in addition to liquid money, securities that can be quickly converted into money).

Commercial banks today are able not only to acquire funds from their central banks but also from one another in the form of inter-bank loans. They can also gain access to money

through capital markets. But is this the money they are passing on? Or do they create money when they want to?

We should not believe that this question has lost its relevance. Even the Bank of England, in one of the studies published in its Quarterly Bulletin in 2014, felt it necessary to debunk the misconception related to lending against deposits. The authors of the study clearly stated that commercial banks created money (McLeay, Radia and Thomas, 2014). True, but only bank deposit money.

Only the central bank can create cash. This fact is well established in the Hungarian literature (Bánfi et al., 1997). Non-bank institutions, however, do not create money but merely provide money-redistributing credit (loans). (These non-bank institutions – shadow banks – are often confused with commercial banks. Nonetheless, today the number of universal banks is on the rise in the Anglosphere as well. In Europe, this particular institutional type has always been predominant.)

In the case of commercial banks, the money creation technique is a given, as described above (back when the central bank also performed commercial banking functions in the planned economy). In the books of the banks, loans appear as assets while at the same time the money created is booked as own liabilities on the borrower's account. It is a liability since it is a debt, as the bank is required to provide money, if necessary in cash, in the amount in question to the requester of the loan. We have, however seen that – if necessary – they are typically able to resolve this matter.

But how much money can a bank create? This is the second question that arises. Do commercial banks have an unlimited capacity to create money?

Commercial bank money – as we have seen – cannot take the form of cash only through the involvement of central bank money. Central bank money is high-powered money. It

can be used for all transactions, in all settlement arrangements and payments. The money created by commercial banks on the other hand has limited use (Gubcsi – Tarafás, 1977; Huszti, 1996; Issing, 2011). It is suitable for conducting a wide range of payment transactions, although only in the case of companies that belong to the same bank group. (This is usually a given for European banks with large branch networks.) In the case of mutual off-setting, commercial bank money can also be used in transactions conducted with other banks.

At the same time, there are numerous cases when commercial banks still need effective central bank money. If, for example, a commercial bank's customer wants to withdraw cash or the bank has to settle its interbank balance – for example, if we look at today's Europe: the TARGET settlements conducted within the euro system – the bank will need central bank money. (Importantly, central bank money will only be needed to settle the balance. But definitely needed in that case...)

In addition, central bank money is also needed to fulfil the central bank's mandatory reserve requirement. Therefore, there is a relationship between money creation by central banks and commercial banks.

We have just answered the second question. Namely, it is clear that money creation by commercial banks cannot be unlimited. It is intimately linked to how much central bank money the commercial bank can gain access to and how it can do so.

The banking sector is primarily limited in terms of money created through lending by whether there is demand for loans in the economy at all. Obviously, banks' profitability targets and competition between banks also have significant roles to play. However, the amount of loan money that can be created primarily depends on the economy and the market expectations of enterprises. What

counts is not just the interest rates of the loans on offer by the bank or the repayment terms applied. Demand for loans depends mostly on whether the entrepreneur expects to be able to place its products or services on the market. In this sense, loan demand in the real economy is the number one limitation of money creation by commercial banks. (Note that when loans are taken out to buy securities, this assertion is only very indirectly true. That is because oftentimes loans are taken out in the hopes that the price of the procured securities will increase, thereby allowing the borrower not to only repay the loan but also generate some profit. This is speculative demand for money, which is only indirectly linked to the real economy.)

Regulation can also be a limiting factor. For example, banking supervision requirements also have a limiting effect on money creation. The Basel regulations have set certain limitations on the growth of balance sheet totals of banks resulting from money creation. (The banking supervision tasks are generally performed by the national banks. There are countries where there are separate institutions dedicated to this task; however, they are always closely linked to the central bank.)

The banking supervision requirements are not primarily aimed at limiting money creation, rather they are there to ensure safe banking operations. Experts usually say that banking supervision is there to regulate micro-prudential conditions. Safe banking operations in essence mean ensuring that the risks taken by individual banks do not exceed the risks that those banks can cover with their own equity. Although this is a micro-level approach, it serves the purpose of macroeconomic stability. That is because such requirements also curtail money creation. Setting mandatory capital adequacy ratios creates limits on money creation. (Based on the Basel regulations, the EU applies an equity requirement

of at least 8 per cent of risk-weighted assets. The most current information on the website of the Bundesbank, for instance, indicates a 9 per cent requirement. If a bank's loan production cannot be higher than that ratio then that is also an indirect limit on money creation.)

However, central banks also indirectly regulate money creation through the instruments of their monetary policies.

All of this is preceded by the question concerning the purpose for which a central bank limits money creation. (Above we have stated that demand for loans already serves as a limiting factor of money creation... Is another control needed?)

This is where we have to refer back to the macroeconomic tasks of central banks. And those are to protect the value of money, to ensure liquidity and to guarantee financial and economic stability. In other words, macro-prudential operations.

At the macroeconomic level, the primary guardian of the value of money is the central bank. Demand that is monetised through money creation (in other words, if the market player looking to make purchases gains access to money too easily through loans) could lead to an increase in the price of goods, i.e. inflation. When the demand enabled through a sudden increase in the quantity of money is greater than supply, adaptation by the real economy may fall short of the increase in money supply. This results in price increases (inflation), and economic stability is upset. Avoiding this is one of the main tasks of central banks. This is the reason why they strive to ensure that the money created is in harmony with the volume of commodity supply.

The question is, however, whether it is possible to measure the amount of money created, or to be created. In the age of financial innovation, money aggregates are difficult to quantify. Finance, however, is built on the premise that "*money matters*". There is a defi-

nite relationship between growth and changes in the quantity of money.

Our next question, therefore, relates to what means a central bank has in general to influence quantities of money?

Central bank regulations have various means to influence the quantities of money created by commercial banks or available to be created by central banks. Previously, they have even applied frameworks, direct quantity limitations. In the market economy, however, generally the central bank strives to influence commercial banks through market compliant, normative solutions.

INSTRUMENTS OF MONETARY POLICY

Textbooks usually refer to three main instruments: reserve rate, interest policy and open market operations.

The reserve rate is one, but no longer the most important instrument of monetary regulation. The commercial bank is required to allocate a reserve with the central bank based on the balances and the deposits of the bank's account holders. This remains the property of the commercial bank in question, on which traditionally no interest was paid by the central bank. (This was also the case at the MNB for a long time.) In the EU, central banks usually pay market rate interest to depositors. (So does the MNB.) The ideology behind this is that if the bank does not receive interest on the reserves, then it will ask for higher interest on the loans it provides from its remaining deposits (!) in order to be able to pay the interest it promised to pay its depositors (meaning that this argument applies the principle of "lending against deposits").

Reserve ratio rates have otherwise been reduced progressively. *Samuelson's* Economics in the 1970s used 10 per cent in its schematic textbook examples and based his money

multiplication theory on that premise. (That is no coincidence as the reserve requirement on transaction balances in the United States is currently 10 per cent). A 20 per cent rate was used in the examples given in the Saldo textbook. Today, however, in the euro system the ratio has dropped to 1 per cent. (Actually amounts to 1 per cent. To be kept as reserves at the national banks on which the national banks pay market rate interest.) What this means is that the European banking system is able to create 100 times the value of one euro supplied by the Central Bank. The central bank reserves, if no interest is paid on them, as we have seen according to the arguments, will raise the interest rates payable by loan debtors. That is because banks want to earn the interest payable to their depositors even on the non-interest-bearing parts (reserves), which is usually aligned with inflation. (No one would put their money in a bank if it doesn't at least retain its purchasing power... Although even negative interest exists today.) Interest must be payable on all deposits, otherwise people will take their money to another bank if the other bank offers higher interest. Therefore, the interest paid on the reserves – according to the official argument – is a type of subsidy aimed at mitigating loan interest. (In other words, interest paid on reserves translates into an increase in the profit generated by the banks.)

The reserve ratio requirement is an instrument that can be used better for restrictions than for increasing quantities of money. It is, however, a blunt instrument, as the effects of increasing its value are doubtful when there is significant available liquidity in the banking system – in the form of central bank money or equivalent securities (Tarafás, 2002). It is doubtful that reducing the value of the ratio would result in an increase in the quantity of money as the ratio is already very low. If it drops to 0 then its significance is lost altogether, as it will not limit money creation.

Nowadays increasing prominence is being given to ideas that banks should be required to apply higher reserve ratios, even up to 100 per cent, in order to limit the seemingly limitless ability of banks to create money (see the article published in the Staff Paper of the IMF on the rethinking of the so-called Chicago Plan; Benes – Kumhof, 2012). Such ideas are based on the rationale that today's financial system is prone to causing crises. Oftentimes, banks finance speculative activities with the created money. This recommendation would, in fact, put a radical constraint on the activities of banks. Probably including speculative actions as well. Unfortunately, however, it would also put a constraint on GDP growth. Therefore, the probability of its implementation is rather small. As a matter of fact, the so-called "Chicago Plan", that is money creation (lending) secured by a reserve of 100 per cent, would be a sort of return to the socialist monopoly banking experiment. It would be a centrally controlled money creation system. We have, however, seen that this has already failed with the downfall of the planned economy. But, apparently, it would be impossible anyway for a regulatory change of this proportion to pass through legislatures in today's world. The spheres of interest that run counter to it are too great. "Partially secured money creation" – as described in the Chicago Plan – like our current system, is a source of great profit for the players of the banking system.)

Then what is the most generally used instrument that can influence money creation? Nowadays, this would be the base interest rate policies of central banks.

The money credited to clients' accounts does not stay there for long. The borrowers obviously use the received money to purchase items, after which the money is credited to the supplier's bank through the settlement system of the clearing house. The bank's partner could provide a credit for the transaction in the form

of daily loan granted to the buyer's bank (to the bank that created a buying opportunity to its client by way of the loan. In cases like this, the banks share in the profits of money creation, as the partner bank charges daily interest on day loans.) As referenced earlier, however, concrete central bank money is needed to cover the daily balances. The bank gains access to central bank money – in its various forms – in exchange for interest, which is another source of cost for the bank. Although it can be obtained from the interbank market, the liquidity of that market depends on market circumstances. Therefore, leaving it up to the interbank market would definitely carry some sort of risk. (This was crystal-clear during the 2008 crisis.) Therefore, banks usually try to reduce their dependence on interbank liquidity risk. This is the purpose that their deposit policy serves. They encourage their current account holders to turn their demand accounts into longer-term deposit accounts. With fixed deposits, they have fewer reasons to be afraid that another bank would not grant them central bank loans or would only do so at a higher risk premium. (In other words, they exert an effort to reduce liquidity risk). Naturally, when collecting deposits banks also share the profits of money creation: however, in this case not with another bank rather with the depositor who earns interest after its fixed deposit. But the bank does not lend out the depositor's deposit money in this case either. The depositor's deposit is a form of collateral ensuring that it can gain access to central bank money if such money becomes necessary for the purposes of its transactions.

Ultimately, the cost of money creation – including the bank's profit – is paid for by the borrower; the same borrower that uses the created money in the form of a loan and pays the interest on it. The size of that interest impacts demand for loans.

The money created in the banking system is undoubtedly a huge business for banks. Due

to the fact that it bears interest, and as such is quite expensive for the borrower. The loan interest includes the profits of the bank, coverage of its risks and any parts of the interest that is shared with other eventual participants of the financing arrangement. That is why assumptions have resurfaced time and time again on how much cheaper it would be if the state would create its own, self printed interest-free currency in accordance with the theory of state money. (As it is done when change money is minted, which is a monopoly held by the treasury in many places.) (Huber, 2014)

But let's get back to the third element of the "textbook" instruments that a central bank can use to influence the quantity of money: namely, open market operations. This generally encompasses the buying and selling of government securities by the central bank.

The portfolios of commercial banks naturally contain government securities, as government security auctions usually have commercial bank partners, due to the prohibition of direct central budget financing applicable to central banks. If a bank needs liquidity, it can turn to the central bank and may receive central bank money, provided by central bank availability, against a pledge of the government securities in its portfolio. If, however, the commercial bank has too many liquid assets and is unable to appropriately place them into the economy, it can deposit its money at the central bank in exchange for a modest interest. (Naturally, these deposits cannot be directly loaned out to the corporate sector, as corporations do not have accounts with the central bank). The central bank is the bank of banks...

Under certain circumstances, a commercial bank may even buy central bank securities. Naturally, the central bank does not need money created by these artificial means, this is an instrument specifically created for the purpose of curtailing liquidity. (The MNB has also applied this practice.) The quantity of

the money on the market in this case would clearly drop, thereby being unable to monetise demand resulting in an anti-inflationary effect.

Through these operations, the central bank, in fact, "determines" the profitability of banks, as the interest it pays on banks' deposits (or on the securities created) adds to the profits of the bank. So, what sources are available to a central bank to pay these interests? It does so to the detriment of its profits, a bill that is ultimately footed by the shareholder (in our case the central budget). The central bank must settle its accounts with the central budget at the end of every year. The changes in central bank reserves must also be taken into consideration in this case, as well as what the central banking laws of the country in question allow the central bank to use its "profits" towards. Nonetheless, the central bank pays any positive balance to the state, as shareholder, and if it runs into the red, the deficit is covered by the central budget. In the spirit of ensuring the independence of central banks, the government has no say in the costs related to the instruments applied by the central bank in order to implement its monetary policy. Not even if the interests eat into the profits of the central bank. If the central bank is owned by the state, taxpayer money is what will be affected if too much revenue is trickled down into the banking sector.

PRONOUNCED CHANGES AFTER 2008

The situation has radically changed in the international world of finance, not only after the 2008 financial crisis but even prior to that. Initially nobody was against the abundance of money and the cheap loans which were the direct result of the Fed's policy for decades, which it continued to use after 2008 with the purpose of crisis management. (Not the least the general economy of the US, since the

country's securities were in demand, enabling it to finance its deficit and easily and cheaply refinance its sovereign debt). Inflation – measured in terms of consumer baskets – was negligible, making the abundance of money less of a concern. The huge demand on the real estate market, however, as it is generally known, led to higher prices, the formation of a bubble and eventually to a crisis. (That is because asset prices were not included in inflation measurements). Interbank liquidity dried up on the private market. Confidence was lost. Nobody knew what situation the other bank was in, whether or not they were going to file for bankruptcy... Then it was not inflation resulting from the abundance of money that became the main problem rather the shortage of liquidity. Money was available (as it is today) in banks but due to the lack of confidence, it became stagnant during the crisis and did not flow as before. There was a shortage of liquidity, which brought with it a threat of a severe economic crisis. As a result, in the United States the Fed was doing everything in its power to pump liquidity into the institutions of the market because private counterparties had suddenly withdrawn from interbank lending.

A large part of the bad portfolios were cleared out by the government-instituted bailout packages and confidence was slowly restored in the banking system. Problems, however, still remain in the world economy. The economic cycle is slow to return to prosperity. The threat of deflation still looms over the international economy, and that is just as undesirable in a market economy as inflation. Due to considerable joblessness, governments are still preoccupied by with how economies can be incentivised. Is monetary policy a good way to do it and to what extent can it be used?

The primary task of central banks is, in addition to their main function of protecting the value of money, to support the economic policies of governments.

The rate of interest chargeable on loans is primarily determined by the central bank base rate¹. The central bank base rate was kept very low by the Fed for three decades in order to boost lending. In other words, interest policy continuously provided ways to abundantly create money². As in the previous period, they are again looking for a way to boost the economy. But how is it possible to boost the economy further with interest rate policies nearing 0 per cent? There is no room for additional base rate cuts when the central bank base rate is barely above zero. The fact that deposit interest rates are also low due to low inflation does not provide an incentive for savings. It cannot be in the interest of society for citizens to forgo saving for the future due to spending in the now. In order for monetary policy to start out on a path to normalisation, central bank base rates should be slowly increased. Interest policy, as an instrument, has become limited in the monetary policies of central banks.

But it is not only interest policies that are problematic.

Open market operations restricted to government securities did not seem sufficient during the crisis. More targeted action was required. This has led to direct securities purchases from banks and non-bank financial institutions, even overstepping the previous textbook rules to buy corporate bonds (!). These steps were truly unusual, unorthodox measures. That is because financial textbooks have written for decades that in a market economy the central bank is the bank of the banks and that it does not directly come into contact with corporations (this would only occur in the socialist planned economy...); and it happened all the same. The Fed bought the bonds of General Motors, General Electric and other companies in order to prevent the collapse of market of commercial papers, corporate bonds (securities). Meaning that

the central bank got into the business of the direct financing of companies... (Anderson – Gascon, 2009)

New times, new means...

But there are other issues as well. And that is the cross-border effects of monetary policies, specifically *Quantitative Easing* (QE).

QEE – QUANTITATIVE EXTERNAL EASING

It makes one wonder whether the so-called quantitative easing, money quantities increased by government security buying and the effects thereof, were truly the result of the Fed's monetary policies. That is because in the past decade and a half other high-stakes players have also entered the US market. Foreign (central) banks had already been purchasing US government securities en masse even before the introduction of QE. As a result, they had a significant influence on the quantities of money (liquidity) in the American economy. The dollars that were previously created by the American system and used (for example by American importers) to make international payments, were "repatriated". In 2003, government bonds held by foreign central banks already represented a significant portion of the government securities portfolio. By 2006, American government securities held by foreigners represented one third of the overall portfolio, twice the volume held by the Fed. One could say that this was phase 0 of QE, independently of the easing implemented by the Fed... When in 2008 the Fed started its first quantitative easing programme ("QE1"), foreign institutional shareholders – mainly the Central Bank of China – already held nearly 40% (!) of government securities. This means that the quantity of money denominated in dollars was not only dependent on the policies of the Fed but also those of other central banks. In 2015, foreign central banks held one and

a half times as many American government securities as the Fed. That is, the Fed was not acting on the basis of full sovereignty when creating American monetary policy (Reinhart, 2016). The second and the third quantitative easing programmes of the Fed, QE2 and QE3, therefore, were less successful than the first one, as established by analysts.

Why? Because contrary to the first package, international developments at that time no longer favoured the FED's abundant liquidity creating policies. Whereas previously foreigners also contributed to expanding liquidity by buying American government securities en masse, that was no longer the case after 2013. That is because developing countries, due to the varying slowdown of oil and raw materials markets, have begun to sell their US government securities instead of buying them (these decisions were also influenced by the statements made by the Fed on its intentions to normalise its monetary policy and to slowly raise the base rate) (Reinhart, 2016). (It is uncertain as to whether the volume of foreign ownership will drop; the question is whether it will be private or state ownership. The US government bond is still a safe haven for private equity in times of turmoil but the movement of privately held papers introduces higher uncertainty into the processes than the more predictable behaviour of central banks.)

The lesson here is that in a globalised world, there is not one single all-powerful central bank, not even the Fed, that can influence money creation.

But let us now look at the issue of how the central banks of these foreign countries came to amass reserves, which then they were able to invest in such enormous quantities in American government securities.

Parallel to the cheap money policies of the United States, Asian countries such as China were able to generate significant dollar revenue through rapidly increasing exports. (This pro-

cess was largely the result of American capital investments, but other developed countries also took on the opportunity offered by China which has lifted capital import restrictions.) The resulting export surplus increased demand for the *renminbi* (yuan)³, which would have led to the appreciation of the Chinese currency. All long-term export surpluses can have effects like this. Considering that currency appreciation would have slowed exports down in China, the central bank intervened on the foreign currency market and bought up the excess dollars supply in exchange for the created domestic currency. As a result, the central bank was able to maintain the undervalued status of the renminbi together with its exports incentivising effect. Over the past 15 years, nearly 4,000 billion dollars have been amassed by the Central Bank of China. The primary means of money creation of all central banks is lending but they can also create their own currency through foreign currency purchases. And that is what happened here. As a result, the Chinese central bank accumulated a large foreign currency reserve.

In the modern banking system, by creating central bank money a central bank essentially commits to ensuring that the given (national) currency can be converted to another currency at anytime. That is because currencies are convertible and central banks have the ultimate responsibility of guaranteeing that convertibility.

This guarantee is secured by the central bank's foreign currency reserve. In this day and age, when there is no fixed conversion rate applicable to currencies, anybody, anywhere may attempt to convert a national currency to another currency on the money markets. The only question that remains is at what rate that person manages to convert the currency. If someone takes the currency out of the country, wants to convert it, then they put it up for sale. The task of the central bank, however, is not only to protect the intrinsic value of the currency but

also to protect its extrinsic value. If demand for conversion back to the US dollar presents en masse, the exchange rate would drop. A drop in the exchange rate would mean a reduction in extrinsic value, which would detract from the purchasing power of the domestic currency on account of domestically generated inflation, meaning that the intrinsic value of the currency would also drop sooner or later. In such cases, central banks would be compelled to act due to their commitment to the protection of the intrinsic and extrinsic value of money. If there is an oversupply of a country's own currency, the central bank must intervene if it is to maintain exchange rates. In essence, it will begin to buy its own currency in order to avoid depreciation that would lead to inflation. This is what foreign currency reserves are for.

In China, however, central bank intervention was underpinned by the opposite economic policy goal. The central bank did not want demand for its currency to increase the exchange rate, as that would have made the country's economy uncompetitive in international trade. In this case, it sold its own currency – which is an easier task – as it is able to create it. (The other source of money creation – as is known – is foreign currency purchases)

As a result, Chinese economic policy was heavily criticised by American think tanks. The experts of PIIE (Peterson Institute for International Economics) have been writing for decades that the reduction of international imbalances would be beneficially affected if China allowed its currency to appreciate. That would curtail the country's growth and the current excessive international imbalances would correct themselves. Market operation would swing towards equilibrium. (There was a marked political pressure from the United States to this end. China resisted for quite a while, only making modest concessions.)

Such central bank intervention undoubtedly distorts the markets. International or-

rganisations, however, cannot really criticise these types of policies – even though obvious state intervention into market operations run contrary to their principles – as they were unable to ensure that central banks with significant influence (FED) be considerate of the effects of their monetary policies on external countries. Practically, during its regular consultations, the IMF has no influence over the financial policies of the US. (All findings relating to the reduction of the deficits were in essence dead letters.) One could say that the relationship was, in effect, the opposite for decades. The US was driving the mechanism of the IMF. Internal economic, employment concerns always figure higher in the formation of monetary policies than cross-border spill over effects.

And the monetary policies of a large country have a spill-over effect on other countries. In today's international currency 'non-system' (as described by Rajan in one of his speeches), the medicines applied to the ailments of the international economy create more damage than the profit they generated home. The reactions to the QE's of developed countries were astutely described by *Raghuram Rajan* as Quantitative External Easing (QEE) (Rajan, 2014).

Thus, there is a money dilution race of sorts in the international market. Countries are using every instrument at their disposal to gain a share in international demand. The situation is slightly similar to the devaluation race of the 1930s, when countries were devaluating their currencies en masse to gain a momentary advantage in foreign trade. Due to the recent miserable experiences gained in the 1990s – represented by the drastic devaluating effect of hectically exiting and crisis-causing boiling capital –, emerging countries strive to generate export surplus above everything else, to accumulate sufficient reserves to repel international economic shocks. This contest certainly cannot be the objective of the monetary poli-

cy of developed countries primarily the US, as the deficit to Asian countries is already great. Yet this is exactly what their money creation practice is leading to.

If it could be achieved that central banks consider the external consequences and the potential impact on their own economies, then perhaps we could see somewhat more reasonable conduct around the world by the setters of monetary policy. (When the Fed announced that it would be willing to take slow steps towards normalisation and move away from unorthodox policies, capital movement again swiftly changed by the periphery – and not necessarily in the manner and in the direction envisaged by developed countries.)

MONEY CREATION AND GLOBALISATION

Let's take a look at the underlying causes of these phenomena. Why does money creation have such a substantial impact on the monetary policy of other countries? Why is the volume of hectic, sudden and exchange rate-shattering capital flows in the globalised world so high?

Essentially, there are two reasons. One is that (developed) countries have an immense amount of surplus capital, and the other is that this flows in the world economy much too freely (Lámfalussy, 2008).

Immense free capital has been accumulated in the world economy which is unable to find good opportunities in the real economy. As Raghuram Rajan put it, there is no abundance of savings, but rather a scarcity of investment. This surplus capital has been freely flowing globally in recent decades among the various economies, in essence driven by short-term profit incentives.

If there is so much free capital, then it is absolutely understandable that the traditional money creating mechanism, creating “a new world out of nothing”, such as we have seen

after World War II, has become wholly unnecessary. There is money, in various financial assets (albeit in derived form). Someone has it. The only thing left to do is find it and change it back into liquid assets.

In order to better understand the situation, we must also clarify why there is so much surplus “crystallised” money in the shape of financial assets. The older generation may recall Marxist teachings if I say that this is the result of exploitation. But we could also word this in the terms of civic economics. In the past quarter of a decade, the sharing ratios between wage and profit have clearly shifted in favour of profit (Stiglitz, 2013). If purchasing power is not expanded at the strata consuming consumption goods, sooner or later the money supply seeking investment will pile up as there is nothing to invest in. These monies (incomes) are looking for financial investments. This is why it is becoming an increasingly profitable business to manage and reinvest saved funds and the securities generated from these. It is a fact that in periods when income and asset differences are becoming increasingly great, realised profits and savings are unable to find direct investment or spending opportunities in the real economy. As such, they await potential real investment opportunities in the form of financial assets. And until then they keep circulating.

In respect of money creation, what we are most interested in is how the close relationship of the two sectors, money market and capital market institutions, became so close and institutionalised, and how this gave a boost to the increase in money supply (liquidity).

What actually has been happening recently on the securities market?

By offering favourable yields and thus drawing money out of traditional forms of savings, the new forms of investments have re-channelled money to bank institutions and made it liquid. Banks were again able to

provide fresh loans as the loan portfolio sold pumped fresh funds into the banking system. As a consequence of the relationship established with the capital market, the lending opportunities of banks have expanded. This is why the modern theory of money – as referred to earlier – states that it is not the quantity of money created, but rather so-called liquidity that has interrelation with the changing of real economy (O. Issing, 2007; Ács A. 2014; Botos, 2015). (In this case, we are examining liquidity in the meaning of an amount of money.) The concept of liquidity – as we have seen, beyond traditional money supplies – also comprises the volume of financial assets that can be easily and swiftly liquidated (Issing, 2007; Botos, 2015). If a real economy business opportunity arises, “frozen” money swiftly comes to life, takes on the function needed and becomes a means of payment. The same is true for loans secured by collateral.

Collateral may be things other than goods or real estate. It may also be a financial investment or property receivables. Value is represented by bonds, treasury bills, and other tradable securities. People have derived funds in the above which, if needed, may be reconverted into money, means of payment, through the banking loan mechanism. In the case of mortgage collateral, long-term use value or asset represents a specific value, which is reactivated into circulation, into goods once the collateral is liquidated. As, however, this has already been converted from money to product, it is impossible to know what it is worth. This is only revealed upon sale. This is why the nominal mortgage collateral requested by banks is higher than the actual worth of the loan. For the potential sale to securely cover the debt.

Banks granted the real estate and housing loans, then went on to securitise and sell them. There was no need to wait a long-time for the return on long-term loans, they could recruit

new customers immediately as the given bank had sufficient liquid assets. The economy grew swiftly on account of the driving force of the construction industry. As we have seen, the policy of cheap money launched a lending “boom” that drove up real estate prices. (This, however, was not viewed as inflation and as such, fiscal policy did not react either, because real estate prices and asset prices are not included in the consumer basket.) As it is well known, as a result of complex financial innovations, securitisation techniques and the irresponsible conduct by credit rating agencies, a massive real estate bubble was formed by 2007. This artificially “inflated” economy collapsed suddenly when it turned out that many borrowers are unable to repay their debts. The US government also developed bailout packages. The Fed intervened with asset purchases and the provision of funds. All this for financial firms that do not necessarily have a spill-over effect on the economy. (If investment institutions do not deal with conducting payment transactions, the domino effect does not spill over. The real danger is in the destabilisation of institutions that conduct payment transactions, namely commercial banks. These actually should be protected.)⁴ It is a fact that during the most recent crisis, the Fed moved mountains in order to save not just banks, but investment institutions and the entire financial sector in general. Wall Street is perhaps even more important than Main Street...

As a result of these processes, the financial sector boasts an increasingly large share of GDP. An increasing number of people are dealing with managing and trading financial instruments, and these institutions take increasingly substantial revenues from the value generated. This phenomenon is called financialisation.

The domination of the economy by the financial sector is a process examined by many (Orhangazi, 2008; Belyácz, 2014; Botos, 2014). Numerous authors have also recently

illustrated the increased concentration of assets (Piketty, 2015).

We should not soothe ourselves with the fact that large capitals on a global scale are far from unnecessary, as many regions of the world economy (would) require capital for development. We should also consider the segmentation of the world’s financial system. In other words, the fact that a loan taken out in a given currency must be repaid in the same currency. Also, that the volume of loan demand, as a result of which the foreign currency needed for repayment is created, is not without its limits. Even if the loan – in domestic currency – generates a return. (As János Száz put it, money has a temporal dimension. We might add that on account of the differences in currency issuers, currencies also have a spatial dimension.)

There has been a considerable body of literature after the crisis on the notion that it is not expedient to finance growth in certain economies from external loan funds – i.e. currencies issued by others (Rajan, for instance, is of this opinion. Eichengreen went as far as calling the use of foreign currency loans to finance economic growth an “original sin”; Eichengreen – Hausmann – Panizza, 2005) If foreign funds are primarily used to finance investments that produce for domestic needs, the question arises: at what price (exchange rate) will there be money for repayment in the given economy? In the case of utilisation with a consumption purpose, repayment is especially doubtful, as in this case there is no connection between value creation and the loan. The currency crises of recent decades primarily involved such loan arrangements (see real estate investments).

CLOSING THOUGHTS

Let us recap, as a summary of sorts, the train of thought of the study.

We established that money creation is not carried out using funds, but is rather based on the money creation privilege afforded to banks. According to the rules established, loans are not created against deposits; rather the contrary, the deposits are created from loans.

In the modern banking system, commercial banks create money using the mechanism of loans. However, only central banks can create cash. When customers wish to withdraw banknotes or if balances need to be settled in interbank clearings, banks require central bank money. (They also need this when they need to meet their reserve requirements. With the dropping of the base rate, however, this requirement is less and less significant.) There is a relationship between the money creation of banks and that of central banks, but the first step is taken by commercial banks and not the other way around; in other words, it is not the central bank that determines the quantity of money to be created. With a view to economic stability, central bank regulation attempts to limit money creation, by means of banking supervision regulations, the base rate and measures related to securities. (The role of the reserve rate has been suppressed.) The enormous quantity of financial assets, however, could become part of liquidity, transforming back into means of payment through money creation by banks. The reason why there are so many financial instruments is the increasing concentration of incomes in the hands of capital owners. This leads to increasing financialisation, and the dominant weight of the financial sector within the economy.

After 2008, the financial crisis rewrote a number of earlier rules. Drastic base rate cuts were also part of the “helicopter money” theory. As this was insufficient to increase lending, and as such money supply as well, central banks turned to other unorthodox instruments. In addition to government securities,

they also monetised other financial instruments. In fact, they also purchased corporate securities. This debunked the thesis that, in theory, the central bank have a relationship with the real sector.

As well reflected by its activity, the Fed did everything in its power to save the securities market segment. It subordinated its quantitative easing policy to this. The doctoring of internal problems, however, has international impact. The spill-over effect of this increased money supply resulted in a quantitative external easing of sorts, in other words, a dilution of money in other countries, in order to preserve the rate (undervaluation) of their currency. As a result, they stockpiled dollars, the backflow of which could neutralise money supply-regulating efforts in the issuing country (especially the US). For this reason, it would be expedient for key currency issuers to take the international impacts of their actions into consideration. For the sake of others, and ultimately their own as well.

This makes it absolutely clear that the theoretical clarification of the issue of money creation is a mammoth task we are facing. The solution requires the in-depth analysis of real economy, and a rethinking of income generation and distribution conditions and the socio-economic order.

The current financial crisis obviously cannot be resolved with purely monetary instruments. The review of fiscal policy is also needed. It is clear that without appropriate solvent demand, capital cannot find buyers for its products, therefore, the mechanisms of income sharing must also be reconsidered. Lending, as an incentive made possible by mere money creation, is not enough to help the economy grow. Money is an essential, but in itself insufficient prerequisite of the process. As the saying goes, you can lead a horse to water, but you can't make it drink.

NOTES

- ¹ The US is driving processes in the increasingly integrated world economy. That is why I keep referring often to the American example. Considering that in the European context the ECB has a similar function, I also make occasional references to the European system.
- ² This was the so-called “Greenspan put”, “the big invention” during his three decades of presidency. In order for dollar interest rates, which have been kept low, to ensure uniform, 2 per cent economic growth.
- ³ Renmibi is the American specialist term for the Chinese yuan.

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