The “Mystery” of Banking, Money Supply and Deficit Spending from an European Perspective

Immo H. Wernicke
Statistician, German Government, Berlin, Germany
wernicke-consult@gmx.de

Abstract

This paper is to contribute to the controversial political and academic debate on the “Mystery” of banking, deficit spending and money supply and its impact on the economy after the financial crisis from the European perspective. First, the mechanism of the creation of money is discussed. Second, the quantitative easing policy of the European Central Bank (ECB) and the role of the ECB and the commercial banks as main drivers of the expansion of money supply are discussed. Third, the impact of public deficit spending and money supply on the real economy and on the distribution of wealth and income between private households and between the traditional companies and the new digital platform are discussed. One of the findings of this research is that more transparency on the operations of the ECB and the governments at financial markets and transparency on the accuracy of official data on money and growth are needed for academics, politicians, and the media. Another key research findings is that Internet and digitization are supporting global financial transactions in real time. However, these transactions also allow “hidden money” and untaxed income and property that are not being covered by official statistical data on growth and assets. Thus, doubts are to be expressed on the official publications on financial relations, accounting and economic growth due to the lack of transparency and accuracy.

Key words: Creation of Money, Quantitative Easing Policy, European Central Bank, Commercial Banks, Digital Platform Companies

Introduction

After the financial crisis in 2007/2008, the public debt crisis followed in 2011. Politicians became aware of the destabilizing uncontrolled creation of money and credit by the banking system and the impact of private and public deficit spending on the economy. To overcome the crisis, new regulations and institutions have been set up. Poor performing banks and private companies received governmental financial support. New regulations have been set up in the Euro Zone. Meanwhile, politicians and central bankers are hopeful to have stabilized the finance system and to have achieved more growth of the real economy. However, many academics are still criticizing the ongoing expansion of money supply as being excessive and as a destabilizing threat on the performance of the real economy. A distortion of the legal frame of market economy and political tensions by increasing disparities of income and wealth are being feared, too.

In Europe controversial political debates are focusing on the European Central Bank (ECB) policy and on the dimension of financial support for Greece, Spain and Portugal. The ECB cooperating with the National banks of the Euro-Zone and by the commercial banks continues its Quantitative Easing Policy for the benefit of public authorities and of poor performing banks. Private companies and private households hesitate to invest, but politicians and central bankers are hopeful to succeed in stabilizing the finance system by adequate financial regulations, to overcome the challenges of the crisis, to prevent future crisis and to achieve economic growth.

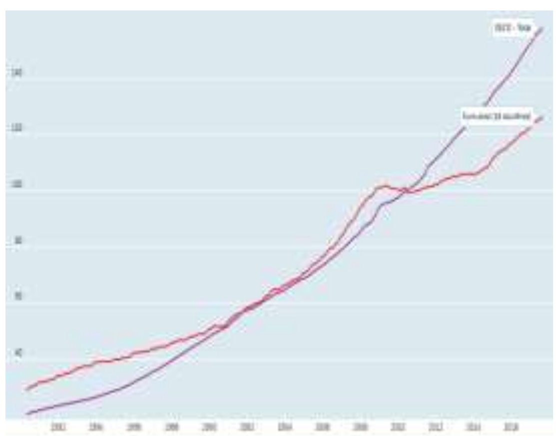
The Mechanism of the Creation of Money

For analyzing the arguments of an "excessive" supply of money and its assumed negative impact on the real economy the mechanisms of creating money at least for Europe is to be discussed. With reference to the Austrian School founders like von Mises and Hayek, Rothbard, M. (1983, 2008) has criticized decades ago the expansionary banking, finance and monetary systems and the malfunction of governments fiat money. Rothbard focuses on the narrow definition of money as hard currency "Money is the uniquely liquid asset because money is the final payment, the medium of exchange used in virtually all transactions to purchase goods or services."
However, the mainstream of economists, the ECB, the National Banks worldwide and the Organisation for Economic Co-operation and Development (OECD) (2017) agree to the convention of the broad definition of money, "Broad money (M 3) includes currency, deposits with an agreed maturity of up to two years, deposits redeemable at notice of up to three months and repurchase agreements, money market fund shares/units and debt securities up to two years." The total amount of money M 3 is thus being measured and aggregated as a stock or asset in the balances of non financial and financial institutions and as a liability in the ECB balance. Former US Fed Director Greenspan (2008) explains "M 3 is arcane measure of money supply embraced by followers of Milton Friedman." p 282. M 3 is also used to analyze the impact of money supply on the real economy.

The EU Commission and the ECB are monitoring the growth of GDP and the expansion of money M3 as reference indicators of their policies. The OECD (2016) measures M3 "as a seasonally adjusted index based on 2010=100." Official reports indicate a huge expansion of the total amount of money M 3 in the Euro Zone and worldwide, controversial debates are on causes and consequences of money M 3 expansion (Figure 1, Figure 2). In its yearly report 2016, the ECB points out „In 2016 broad money growth remained broadly stable, although M3 dynamics weakened somewhat in the second half of 2016. In December 2016 annual M3 growth stood at 5.0%, compared with 4.7% at the end of 2015".

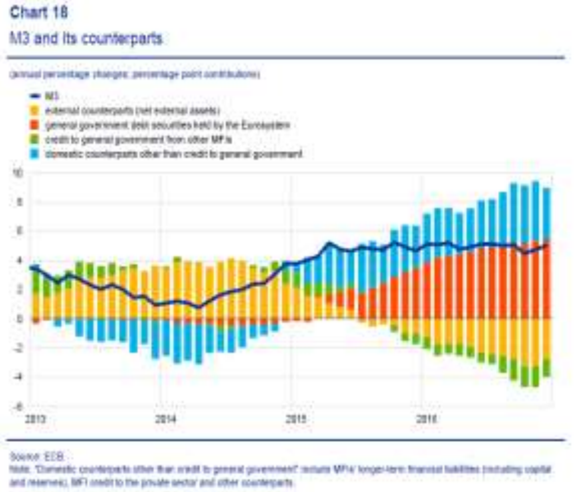
Figure 1: Development of M 3 in the Euro Zone

Index 2010 = 100



Source: OECD Data retrieved from OECD (2017)

Figure 2: Components of ECB Money Supply



Source: European Central Bank Report 2016

The Bank of England puts some light into the "mystery of banking" and provides an explanation of the modern mechanism of the creation of money: "In the modern economy, most money takes the form of bank deposits" which are created "through commercial banks making loans". In addition "Whenever a bank makes a loan, it simultaneously creates a matching deposit in the borrower's bank account, thereby creating new money." In the Euro Zone the commercial banks have to bid for short-term repo contracts with the ECB "The banks in effect borrow cash and must pay it back; the short durations allow interest rates to be adjusted continually. When the repo notes come due the participating banks bid again. An increase in the quantity of notes offered at auction allows an increase in liquidity in the economy." The Bank of England concludes, that any "restrictions on the creation of money or deposits for households and companies are only made by the monetary policy of the central banks. The creation of money does not depend on savings of private households," as it is assumed by the classical economic theory.

The Quantitative Easing Policy of the ECB and the ECB Mandate

Asset purchase programs of the ECB

The statistically approved expansion of money M 3 (Figures 1+2) is being driven by negative interest rates and the asset purchase programs (APP) of the ECB at the secondary financial markets. The APP of the **ECB** (2016) is set up by „four sub-programmes: the public sector purchase programme (PSPP), the asset-backed securities purchase programme (ABSPP), the third covered bond purchase programme (CBPP3) and the corporate sector purchase programme (CSPP)." The European Central Bank (2016) has spent €60 billion per month on average from January to March 2016 and €80 billion per month for the rest of the year (Figure 2). The Governing Council of the ECB (2017) has also decided "interest rates on the marginal lending facility and the deposit facility will remain unchanged at 0.00%, 0.25% and -0.40%" and to "extend the horizon of its net asset purchases .... until the end of December 2017, or beyond, if necessary."

Politicians and academics are debating controversially about the monetary operations of the **ECB** and its mandate passed by the EU in the Lisbon Treaty (2007). The **ECB**'s **Quantitative Easing Policy** is also being criticized by the German Economic Advisers to the Government (2014, 2017) in their yearly reports. They argue that the extraordinary expansion of money combined with negative interest rates encourages inefficient and short termed business and investment and leads to an unproductive allocation of resources in Germany and Europe, may be worldwide, too.

Though the President of the ECB Draghi, M. (2016) refuses any critics on his monetary policy, he has to admit "the ECB's non-standard measures, especially its asset purchase programme (APP), were additional important drivers of monetary developments in the euro area." The ECB-President refers to the mandate of the ECB and argues that "the quantitative easing policy of the ECB is to encourage investment in the economies of the EU member states". He also states "the creation of that gigantic amount of new money is needed urgently for stabilizing the finance system in the Euro zone."

In line with its statute, the Euroean Central Bank is the central bank for the common currency the Euro. The ECB administers monetary policy of the Euro zone, consisting of 19 EU member states and being one of the largest currency areas in the world. Article 2 of the Statute of the ECB, demands to maintain price stability within the Euro zone, and Article 3 of the Statute, demands to implement the monetary policy for the Euro zone, to conduct foreign exchange operations, and to take care of the foreign reserves of the European System of Central Banks. The ECB is as well charged with the operation of the financial market infrastructure under the Trans-European Automated Real-time Gross Settlement Express Transfer System 2 (TARGET 2) payments system. Finally, the ECB has the exclusive right to authorize the issuance of euro banknotes (Article 16 Statute of the ECB, Lisbon Treaty 2007).

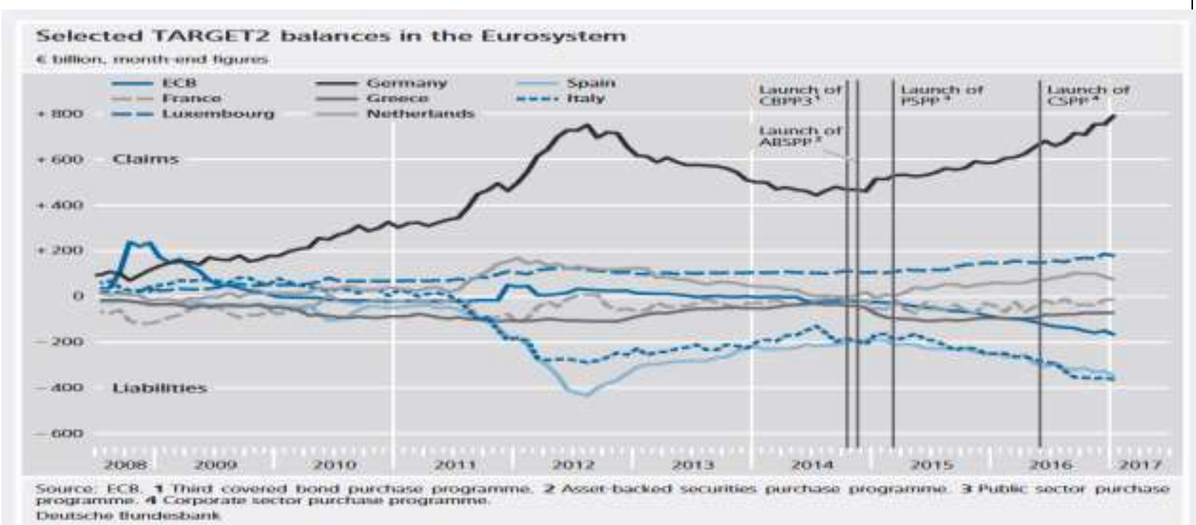
The "Mystery" of the ECB policy and the TARGET2 Clearing System of the Euro Zone

The **ECB** President Draghi (2016) still defends his position. The ECB has a clear mandate for its actions: to maintain price stability", which is secured by an inflation rate of about 2% per year. He underlines in his report in April 2017 "Political uncertainty is likely to persist into 2017. But we remain confident that the economic recovery, buoyed by our monetary policy, will continue.

Sinn, W. (2017), the former President of the ifo-economic research institute, is concerned with the development of TARGET2 (Trans-European Automated Real-time Gross Settlement Express Transfer System 2), the official clearing system in the Euro Zone (Figure 3). Rothbard's "mystery of banking" is being confirmed by the lack of transparency of the Target 2 System. The system as it is explained by the German National Bank is being set up by the cumulated claims and liabilities between the National Banks of the Euro Zone and the ECB. The cumulated results indicate an increasing disparity of claims and liabilities between the National Banks in the Euro Zone. The National Banks of Germany € +742bn, Luxemburg € +162bn and the Netherlands € +111bn have expanded their claims position, whereas Greece € -72bn, Italy €-363bn and Spain € -333bn are expanding their debt position. The indicated differences between the member states of the Euro Zone are mainly due to the German trade balance surplus and the trade deficits of Greece and Spain for several years. The importing countries are neglecting to enhance their national production for improving GDP and employment especially of the younger workforce. Thus, Sinn fears that the German National Bank might be enforced to write down most of these cumulated claims, if debtors like the Government of Greece will fail to reimburse their liabilities at present hold by the ECB.

In line with the German Economic Advisers, the President of the German National Bank (2012), Weidmann, J., opposes to fix negative interest rates and to bail outs of the ECB to rescue banks and governments. He has urged "that the work of central banks be brought back to the traditional field of monetary policy and that a clear distance to fiscal policy measures be maintained." After reviewing the ECB policy the German Constitutional Court (2017) requested "the Court of Justice of the European Union for a preliminary ruling," as "significant reasons indicate that the ECB decisions governing the asset purchase programme violate the prohibition of monetary financing and exceed the monetary policy mandate of the European Central Bank." In principle, the ECB mandate does not allow the ECB to finance public households by bail outs, whereas the US Fed is mandated to buy US-Sovereign Bonds.

Figure 3: TARGET 2 Balances of Euro Zone



Source: German National Bank Monthly Report 03, 2017 Frankfurt/M, p. 30

Increase of Asset Prices

Critics are expressed as well on the "narrow" definition of price stability in the ECB mandate, as it covers only the development of consumer prices, whereas asset prices, such as prices of bonds, shares, homes and real estate or other property are not included in the ECB mandate. Research institutes point on the faster expansion of property of private households in the Euro Zone and in Germany than of the consumer price index. (Figure 4) Credit experts at the True-Sales-International-Congress (2017) in Berlin discussed on the effectiveness of the Monetary Policy of the ECB and the impact of negative interest rates. They argue that investment decisions of S+M companies do not depend on low interest rates, but on the expectation of an adequate return on investment.

The Bank of England evaluates the monetary situation in Europe "as exceptional circumstances, when interest rates are at their effective lower bound, money creation and spending in the economy may still be too low to be consistent with the central bank's monetary policy objectives." In general the Bank of England does not seem to disagree to the monetary policy of the ECB, it has instead to fear a further weakening of the British Pound by the BREXIT-decision.

Commercial Banks as crucial drivers of excessive money supply

Systemic failure of commercial banks and their business models ignoring the real economy

Up to the finance crisis 2008 and based on the Post-Keynes-Theory of deficit spending most politicians, National Banks and the ECB tolerated an uncontrolled credit and money M 3 expansion driven by commercial banks. To overcome the still unsolved systemic crisis in the banking and finance sector the IMF (2009) requested from the commercial banks an assessment of their balances and to devaluate their overvalued claims on derivatives. The IMF estimated the necessary write downs at banks of about US-$1.5trillion worldwide, also European banks are demanded to correct their inadequate balances by write downs of overvalued assets. However, more reforms in the banking sector are still needed. In its Financial Stability Report the IMF (2016) points out "Over 25 percent of banks in advanced economies (about $11.7 trillion in assets) would remain weak and face significant structural challenges. More deep-rooted reforms and systemic management are needed, especially for European banks."

The Bank for International Settlements in Switzerland demands to speed up the implementation of the new regulations named Basel III and Basel IV by recapitalizing the balances and by building up more reserves against risks. Evidently, traditional monetary instruments such as the holding of adequate minimum reserves by commercial banks at Central Banks have been neglected for long. Decades ago Milton Friedman recommended minimum reserves of about 20% to reduce business risks of banks.

Experts of Ernest & Young (2016) demand from the Bank management to better identify, calculate and prevent risks. In their new Bank Risk Survey (2016) they focus on future risks. Banks have made considerable strides in terms of risk management enhancements since the crisis. However, regulations are still changing and industry approaches on emerging or evolving areas such as non-financial risks and increased IT security threats are still maturing. Bankers should also be aware of a long road ahead for banks. Finding a sustainable risk management operating model that will be flexible through this current market environment will be essential to success. The business models of the commercial banks and private financial institutions are far from the business development of their counterparts of the real economy. The "mysterious" discrepancy between the expansion of money and credit and the rather poor performance of the real economy can be approved by data of planned and expected profits of commercial banks of about 20% per year before the financial crisis whereas industrial sectors reach only about 2% per year in Europe.

Excessive Credit financing and huge public deficits distort investment in innovations

Increasing public deficits and public debt

Market oriented academics and politicians are also criticizing for long huge public deficits and the increase of public debt as destabilizing threats on the real economy (Figure 5). Public debt and deficits have been identified as crucial drivers of the expansion of money supply worldwide, too. Decades ago Friedman (1966) object to the almost unlimited expansion of public credit financing and budget deficits enabled by the Central Banks that are buying sovereign bonds. Strange, S. (1986/1997) and Sinn, W. (2003) call it Casino Capitalism. Former FED Director Allan Greenspan (2008) seems to defend the expansionary monetary policy of Central Banks in general "in a market economy rising debt goes hand in hand with progress," and he adds "debt will almost always rise relative to incomes so long as we have an increasing productivity and a consequent rise in both sets and liabilities as a percentage of income," (pp. 346-347).

Figure 4: Development of the Property Price Index

Sample Private Households in Germany 2005 – 2017

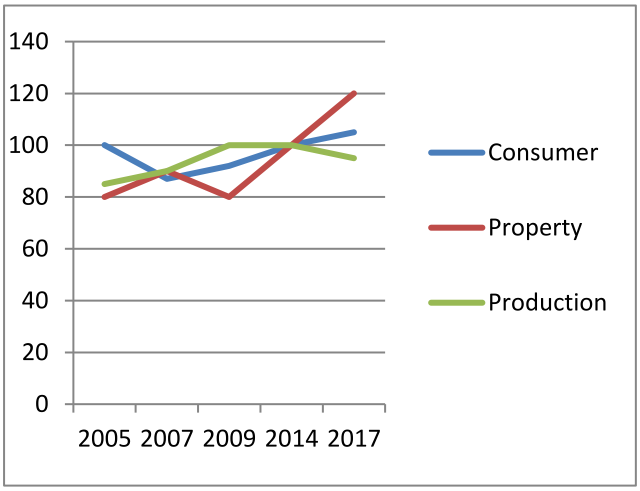
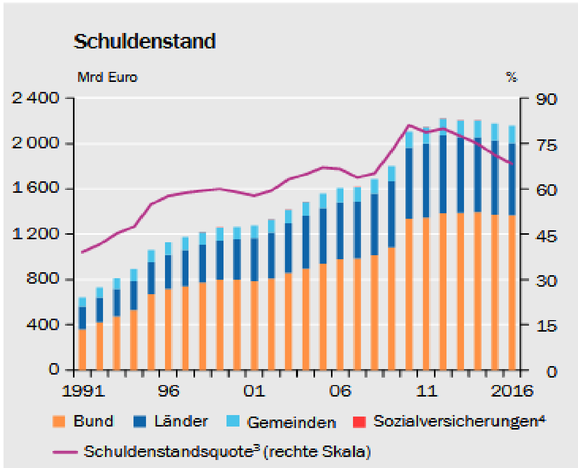


Figure 5: Public Debt in Germany 1991-2016

Bn Euro %



Line: Public Debt per GDP %
Bars: National-State-Municipal Debt

Source: Report of the German Economic Advisers to the Government 2017/18

Public deficits are financed on national and regional levels by governmental bonds and loans emitted to financial markets by public tenders. The sovereign bonds are preferred as they benefit from regulations excluding any risk, the papers get normally purchased by insurance companies, pension funds, investment and commercial banks and also private households. Companies store sovereign bonds as liquidity reserves. Sovereign bonds compete with private business demanding credit. Government spending by credits is normally restricted to the financing of public procurement in the case of a recession or as investment into infrastructure, as far as a return on public investment to the national economy is to be expected. Instead, gigantic government expenditures are planned for the benefit of social transfers and for public and private consumption, public investment is only poor.

The German Economic Advisers are discussing in their report the increase of asset prices, such as prices of real estate, housing, bonds and shares. The advisers request from the ECB to finalize the asset purchase programs soon. The ECB is demanded to adapt the monetary policy to the increase of consumer price and the GDP growth rates in Europe and worldwide. They also request to restructure the institutional and regulatory frame of the financial markets such as the Banking Union and the Capital

Market Union in the EU is to overcome the present regulatory complexity and to provide more transparency. The new legal frame of the EU to regulate the European finance system is evaluated as being too complex, not transparent enough and hardly to implement. Rothbard's critics on the "Mystery of Banking" seem to get confirmed.

International organizations indicate a long term increasing of public deficits that are accompanied by deficits of companies and households worldwide. Experts fear the upcoming of a new global financial crisis by the expansion of money M 3 driven by public and private deficits. The Institute of International Finance (IIF, 2017) demands to become more aware of threats of the money policy of Central Banks and by the ongoing increase of total debt across all sectors, including government, private households and commercial entities. The IIF has calculated the total amount of debt which has reached 216 trillion US $ in the first half year of 2016. Total global debt has surpassed global GDP by more than 300% worldwide and by about 400% in OECD countries. During 2017 private and public debt have again reached new "records" also in Europe. The IIF-experts criticize the tendency to use of fresh money and new credits by the larger commercial units for buying shares of competing enterprises and for financing takeovers, instead of innovations.

The **ECB** (2016) optimistically points on achievements in the Fiscal Policy of the member states and on achieved structural reforms in the Euro zone "the euro area fiscal deficit continued to decline in 2016, mainly driven by lower interest payments and a favorable cyclical position, while the euro area fiscal stance was expansionary. The euro area public debt ratio continued to fall." Meanwhile, "the euro area general government fiscal deficit declined from 2.1% of GDP in 2015 to 1.8% of GDP in 2016". The ECB has also to admit "However, in a number of countries the debt level remains high, which calls for further fiscal efforts and a more growth-friendly fiscal policy to set public debt ratios firmly on a downward path."

The threat of public debt and the lack of public reserves are revealed by the poor state of the infrastructure in Europe including Germany. Traffic and logistics system, education and training system, energy and utilities, IT and Telecom network, public buildings, military capacity and cyber security, urgently need public large investment expenditures. Meanwhile infrastructure is on the agendas of the EU Commission and the German Government and of the new President of the USA, D. Trump, too.

Impact of money supply and public expenditures on GDP growth

Poor state of infrastructure distorts economic growth

Since the financial crisis discussions continue on the impact of the ongoing extraordinary expansion of money by National Banks worldwide, the ECB and the European commercial banks on the "real economy" in the Euro Zone. Stiglitz (2009) and other authors of Le Monde Diplomatique (2009) demand from politicians immediate reforms of the capital and financial markets by stronger regulations to improve the legal framework of the real economy. Güvenen and Koyuncugil (2013) fear an increasing dysfunction of the Price and the Accounts System and the creation of "Bubble Economies" instead of economic growth.

The German Government (November, 2016) is making use of low interest rates and increased income from taxes. It has launched an investment program of about €270 bn to modernize, repair and reconstruct the German road, rail and traffic system until 2030, preconditions of economic growth. The restructuring of the traffic system has become also part of the European security policy to enable NATO missions and exercises with heavy equipment in Germany and Europe. The program is covering 15 years and will be implemented by public tendering and procurement addressed to the construction industries. Also Public-

Private-Partnership-Programs are being addressed to private finance investors like insurance companies and hedge funds. The government is expecting a huge leverage effect by private co-investment (True-Sales-International-Congress, TSI, 2017).
On European level the EU Commission President Claude Juncker (2015) and the European Investment Bank (EIB, 2015) are closely cooperating with all EU members and focus their plans on "the areas of infrastructure, notably broadband and energy networks, …, transport infrastructure in industrial centers," too. The Juncker Plan intends also to encourage "education, research and innovation; and renewable energy and energy efficiency," and to increase employment in the EU and to overcome youth unemployment (Spain, Greece).

Accurate Official Data on Growth and Wealth in the Euro Zone

Up to date, significant GDP growth rates for Germany and Europe are indicated in the yearly economic reports of the European Commission (2017), the German Ministry of Economic Affairs (2017). The Report 2017/2018 of the Economic Advisers to the German Government confirm these growth rates (Figure 6). The results seem to approve the meanwhile achieved economic success of the German and the EU investment plans to modernize infrastructure and to encourage S+M companies to invest in renewable energies, technical innovations, IT and digitalization of production, products and logistics chains across all sectors. The German economy seems to have already reached its production capacity and to have closed the former production gap.
However, the bias of official data and the implicit "bubbles" by missing data, false information and the overvaluations of assets is not made transparent. The inaccuracy of official reports, growth data and wealth balances (DESTATIS, 2017), that consist of inflated assets and that are mixing real assets with money and financial claims, became also confirmed by the Panama and the Paradise Papers published by The Guardian (2016/2017) and by the impact of the "shadow economy."

Figure 6: Development of GDP-Growth in the Eurozone

Bars: Change of GDP against previous 3 months in % (right)

Line: Index 2010 = 100 (left)

Forecast period: end of 2017-early 2018

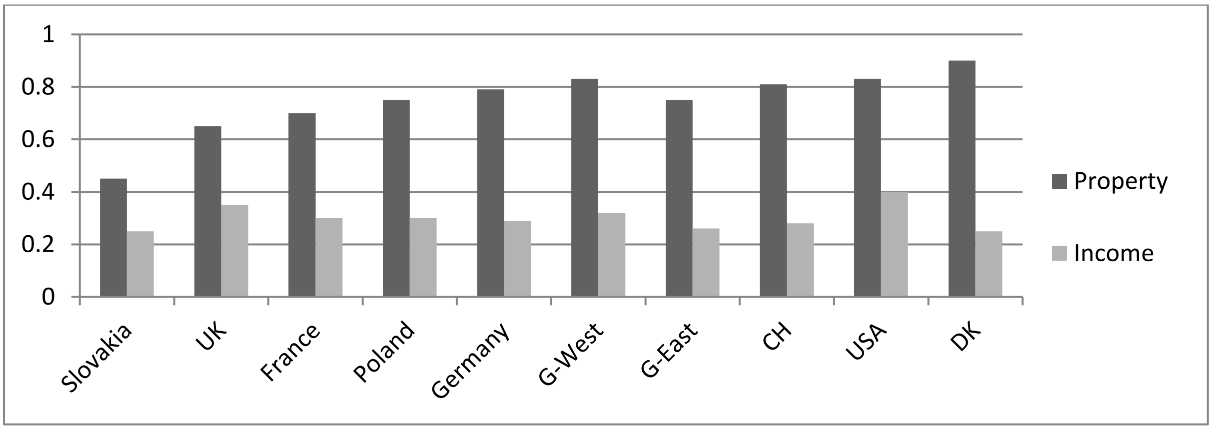
Source: Report of the German Economic Advisers to the Government 2017/18
screenshots.firefox.com/uNuWpYOSwl8NUnuY/www.sachverstaendigenrat-wirtschaft.de

The impact of the Money Policy and Credit Financing on Income and Wealth Distribution

Political and academic discussions are controversial on the impact of the easing money policy and public credit financing on an assumed or approved increase of inequality between income and wealth distribution of private households. In their Economic Report 2014 the German Economic Advisers are admitting an increase of income and wealth differences in Germany during the last decade, they refer to the results of GINI-coefficient-calculation of property data of surveyed private households in Germany. Also the results of the investigations of the Credit Suisse Research Institute (2013) seem to approve an increasing inequality of wealth and property distribution at private households. In 2014 the French economist Piketty (2014) published his historical investigations. Piketty and his team of academics have collected and analyzed many historical data on property and income at archives of municipalities in France. The results seem to confirm a long term faster growth of income of capital owners compared to a slower growth of income of wage earners or employees. The investigations seem to reveal an increasing disparity between wealthy and less wealthy private households, too.

The OECD (2014) has edited international comparisons of GINI-coefficients by private household data. The results indicate significant inequalities of the distribution of private household property in Germany, Switzerland, the USA and Denmark. (Figure 7) Also Fabrice M. F. and d'Ercole, M. (OECD, 2015) confirm the imbalances of income and wealth at private households in OECD countries being due to the ongoing increase of money supply. They conclude "the increase in the price of shares and housing relative to consumer goods has been one of the main drivers of higher household wealth, while the real appreciation of shares prices has also increased wealth concentration." The OECD-experts add "wealth inequality is much larger than income inequality due to financial assets that are very unequally distributed and mainly accrue to top income and top wealth households."

Figure 7: GINI-Coefficients for Property and Income of Private Households 2014



Source: Diagram drafted from OECD-Data ed. by Council of economic Advisers to the Government Report 2014/15, Wiesbaden 2014.

However, the bankers of the German National Bank (2016) have doubts on the conclusions of the findings of those studies, as far as the indicated unequal distribution should be driven by the ECB policy "Against the backdrop of existing studies…, it appears very doubtful, to put it mildly, that the expansionary non-standard monetary policy measures in recent years have caused inequality to increase overall."

At present the German Government (2017) can point on the increase of employment, reaching an all time high, on the improved income positions of all employees and on the very low inflation rates during the last few years. They also state that the purchasing power of small budget consumer households in Germany have increased, too. Germanys GDP might increase by about 1.8 percent in 2017.
The ECB (2016) admits growing disparities between poor and richer private households. The ECB has interviewed in its Household Finance and Consumption Survey more than 80.000 households, "Euro area households that hold financial assets, such as stocks and bonds, are strongly concentrated at the top end of the net wealth distribution," … "only a fairly small subset of the population benefits from capital gains in equity and bond markets…". Disparities of income and property is also an issue of the security policy of the NATO (2017), as experts fear the increase of political tensions.

The ECB Policy and the Resettling of the Portfolios of Investment Funds and Insurances by Shares of Digital Platforms

The ongoing debate on the distribution of wealth and income is focusing on private households and thus neglects the impact of the monetary policy on the distribution of property and profit between companies and also between economic sectors, an aspect Pascale (2017) has pointed out at the International Conference on Digital Capitalism in Berlin in November 2017. The ECB is buying government bonds and obligations which are hold by hedge funds, investment funds, pension funds and insurance companies, the bond sellers can easily resettle their portfolios by substituting sovereign bonds against real estate property and much more profitable papers of digital platforms, thus boosting the values of shares of digital platform-companies, like Google, Amazon, Face book, Microsoft, Netflix, Booking.com et al. These digital companies are new challenges for the traditional industries producing cars, machinery, equipment, buildings, and energy. The digital platforms are operating globally, are much faster and more mobile, they are also oriented at short termed business profits. The platform-companies make use of very low costs of capital, facilities and equipment. Credit taking shareholders can make use of low interest rates and appreciate the extraordinary fast evaluation of the platform shares. Many new start-ups in Europe try to “copy” the business concepts of the new digital platforms in the USA.

Traditional industries in Europe and in Germany, like Volkswagen, Mercedes, Thyssen-Krupp and Siemens, have to report on much smaller growth rates of turnover, profits and asset values to their shareholders than the digital platform-competitors as newcomers. Politicians, managers and shareholders of traditional industrial companies fear the establishing of a new type of monopoly that is controlling gigantic masses of data provided by all users of their internet services. Srniceck criticizes in The Guardian(2017) the danger of the “digital platform monopolies of the 21th century” which cannot be compared to monopolies of the 19^{th} and 20^{th} century. He points out “As a result, we have witnessed the rise of increasingly formidable platform monopolies. Google, Face book and Amazon are the most important in the west. China has its own tech ecosystem. Google controls search, Face book rules social media, and Amazon leads in e-commerce. And they are now exerting their power over non-platform companies.” However, this article is neglecting that the management of the traditional industries in Europe is aware of the threats and the opportunities of digitization. Future debates will be on the function of Bit coins as money or barter and new threats on the economy. Many S+M companies are meanwhile implementing the German Industrie 4.0 concept to modernize and innovate industrial production by additive manufacturing and robotics. The S+M companies are also planning to set up own digital platforms, digital cooperation networks, and Big Data Clouds for the whole supply chain supported by public infrastructure programs.

Conclusion

The paper discussed the complexity and poor transparency of the monetary system and the Euro System and elaborated on the controversial debates on the Easing Quantitative Policy of the ECB. The impact of money expansion on the economy and on income and wealth distribution was discussed, too. Though gigantic data masses are available much more transparency on the operations of the ECB and the governments at financial markets and transparency on the accuracy of official data on money and growth are needed for academics, politicians, and the media. More research on these issues is recommended. The publication of the Panama Papers and the Paradise Papers by The Guardian (2016/17) seem to have confirmed Rothbards “Mystery of Banking” and Morgensterns poor accuracy of economic data. Internet and digitization are supporting global financial transactions in real time. However, these transactions also allow “hidden money” and untaxed income and property that are not being covered by official statistical data on growth and assets. Thus, doubts are to be expressed on the official publications on financial relations, accounting and economic growth due to the lack of transparency and accuracy. Future research is needed on the impact of money and credit policy, on the development of internet platforms and on the future function of Bit Coins as digital money or as barter.

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