

WEA Commentaries*

A publication of the World Economics Association.
To *plurality*. The Association will encourage the free exploration of economic reality from any perspective that adds to the sum of our understanding. To this end it advocates plurality of thought, method and philosophy.

* Formerly the World Economics Association Newsletter

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Everyone can create money

By [Merijn Knibbe](#)

"Everyone can create money; the problem is to get it accepted"

Hyman Minsky

Summary. Central banks the world over publish sophisticated Flow of Funds data which shows who and how and, to an extent, why all kinds of money are created and used and if stocks and flows of debt and money are becoming a threat to stability. Institutional analysis of these data, which looks at different kinds of credit as well as at different kinds of money and using a grid which enables the economist to distinguish between different kinds of economic sectors shows that they can be used to gauge the (in)stability of an economy. Macro-economists have too often however only looked at crude aggregates of total money or even purged money from their models while analysis of credit is, in 2017, still wanting as the connection between all kinds of money and all kinds of credit is still absent from the models, even if a monetary sector is increasingly added to these models.

This piece benefitted from helpful remarks by Josh Mason and Diane Coyle.

1. Introduction: the measurement of monies

Money is measured by statisticians working at central banks. Or rather, some kinds of money are recorded by these statisticians. Others aren't. Stamps can be a work of art (picture 1, super model [Doutzen Kroes](#) photographed by super photographer Anton '[Joshua tree](#)' Corbijn).¹

But stamps are not only tokens of art. They are money, too. Even when we use the restricted functional definition of money which can be found in most textbooks, which defines money as a store of value, a means of exchange and a unit of account, it is clear that stamps are money – including, nowadays, their own unit of account. But the question why it's a means of exchange etc. is of course more interesting: we trust 'the post' to deliver our letters (dwindling market) and packages (increasing market). And to honor this implicit contract. And rightly so. Dutch stamps have for some years been their own unit of account but I can still use my Euro dominated ones which occasionally surface from the occasional drawer.

Stamps are not the only kind of private, market based money (though I have to add that property rights and contracts are designed and guaranteed by the government). Commercial credits are another and quantitatively much more important kind. The balance sheet of Shell alone listed, for [the first quarter of 2017](#), 'trade and other receivables' of \$44 billion and 'trade and other payables' of \$49 billion, which were listed as 'current assets' and which shows that these receivables and debts are a store of value, in this case recalculated in dollars. And I have to stress this: when a buyer emits a receivable, i.e. a promise to pay, this results in a legal sale, guaranteed by the government. Rights of ownership are transferred. The buyer can, if he or she wants, resell the oil or the book or the skirt or whatever. And often, the resulting 'receivables' can be traded on some kind of market. They do have a degree of liquidity.



Morris Copeland, the institutional economist who designed the widely used Flow of Funds statistics

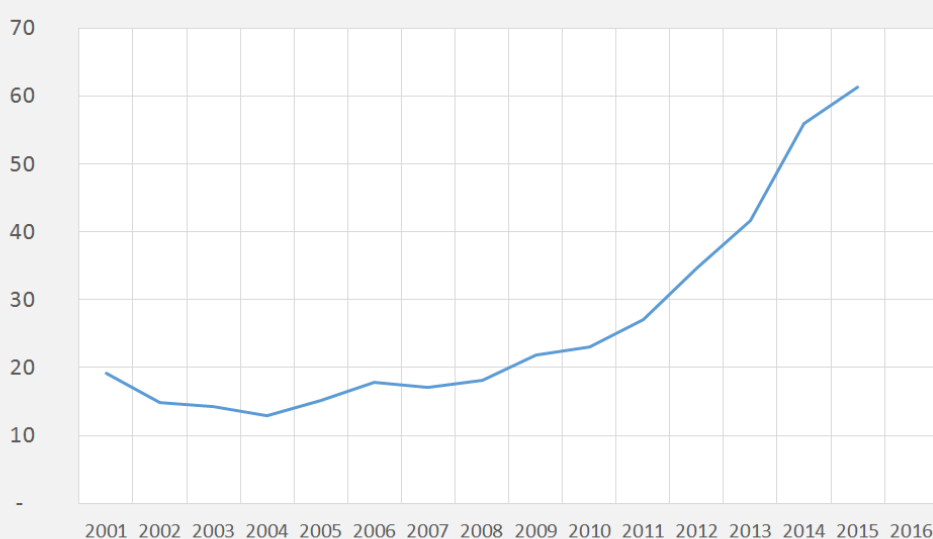


2. The measurement of money

Emitting receivables is a way to enable monetary economic exchange. Like stamps, these debts are not recorded by central bank statisticians. But they are recorded by national accounts statisticians, as part of the flow of funds data as well as balance sheet data. The [USA Flow of Funds](#) were developed by the institutional economist [Morris Copeland](#), who should have been awarded a Nobel prize for this.² At this moment, all major central banks estimate and publish these data; the USA Flow of Funds lists the payables and receivables as 'trade payables' and 'trade receivables' and treats them as a means of payment. Graph 1 shows the most remarkable recent development of 'payables' of the Europe Flow of Funds data, estimated by the ECB but in this case published by Eurostat.

This is not the place to use these data to analyse economic development but they are fully consistent with the idea that the transfer of 'intangible assets' by companies like Microsoft from the USA to Ireland has been financed by intercompany 'receivables' and 'payables' – an 'inter-company debt' financed transfer of property rights, which reminds us of the Minsky quote above this article. Payables and receivables are however mostly used to finance transactions (selling and buying) between companies and are therewith indispensable

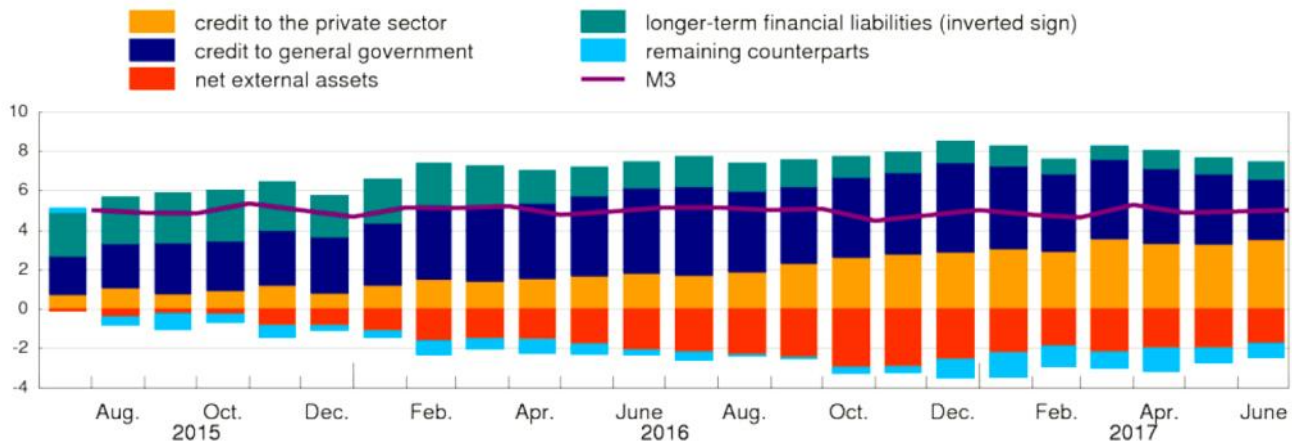
1. Trade credits and advances as a percentage of GDP, Ireland



for the functioning of a monetary economy: private, market based money. And stocks and flows of this kind of money are estimated by national accounts statisticians.

As stated, central bank statisticians estimate money, too, and this time of the more normal kind. It is worthwhile to go a little deeper into this, using the monthly ECB 'monetary developments' press release ([June 2017 in this case](#)).

Graph 2. Contribution of the M3-money counterparts to the annual growth rate of M3



This monthly press statement is not just consistent with but an excerpt from the Flow of Funds, highlighting the flows which influence the change of M3 money, the definition of money preferred by the ECB which defines money as coins, notes and deposit money, albeit only short term deposits. The Flow of Funds character shows by the 'counterparts', surprising to some may be the fact that during the last two years bank lending to the government dominated money creation in the Eurozone. Just as it did in the thirties in the USA – a fact which according to Koo is not acknowledged by Friedman and Schwartz in their 'A history of money in the USA, 1867-1960'.

There is more to this: we can ask the question why it is possible for private banks to issue legal tender in the first place. The answer is that they do not do this. Banks issue 'deposit money', not legal tender. As is well known, deposit money is issued by a large number of banks (not all of them, they do need government approval to be able to do this). And here comes the trick: the government, aka the central bank, guarantees a 1:1 exchange rate between notes, coins and deposit money – no matter which banks issued it. And the government (aka central and local government) also accepts all deposit money, no matter which bank issued it, as a means to extinguish private tax debts. Which means that all deposit money has a 1:1 exchange rate, no matter which bank issued it (in the Eurozone this went off track in Greece and Cyprus). Returning to the graph: this is all about deposit money issued by banks to counterparts, like households (mainly mortgages), non-financial companies (loans and short term commercial credit) and the government. Mind that while central banks are not allowed to finance the government by printing money (at least not in the Eurozone), private banks are allowed to do so. The 'longer-term financial liabilities' are deposit money which flows from long term deposits into short-term deposits and therewith into M3 money; net external assets is the net amount of Euros stacked away in the Bahamas or used to buy Chinese stocks. Clearly, central banks use a credit based idea of money and do not only look, like Milton Friedman did, at the total amount of money but also, using flow-of-fund statistics, at the relation between money and credit. Again, then the graph comes straight from the monthly press release of the ECB and in fact follows a Bundesbank tradition which dates back at least to the beginning of the seventies. Summarizing: economists have developed detailed, dependable systems to measure flows and stocks of all kinds of money which are used in all major central banks and which enable analysis of monetary developments and economic risk.

3. Money in the models

Given the centrality of Flow of Funds statistics to the working of central banks, the extent to which, surely before 2008, money was removed from mainstream macro is puzzling. There is no need to dwell on this. Charles Goodhart in November 2007 with his '[Whatever became of the monetary aggregates](#)' and Willem Buiter in March 2009 with his '[The unfortunate uselessness of most 'state of the art' academic monetary economics](#)' have ridiculed, lambasted and vilified this approach to money. As Buiter remarks about monetary economics which does not have 'money' as one of the variables in its models and which does not model a financial sector: "Both the New Classical and New Keynesian complete markets macroeconomic theories not only did not allow questions about insolvency and illiquidity to be answered. They did not allow such questions to be asked." To state this in a more practical way we can quote Peter Bofinger and Mathias Ries, who very recently (while I was writing this, in fact) published [a Voxeu post on this topic](#) and show how introducing money into the models enables questions and answers (emphasis added):

"In the case of China, the causal chain of the monetary analysis is diametrically opposed to the logic of the real analysis. In the real analysis, high Chinese saving has been created independently of developments in the US. In the monetary analysis, Chinese saving, above all profits from the corporate sector, were generated as a result of US consumers buying more and more Chinese products. The propensity to consume in the US was fueled by the reduction in the US saving rate due to the housing boom and by the very low interest rates offered by the Federal Reserve.

The monetary analysis logic also makes it possible to overcome the 'paradox of capital' (Prasad et al. 2007). The real analysis cannot explain why capital, which is assumed to consist of the standard commodity, should flow from China to the US, where the returns of capital are supposed to be lower. In the monetary analysis, capital flows consist of money and it is not paradoxical that US-dollar payments made for consumption goods from China were recycled by the Chinese central bank into the US capital market".

The question is whether this has improved. The short answer is: it seems that way. Newer models, published by the ECB in June 2016, do bear titles like "[EAGLE-FLI. A macroeconomic model of banking and financial interdependence](#)". However... looking at footnote 4 from this study we encounter the next phrase: "In line with these contributions, we assume a cashless economy, so there is no explicit role for money". Of course, 'these contributions' are earlier studies, six in total of which five date from after 2008. Even if money plays a role in such model, it is also not the credit kind of money which is estimated in the Flow of Funds but a 'loanable funds' kind of money,

an exogenous asset with a restricted supply which enables people to lower transaction costs of exchange but which is not based upon social trust or bonds or market transactions, like the mortgages of the monetary statistics, like stamps or like commercial credits. Or like the short term commercial credits which initially financed the up to 15% of GDP current account deficits of the GIPSI nations. Or the 'wall of money' which was created by the mortgage boom mentioned above, stacked away in savings accounts and which, in countries like the Netherlands, at this moment drives up house prices as children are borrowing this money from their parents.

It's all a bit disheartening. Fortunately, Flow of Funds analysis based upon accounting models instead of calculus and discounting based models is having a boost. Bofinger and Ries, who explicitly discuss the difference between Flow of Funds analysis and mainstream modelling, have already been mentioned. And the ECB publication, ['Flow of funds analysis at the ECB. Framework and applications'](#) states:

"Euro area financial account data have been published at an annual frequency since 2002 and at a quarterly frequency since 2007 (partial data were first published as early as 2001). Flow-of-funds analysis at the European Central Bank (ECB) has developed based on this expanding set of data, in addition to available country data, in support of the ECB's economic and monetary analysis."

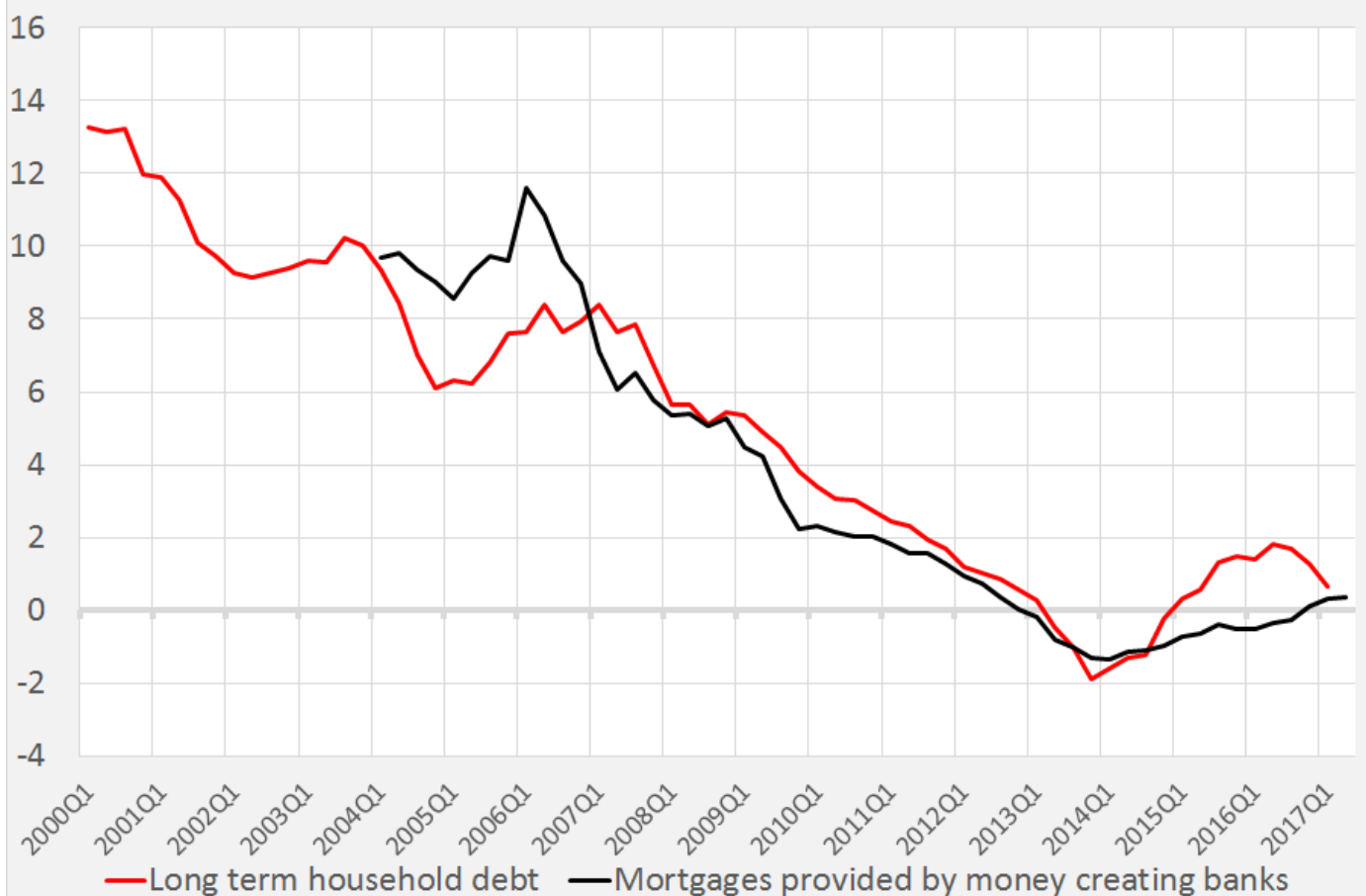
Also, the recent work by Josh Mason, Arjun Jayadev and Amanda Page-Hoongrajok, ['The Evolution of State-Local Balance Sheets in the US, 1953-2013'](#), reminds us of the classical 1962 article of Morris Copeland, ['Some illustrative analytical uses of Flow of Funds data'](#) in which he states: "Section III offers a capital outlay function for state and local governments in which the independent variables are the current surplus of state and local governments and the ratio of federal national defense expenditures to total GNP."

The availability of Flow of Funds data for the Eurozone means that 'prophetic' analyses based upon Flow of funds Analysis like ['seven unsustainable processes'](#) by Wynne Godley can, by now, be pursued for the Eurozone, too ([here](#) an article which rightly describes Godley as the 'Keynes of Flow of Funds, mind, again, that Flow of Funds analysis is by now part and parcel of the analyses of central banks) To get the gist of this kind of analysis: since 2008, the Eurozone current account changed from a deficit of around 2% of nominal GDP to a surplus of 3%. This means that economic performance of the Eurozone has been dismal (in a historical as well as a comparative perspective) despite this 5% of GDP boost to spending. Or, a boost to spending? In fact, the change was, to considerable extent, caused by lower oil prices and though these might have caused higher consumption of oil related products, such an increase will of course not have changed a current account deficit into a current account surplus. The shift simply means that more money is staying inside the Eurozone – looking at this from the monetary side it shows that a price decrease for oil leading to a more favorable current account does not directly boost domestic activity. Which means that domestic spending will have to do the job which, considering high levels of household as well as government debt (which, in the Eurozone, is designed to be a binding constraint) this will either have to be financed by profits (investment) or higher total wages (household consumption). Or a higher level of trade credits and bank lending... It is important to note that it is not the wage level and surely not real wages which are important here, but total nominal wages.

The kind of DSGE (Dynamic Stochastic General Equilibrium) models linked to above, which still have no role for money and look at capital and imports and exports as 'goods' are of course not the only macro models. Other strands of models did take money and the monetary aggregates more seriously. One can think of the work of Milton Friedman who paid attention to money growth. But he did not look at credit and used a fairly restricted definition of money, therewith disregarding the Flow of Funds data. Against this background, his concepts look crude and clumsy while this strain of thinking tended to rule out destabilizing effects of credit, loans and borrowing, as also shown in ['The Age of Turbulence', the autobiography of Alan Greenspan](#) who, in 2007, explicitly stated that debt, national or international, won't ever be a problem as markets and people optimize (to his defense, ['This time is different. Eight centuries of financial folly'](#) by Carmen Reinhart and Kenneth Rogoff was only published in 2009. Clearly, the turbulent age of Greenspan was not that different).

A more sophisticated way of thinking was the Bundesbank tradition, which was adopted by ECB. It does take credit seriously and even tends to see 5% M3 money growth as 'stable' because it shows a healthy growth of credit. It also distinguishes different sectors when it comes to borrowing, therewith implicitly also looking at the 'counterparts' of money creation. The names of people like Otmar Issing, the first senior economist of the ECB, are connected to this. [Rereading Issing](#) and [checking the 1974 yearly report](#) of the Bundesbank, which he cites as a watershed, reveals that Issing misrepresents history. The post 1929 deflation was much more damaging to Germany than the 1923 inflation, though Issing rightly also mentions the (much, much less severe) 1946/1947 inflation. I however dare to say that, in 1945-1947, relatively mild inflation was not the largest problem in Germany. He also overstates the independence of the Bundesbank (p. 26 of the 1974 report states that the Bundesbank lends to the German government – which is a total taboo for the ECB). It is however remarkable that the 1974 yearly report shies away from a genuine analysis of stocks and flows of credit and instead reverts to the Friedman style of thinking, which basically only looks the amount of what boils down to a restricted definition of money. Flow of Funds and stock data are richly available in the report, but attention is suddenly focused on flows of M3 money. As increases in M3 money may have different origins – in one period bank lending to the government may dominate, in another period lending to non-financial companies or mortgage lending to households – this is a too restricted way too analyze monetary developments. The Bundesbank approach surely was more subtle and flexible than the technocratic approach of Friedman style monetarists. Also, surely there below the surface an analysis of sectoral flows of credit can be witnessed. But it was still blunt and crude when compared with the subtle analysis possible by using Flow of Funds data which show supply as well as use of money and credit. All in all it is remarkable that, though central banks do publish and use sophisticated macro-economic Flow of Funds data, macro-economic theorists – also those at central banks – have shied away from this model. To show, again, the possibilities of such data to illustrate and analyse total long term debt of households as well as total mortgage credit provided by 'Monetary Financial Institutions', or money-creating banks. As can be seen, both series are quite close to each other, differences can be explained by the fact that households also borrow from pension funds and comparable non-money creating financial institutions. Which is interesting. We do have the information which shows how rapidly debts increased during the years of what is called the 'Great Moderation' while, in the Netherlands, post 2008 no meaningful deleveraging took place. But an even more remarkable aspect of these data is that before 2008, house price increases were fueled by increases in mortgage lending. At the moment of writing of this piece, house prices as well as the number of real estate transactions are on the rise again in the Netherlands. With an increase of 8%, house prices are rising way faster than the consumer price level or wages. But this time is different: these increases are not fueled by reckless lending by large banks. It's up to the economists to find out what's different, but the Flow of Funds data enable us to ask the question.

Turning to the Eurozone: before 2008, comparable data were available and assembled at the ECB (even though monetary statisticians in for instance the Netherlands neglected to map securitized mortgages...). Alas, the ECB focused totally on a limited definition of inflation data, disregarded its own information and turned blind eye to rapidly increasing private debts (+30% in some years in Ireland...). While people like Morris Copeland and Wynne Godley had shown how to use data on flows and stocks of money, income and debt. We do have the data. Now, economists have to start to use them. To end with a quote by Morris Copeland (h/t V. Ramanan):



"The subject of money, credit and moneyflows is a highly technical one, but it is also one that has a wide popular appeal. For centuries it has attracted quacks as well as serious students, and there has too often been difficulty in distinguishing a widely held popular belief from a completely formulated and tested scientific hypothesis.

Source: Centraal Bureau voor de Statistiek; De Nederlandsche Bank

I have said that the subject of money and moneyflows lends itself to a social accounting approach. Let me go one step farther. I am convinced that only with such an approach will economists be able to rid this subject of the quackery and misconceptions that have hitherto been prevalent in it.

Reference

Copeland M A, "Social Accounting For Moneyflows", Chapter 1 of Dawson J C (1996) *Flow-of-Funds Analysis: A Handbook for Practitioners*, New York: M E Sharp [article originally published in 1949]

¹ A super model instead of a dead president on money is of course 'Zeitgeist'. The increased prominence of super models is a sign of a more feminine culture.

Adam Smith and altruism

Lars Syll writes, Wonder why I've never found this passage quoted in all those best-selling mainstream economics textbooks ...

How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it. Of this kind is pity or compassion, the emotion which we feel for the misery of others, when we either see it, or are made to conceive it in a very lively manner. That we often derive sorrow from the sorrow of others, is a matter of fact too obvious to require any instances to prove it; for this sentiment, like all the other original passions of human nature, is by no means confined to the virtuous and humane, though they perhaps may feel it with the most exquisite sensibility. The greatest ruffian, the most hardened violator of the laws of society, is not altogether without it.

Adam Smith (1790) *Theory of Moral Sentiments*, 6th edition, Chapter 1, I.I.1.

Time for critics of economics critics to move on! By [David Orrell](#)

There is a growing trend for economists to write articles criticising the critics of economics. These articles follow a similar pattern. They start by saying that the criticisms are “both repetitive and increasingly misdirected” as economist Diane Coyle [wrote](#), and might complain that they don’t want to hear *one more time* Queen Elizabeth’s [question](#), on a 2008 visit to the London School of Economics: “Why did nobody see it coming?”

Economist Noah Smith – writing in a [blanket critique](#) of an [extract from a 140,000 word book](#) by John Rapley – agrees that “blanket critiques of the economics discipline have been standardized to the point where it’s pretty easy to predict how they’ll proceed.” Unlike the crisis then! “Economists will be castigated for their failure to foresee the Great Recession. Some unrealistic assumptions in mainstream macroeconomic models will be mentioned. Economists will be cast as priests of free-market ideology, whose shortcomings will be vigorously asserted.” And so on.

The articles criticising critics then tell critics it is time to adopt a “more constructive tone” and “focus on what is going right in the economics discipline” (Smith) because “only if today’s critics of economics pay more attention to what economists are actually doing will they be able to make a meaningful contribution to assessing the state of the discipline” (Coyle). If the critics being criticised are not economists, the articles often drive their point on tone home by implying that they [don’t know what they are talking about](#), are attacking a [straw man](#)¹, or (not these authors, but a popular choice) [are like climate change deniers](#) (see also [here](#) and [here](#)).

Speaking as an early adopter of the Queen Elizabeth story (in my 2010 book [Economyths](#), recently re-released in extended form), allow me to say that I agree completely with these critic critics. Yes, economists failed to predict the most significant economic event of their lifetimes. Yes, their models couldn’t have predicted it, even in principle, based as they were on the idea that markets are inherently self-stabilising. And yes, economists didn’t just fail to predict the crisis, they helped cause it, through their use of flawed risk models which gave a false sense of security.

But it is time for us critics to move on, and accentuate the positive. Only by doing so can we make a meaningful contribution. And as Smith points out, calls for “humility on the part of economists” are getting old (Tomáš Sedláček, Roman Chlupatý and I wrote [Bescheidenheit – für eine neue Ökonomie](#) five years ago). It’s like asking Donald Trump to admit that he once lost at something.

Of course, some people might say that it isn’t up to economists to tell everyone else when they should stop talking about economists’ role in the crisis, or bring up

what the former head of the UK Treasury memorably [called](#) in 2016 their “monumental collective intellectual error.”

Some stick-in-the-muds [note](#) that “No one took any responsibility or blame for a forecasting failure that led to a policy disaster” and have called for a [public inquiry](#) into their role in the crisis. Instead of telling everyone else to move on, they argue, it is time for economists to own their mistakes and [show some accountability](#). Well guess what, people – it’s not going to happen! And stop asking for a public apology. Let’s focus on what is going right and hand out some gold stars.

For example, there is the “data revolution” [heralded by Smith](#). As he notes, “econ is paying a lot more attention to data these days.” Sure, economists are literally the last group of researchers on earth to have realised the usefulness of data. In physics the “data revolution” happened back when astronomers like Tycho Brahe pointed their telescopes at the sky and began to [question the theories of Aristotle](#). But better late than never!

Though note it only really counts when you use data to falsify something important.² Oh, here’s a data point – all the orthodox theories failed during the crisis! But you knew that.

Or there is behavioral economics, which Coyle notes is “one of the most popular areas of the discipline now, among academics and students alike.” Critics again might note that progress in this area has been [painfully slow](#) and has had [little real impact](#). Tweaks such as “hyperbolic discounting” are equivalent to ancient astronomers appending epicycles to their models to make them look slightly more realistic. But that rational economic man thing is so over – straw man walking.

Admittedly, there has been less progress on a few things. The equilibrium models used by policy makers, for example, still rely on the concept of equilibrium – and so have nothing to say on the cause or nature of financial crises. Risk models used by banks and other financial institutions still view markets as governed by the independent actions of rational ~~economic man~~ investors, and are more useful for hiding risk than for estimating it, as quant Paul Wilmott and I have [argued](#).

As Paul Krugman [noted](#) in 2016, “we really don’t know how to model personal income distribution,” even though social inequality – along with financial instability – is one of the biggest economic issues of our time. Some insiders such as World Bank chief economist Paul Romer – who compared a chain of reasoning in the field of macroeconomics to “blah blah blah” – [describe](#) the area as “pseudo-science”. And economics education still concentrates almost solely on the discredited neoclassical approach, complete with rational economic man, according

to the student authors of [The Econocracy](#).

But these are details. As Coyle notes, some economists are finally getting to grips with ideas from areas such as “complexity theory, network theory, and agent-based modeling” which of course are exactly those areas that critics have long been suggesting they learn from.³

Or the UK’s Economic and Social Research Council recently [let it be known](#) that it is setting up a network of experts from different disciplines including “psychology, anthropology, sociology, neuroscience, economic history, political science, biology and physics,” whose task it will be to “revolutionise” the field of economics. Again, that is nice, since *Economyths* called in its final chapter for just such an intervention by non-economists back in 2010.

So, yes, it is time to celebrate the new dawn of economics! But critics of critics – do try to move on from the same criticisms, we’ve heard it all before, in fact for decades now.

Notes:

¹ Coyle for example [clarified](#) that she was writing about “the character of a particular kind of straw man critique.” The “straw man” defence, as discussed in [this excerpt from *Economyths*](#), has been used by economists since at least the 1930s – and is very frustrating. Mainstream economists present a core portrayal of human behaviour which is frankly ridiculous in its simplicity, alter it slightly, and then when people criticise it, the economists say they are criticising a straw man! One investigation into a Canadian economics department said this tactic had there reached a stage where it could be described as “gaslighting [i.e. psychologically manipulating someone into doubting their own sanity].” And yes, we know about behavioural economics etc., but one reason it hasn’t had more impact is because its findings are rather inconvenient for models. In other words, the fact that economists have been deploying the same argument for so long probably says more about mainstream economics than it does about its critics.

² I would invite people who think there has been a real “[data revolution](#)” in economics to ponder the following two quotations. The first is economist Steven Levitt (of *Freakonomics*, and no stranger to data) [discussing](#)

[the problem](#) that he couldn’t find a valid empirical example of a demand curve for his textbook, despite the fact that such curves are basic to neoclassical economics: “What I’d really say is that *we completely and totally understand what a demand curve is, but we’ve never seen one*. I don’t know if it’s fair to make physics comparisons, but you can imagine something like in the old days when the models had figured out something about protons and electrons, but we hadn’t actually figured out how to literally see an electron.” (My emphasis.) The basic problem with demand curves comes down to identifiability of parameters, and yes some economists have tried to tackle it, but I’m not sure how economists can “know” what a demand curve looks like (and feature it in textbooks) without seeing one. It seems to me that if supply and demand are dynamic and interdependent then no such curve exists. (And no, it’s not like physics, unless perhaps you count supersymmetric string theory.) I would also argue that this belief in theory over data still permeates much of economics.

A similar conclusion is drawn in a [recent paper](#) by economist Richard Werner, who asks why – after so many decades – the process of money creation is still considered such a mystery. He notes that “the dispute can be settled through empirical evidence on the actual operations and accounting practices of banking.” In other words, by taking a look. “Surprisingly, in the observation period – from the mid-19th century until 2014 – *no scientific empirical test had been reported in the peer reviewed journals*.” (My emphasis.)

We’ll know economics is moving on as a scientific discipline when it actually uses data to falsify some of its key findings, including those concerning the most basic questions of all, namely how prices are determined, and how money is created. The reason I believe these have not been satisfactorily addressed by the mainstream is because their theory will fall apart without them. A completely new approach is needed. (And yes, I believe it’s coming – but the mainstream is not the place to look.)

³ So maybe the observation that economics was stuck in a reductionist paradigm and needed to learn from a complexity approach was not a straw man, as many mainstream economists called it.

Two Forthcoming WEA Conferences

1. [Economic Philosophy: complexities in economics](#), 2nd October – 30th November 2017

2. [Monetary Policy After The Global Crisis:](#)

[How Important Are Economic \(Divisia\) Monetary Aggregates for Economic Policy?](#)

15th January – 15th February 2018

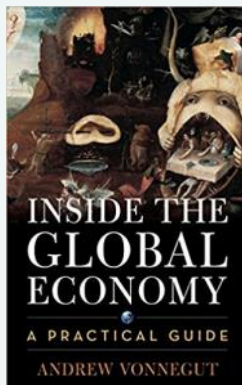
Deadline for submissions: 15th December

[OPEN CALL FOR PAPERS](#)

Going Rogue: Economic Practice and Hitting the Orthodox Wall

By [Andrew Vonnegut](#)

[Editor's Note: A newly published textbook, [Inside the Global Economy: A Practical Guide](#) offers a broadly based perspective on the global economy. The [Amazon description](#) concludes, "Vonnegut enlightens readers on the people, behaviors, and institutions behind trade and investment flows in today's globalized economies, and how they all contribute to the volatile and dynamic world we are experiencing." Here the author describes his motivation and approach.]



My work over almost 20 years would have pegged me as a pretty mainstream economist. I worked in company and market due diligence and risk analysis in emerging markets finance, then for two large international consulting firms in emerging markets policy advisory. A regular, mainstream, practicing economist.

Then I returned to the United States, started teaching a global economics class, and looked for a text. Like my texts 25 years ago, materials were largely locked into a Samuelson definition and optimization framework, with full chapters devoted to expositions of and extensions on the Heckscher-Ohlin and Rybczynski theorems. The skirmish between mainstream and heterodox economics might have another dog in the fight, or at least one quietly lurking nearby: practitioners in need of useful information and frameworks. Unrepentant Laffer disciples aside, are practitioners driven outside the mainstream in a quest for actionable insight?

Learning the traditional optimization based foundations of the discipline can be beneficial, in particular for students continuing in economics. But, lots of people taking classes are not on an academic track, whether students in undergrad economics programs, business schools, global studies or public policy programs, or as journalists or just curious people. The latter are my students. They need to learn what the global economy looks like, start asking the right questions, and develop a basic, but broad framework for deriving and understanding the merits of different answers. They don't need to graph the HO theorem. I did that, and it never helped me solve any problems.

So, like many other members of the WEA, I developed my own class materials (then turned them into a book). The themes that I hope will give students a useful background don't seem anything but mainstream in the practitioner's world, but many are left out of a traditional economics education. Here are some examples.

Economics is behavioral. Global capital flows are rooted in human behavior, where rationally solving objective functions is at best a start. Consider whether incentives and imperfect human decision making can contribute to

global boom and bust cycles. Fund manager compensation is often based on performance relative to peers. Relentless performance pressure combines with the prospect of losses if late in or out of a market or asset class. Objective measures of evaluation, to the extent they exist, can be overcome by market momentum and fear. If emerging markets debt (or CDOs) looks risky but it's driving your competitors' returns, you get in or risk your job. Early poor risk assessment or reassessment

leads to more risk as investors continue to pile in. That's clearly not a complete framework, but it's one direction worth considering that rarely ends up in an economics course. In the book's exposition on financial contagion and its myriad channels through the global economy, some of the language is better suited to a psychology or sociology text. Economists should not be apologetic about, or criticized for, that.

Institutions and incentives matter. Domestic policy and central banks are unusual topics for a global economics course. However, as Mohamed El Erian notes, central banks are "the only game in town."¹ Modern global capital flows are at least partially the product of central bank policy mechanisms, along with their incentives and the translation of the policy mechanisms into investor incentives, intentionally and unintentionally. Another chapter (honestly, tediously) defines the public, multi-lateral, and private participants in the global economy and their roles in driving incentives. After graduating, my fellow economists and I didn't know the difference between a commercial bank, an investment bank, the BIS, and the World Bank. People should know that after taking a global economics class.

Channels and flows are not mechanical. Central bank policy levers are a case in point. Policy interest rates act or don't act on multiple economies through multiple, complex channels, not all of which may be active at any given time or set of conditions. The idea that lower policy rates in one economy can have multiple effects on an economy or group of economies, not all of which are stimulating and/or inflationary, is not a radical notion. Yet, most current treatments gloss over the channels and important potential diversity of intended and unintended consequences.

Domestic policy and political economy drive global capital flows. Tax incentives, procurement, and regulation are major money movers in the global economy. Case studies on EU energy subsidies, US fracking, Chinese and Japanese infrastructure programs, US ethanol programs, and others highlight the deep effects on global capital flows. Also, one should not shy away from whether do-

mestic elites and entrenched interests play an outsized role in determining policy direction and consequent global money flows. Analysis here may shed as much light on the future as traditional econometric forecasts.

Last and most important, economics is (or should be) humble and inquisitive, not prescriptive and overly secure in its conclusions. The global economy is a chaotic and complex place. Embracing that makes economics less confident and “sciency,” but more useful, and fun. Outcomes are uncertain, but by understanding the participants, their incentives, economic history, human psychology, current stocks and flows and other variables, we can try to credibly make sense of things. The second section of the book is fun to teach. Five potentially disruptive global trends are laid out: demographic change; ecological change; technological change; shifts in income and wealth distribution; and emerging markets’ increased share of global wealth. The class then analyzes a series of scenarios related to those trends, discussing contributing and mitigating factors, risk, probabilities, and ways to benefit or mitigate downside risk.

Summing up: why even a conflict between technical orthodoxy and useful methods? The conflict is moot in the real world. Even in those bastions of technical correctness, central banks, practitioners recognize technical limitations. Ben Bernanke famously noted that QE works in practice, but not in theory.² Allan Greenspan proclaimed, “we will forever need to reach beyond our equations to apply economic judgement.”³ But, where

does that judgement come from and how is it taught and learned?

The profession’s hesitation is perhaps understandable. Debreu’s *Theory of Value* is a brilliant, technically perfect work. Something is proven at the end. The profession desires to maintain “rigor” and a grip on conclusions that can be arrived at through a series of mathematical steps. Other approaches can lack rigor and result in a dangerously slippery slope indeed. But the world is a slippery place and the global economic environment does not support the application of Debreu-type rigor. The idea that policies can have different outcomes at different times in different economies and we may not even fully know what those are, should be one of the fundamental precepts of economic instruction.

I didn’t set out with a radical, alternative agenda, but wanted to teach my students what one uncertain guy thought might benefit them. Time may eventually tell if derivation of the HO Theorem would have served them better.

El-Erian, Mohamed A. *The Only Game in Town: Central Banks, Instability, and Avoiding the Next Collapse*. New York: Random House, 2016.

² Yu, Edison, “Did Quantitative Easing Work,” *Economic Insights*, The Federal Reserve Bank of Philadelphia, First Quarter, 2016

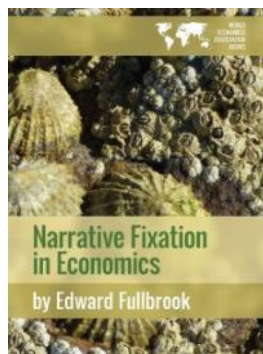
³ Greenspan, Alan. *The Map and the Territory: Risk, Human Nature, and the Future of Forecasting*. New York: Penguin Press, 2013.

Why Economics Needs Pluralism By Edward Fullbrook

[Editor’s Note: The following draws on Edward Fullbrook’s WEA Book, *Narrative Fixation in Economics*, available as an [ebook](#) (free download for paid up WEA members) and for purchase as a [paperback](#). Here the foundation is presented. The book proceeds to build on this foundation, highlighting, inter alia, the way that perceptions, in economics and elsewhere, are process-dependent.]

Einstein’s revolution led philosophers and historians of science to abandon 19th-century views of scientific progress as a smooth accumulation of tested facts. Scholars came to focus instead on the processes by which one theory displaces or subsumes another. By the 1960s, obsession with competing theories became so extreme that increasingly all science was defined and interpreted relative to its infrequent revolutions (Kuhn 1962). This narrative Gestalt has spread through contemporary culture, dominating its perceptions of the advancement of knowledge.

Generally – and the present case is no exception – the natural sciences ignore outsider analysis, but the narra-



tive fixation on the dialectical side of scientific development has had and continues to have a deleterious effect on the human sciences. Of course theory displacement offers a true characterisation of important chapters in science history. But there are many major advances in science for which the narrative of scientific revolutions, including its intervals of “normal science”, has no explanatory power. More to the point, in the human sciences those “extraordinary episodes” which have

“necessitated the community’s rejection of one time-honoured scientific theory in favour of another incompatible with it,” are virtually unknown (Kuhn 1962, p. 6). In economics, for example, the absence of such episodes weighs so heavily on its pursuit of understanding that no sensible overview of its fundamental ideas is possible without abandoning the traditional narrative structure.

The notion of *narrative* provides a central organizing concept. The term is deployed inclusively, so as to encompass everything from the theories of micro physics to the myths of traditional societies. Narratives com-

monly taught in universities, “knowledge narratives”, will receive primary attention. It frequently happens that in a field of empirical enquiry there emerge several narratives which rather than being contradictory or incompatible are complementary in the sense of offering different windows for observation of the same or overlapping domains of phenomena. Every narrative – and, therefore, every theory, paradigm and research program – launches itself from a conceptual framework, including a set of presuppositions about the nature of reality. Inevitably, different conceptual frameworks offer different points of view on the object of inquiry. What one sees when one looks at Michelangelo’s statue of *David* depends on the standpoint from which it is observed; similarly, what any empirical inquiry makes of its object depends on the conceptual framework through which it is viewed. Just as full appreciation of *David* requires viewing it from more than one perspective, so knowledge accumulation often depends upon investigating empirical domains through more than one narrative. I call this the doctrine of **narrative pluralism**. It is the same view of empirical understanding that the physicist David Bohm describes as follows.

“What is called for is not an *integration* of thought, or a kind of imposed unity, for any such imposed point of view would itself be merely another fragment. Rather, all our different ways of thinking are to be considered as different ways of looking at the one reality, each with some domain in which it is clear and adequate. One may indeed compare a theory to a particular view of some object. Each view gives an appearance of the object in some aspect. The whole object is not perceived in any one view but, rather, it is grasped only *implicitly* as that single reality which is shown in all these views. When we deeply understand that our theories also work in this way, then we will not fall into the habit of seeing reality and acting toward it as if it were constituted of separately existent fragments corresponding to how it appears in our thought and in our imagination when we take our theories to be ‘direct descriptions of reality as it is’” (Bohm 1983, pp. 7-8).

All representations, whatever their form, proceed on the basis of a simplification of reality. There are no exceptions to this rule, not even the most sophisticated scientific theories...

For every empirical domain there exists an infinity of possible points of view and, therefore, also of potential observations. These plethoras of possibilities present observers/narrators with an acute problem of choice. They must decide which features of their domains they are going to describe and which they are going to disregard. Each of their narratives can proceed only on the basis of a radical simplification of reality. To this end, and in lieu of random observations from random points of

view, narrators deploy principles of selection, or what James called “systems of observation” and today’s writers usually call “conceptual frameworks”. This process abstracts certain features of the narrative’s domain while ignoring others. A narrative may make explicit its narrative framework, but more often it leaves it partly or wholly concealed, leaving it to operate outside critical awareness.

Different but non-competing narratives of the same domain give prominence to different dimensions of that domain. Each narrative functions as an interpretative system, as a *special* way of perceiving some corner of existence.

Narrative selection proceeds through a set of assumptions which simplify or pre-empt many features of the narrative’s domain. These assumptions include a system of classification of entities, the attribution of a limited number of properties to those entities, some metaphysics which posits a kind or kinds of connection between events, and usually the recognition of different structural levels within the domain of inquiry. A narrative also views its domain from a certain scale, omitting details that it sees as too microscopical or too global, too short-run or too long-run. Typically it also describes its domain within some range of accuracy or approximation, ignoring effects which do not fall within that range. Finally, every knowledge narrative has its community of practitioners, people who develop and deploy the narrative in writing and teaching. As socially, economically, geopolitically and historically situated individuals, these people bring to the narrative enterprise various inclinations and sensibilities, as well as overt purposes, all of which help determine which aspects of the domain the narrative includes, emphasizes and ignores.

[Moreover]...any classification of an empirical domain limits the possible descriptions, and thereby also the field of possible facts and possible questions ... even when it comes to dividing up a domain on the basis of the most advanced science there exist more than one plausible and defensible way of doing so. *The best way will depend on the purposes of the narrative for which the classification is intended.* Every categorization of a set of empirical phenomena uniquely circumscribes our possible understanding of that realm of reality... Likewise the numerous ways in which any domain can be divided up, means that there exist many different bases for making a systematic inquiry of that domain.

Bohm, David (1983) *Wholeness and the Implicate Order*, London: Routledge
Kuhn, Thomas. S. (1970[1962]) *The Structure of Scientific Revolutions*, 2nd edition. Chicago: University of Chicago Press

On Hayek, Digital Currencies and Private Money

By [Maria Alejandra Madi](#)

In the book *Denationalisation of Money - the Argument Refined* (1976), Hayek proposed the abolition of the government's monopoly over the issue of fiat money in order to prevent price instability. In fact, his defense of a complete privatization of money supply stemmed from his disappointment with central banks' management, which, in his opinion, had been highly influenced by politics. Thus, the ultimate objective of the denationalisation of money was related to avoiding political interference in monetary policy. Indeed, according to Hayek, a stable price level is, in principle, of central importance in ensuring that the three microeconomic functions which money provides are allowed to operate with maximum efficiency.

In fact, his defense of a complete privatization of money supply revealed his disappointment with political influence on central banks' management. In this respect, the Austrian economist clearly expressed his discontent with the history of the government management of money - mainly because of the orientation of Keynesian ministers of finance. In particular, he noted that the popularity of 'Keynesian' economics was due to the fact that:

"... Ministers of finance were told by economists that running a deficit was a meritorious act, and even that, so long as there were unemployed resources, extra government expenditure cost the people nothing, any effective bar to a rapid increase in government expenditure was destroyed." (Hayek, 1976: 118)

Hayek's proposal

The denationalisation of money would be achieved by the complete abolition of the government monopoly over the issue of fiat money. And he highlighted that, on behalf of the government monopoly of money, central banks accommodate the financial 'needs' of government by keeping interest rates low and, as a result central banks give their policies an inflationist bias. However, in his view, the use of money supply to achieve particular ends turns out to destroy the price mechanism equilibrium and, therefore, provokes major business fluctuations (Hayek, 1976: 119). Indeed, his underlying critique of Keynesian economics relied on what he understood to be arbitrary interventions in the economic order.

In the framework of a free market monetary regime, only those currencies that have a stable purchasing power would survive. The basic idea is that the possibility of banks issuing different currencies would open the way to market competition. Banks could issue non-interest-bearing certificates and deposit accounts on the basis of their own distinct registered trade mark and the currencies of different banks would be traded at variable exchange rates. This proposal would leave the way open

for a comprehensive privatisation of the supply of money.

Hayek underlined that the main advantage of the free market competitive order is that prices will convey to the acting individuals the relevant information to make decisions to adjust their activities in face of the competition of currencies. He highlighted the uses of money that would chiefly affect the choice among available kinds of currencies: i) as cash purchases of commodities and services, ii) as reserves for future needs; iii) as deferred payments, and iv) as unit of account. In his opinion, these uses are consequences of the basic function of money as a medium of exchange and the stability of the value of a currency as unit of account is the most desirable of all uses (Hayek, 1976: 67).

Competition and profit maximisation would lead to market equilibrium where only those banks that pay a competitive return on liabilities to their clients could survive. Since currency corresponds to non-interest-bearing certificates, the crucial requirement is the maintenance of the value of the currency. Under Hayek's theoretical framework, the market forces would determine the relative values of the different competing currencies. As a result, the exchange rates between the competing currencies would float freely. So, in the long-run equilibrium, only currencies guaranteeing a stable purchasing power would exist. According to Hayek, in the long run, a successful choice among alternative currencies to be used in production and trade might depend on the stability of the value of those currencies in terms of a standard of wholesale prices of commodities to be treated as the standard of the value of currencies (Hayek, 1976: 76).

Indeed, people would not want to hold on to the currency of an issuer that was expected to depreciate relative to one that was expected to hold its value in terms of purchasing power over goods and services. The marginal costs of producing and issuing a currency (notes and coin) are rather low (close to zero) and the nominal rate of interest would be driven (close) to zero. Banks that failed to build up stability for the value of their currencies would lose customers and be driven out of financial business.

The Austrian economist Friedrich Hayek's monetary theory contribution stimulates further discussion about the recent innovations in the financial products and services. In the context of a free market regime, he proposed two distinct although complementary reforms in the economic and the political order: the proposal about the private monetary system might be possible only under a limited government and the limitation of the government might require the end of its monopoly of issuing money.

Current concerns

After reading this proposal, the question that arises is: are current digital currencies bringing to reality Hayek's ideas?

Throughout the last ten years, mainly after the 2008 global crisis, the increasing digitalization of financial transactions has also been related to changes in the banks' competitive environment, where the intense growth of the startups called fintechs, especially since 2010, has revealed a new articulation between finance and technology.

As a result of the advance of new non-bank competitors (these fintechs), big banks have begun to establish collaborative partnerships with selected fintechs in order to produce new technological solutions in the areas of payment systems, insurance, financial consultancy and management, besides digital currencies.

Indeed, the increasing digitalization of financial transactions is also related to changes in the banks' competitive environment, where the recent rapid growth of the fintech startups has revealed a new articulation between finance and technology. These fintechs are companies organized as digital platforms with business models focused on customer relationships in the areas of payment systems, insurance, financial consultancy and management, besides virtual coins. The advantages of their business models are low operating expenses, greater operational agility and the ability to generate data for the design of customized financial products and services.

In this digital environment, new technologies – such as advanced analytics, block chains and big data, in addition to the use of robotics, artificial intelligence, as well as new forms of encryption and biometrics – have been enabling changes in the provision of financial products and services that could challenge current central banks'

patterns of policy and regulation.

Taking into account the global changes in the provision of financial products and services, Central Banks have closely followed the recent expansion of fintechs. Indeed, the transformations provoked by these startups in the financial markets have raised a relevant discussion about the impacts of recent technological innovations on the financial regulation agenda - mainly focused on the [Basel Accords](#).

The intense advance of fintechs is raising new questions for regulators: How to deal with loan activities that are being performed by means of electronic platforms? How to regulate the fintechs' activities related of consultancy and financial management that are characterized by the collection, treatment and custody of information from users? Which is the scope of the Central Bank and of other financial regulators when considering the surveillance over the fintechs?

Moreover, there are legal concerns related to information security practices, legal validity of electronic documents, digital signatures and data storage in the cloud. Besides, the increasing growth of the privatisation of money is also at stake.

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