

Comment

We have the technology to take back control of our data

OPINION

Julia Apostle

The unsettling revelations about how data firm Cambridge Analytica surreptitiously exploited the personal information of Facebook users is yet another demoralising reminder of how much data has been amassed about us, and of how little control we have over it.

Unfortunately, the General Data Protection Regulation privacy laws that are coming into force across Europe – with more demanding consent, transparency and accountability requirements, backed by huge fines – may improve practices, but they will not change the governing paradigm: the law labels those who gather our data as

“controllers”. We are merely “subjects”. But if the past 20 years have taught us anything, it is that when business and legislators have been too slow to adapt to public demand – for goods and services that we did not even know we needed, such as Amazon, Uber and bitcoin – computer scientists have stepped in to fill the void.

And so it appears that the realms of data privacy and security are deserving of some disruption. This might come in the form of “self-sovereign identity” systems. The theory behind self-sovereign identity is that individuals should control the data elements that form the basis of their digital identities, and not centralised authorities such as governments and private companies.

In the current online environment, we all have multiple log-ins, usernames, customer IDs and personal data spread across countless platforms and stored in myriad repositories. Instead of this scattered approach, we should each possess the digital equivalent of a wallet that

contains verified pieces of our identities. We can then choose which identification to share, with whom, and when. Self-sovereign identity systems are currently being developed. They involve the creation of a unique and persistent identifier attributed to an individual (called a decentralised identity), which cannot be taken away. The sys-

Digital wallets for our identities will enable us to choose what to share and with whom

tems use public/private key cryptography, which enables a user with a private key (a string of numbers) to share information with unlimited recipients who can access the encrypted data if they possess a corresponding public key. The systems also rely on decentralised ledger applications like blockchain.

While key cryptography has been around for a long time, it is the development of decentralised ledger technology, which also supports the trading of cryptocurrencies without the involvement of intermediaries, that will allow self-sovereign identity systems to take off. The potential uses for decentralised identity are legion and small-scale implementation is already happening.

The Swiss municipality of Zug started using a decentralised identity system called uPort last year, to allow residents access to certain government services. The municipality announced it will also use the system for voting this spring. Multinational companies are also getting involved. In a blog post published last month, Microsoft announced that it would start supporting decentralised identification technology within its existing identity verification application, Microsoft Authenticator.

The company has lofty ambitions: it aspires “to a world where the billions of people living today with no reliable ID

can finally realise the dreams we all share, like educating our children, improving our quality of life, or starting a business”. To achieve this, it is “essential for individuals to own and control all elements of their digital identity.”

As well as allowing individuals to control their online reputation and privacy, self-sovereign identity has the capacity to revolutionise data security, its supporters say. The company behind uPort, Consensys, presents its system in company documentation as a solution to the problems created by “the centralised servers of identity providers like Google and Facebook”, which, it describes as “honeypots” of data and thus economically valuable to hackers – or harvesters (Facebook maintains that it did not suffer a data breach). Decentralised identity is more difficult to access and therefore there is less financial incentive for hackers to try.

Self-sovereign identity systems could eliminate many of our data privacy concerns while empowering individuals in

the online world and turning the established data order on its head. But the success of the technology depends on its widespread adoption.

For companies that do not want to stockpile personal data because of the associated security issues and regulatory headaches, decentralised identity should be attractive. But businesses that depend on exploiting personal data – such as Facebook and others – are unlikely to embrace a system that reduces a user’s data footprint to a string of code. In other words, we will still be followed around the internet by the same invisible eyes for some time to come and our “likes” will be more interesting to advertisers than our friends.

And as with all major technological innovations of the past 20 years, there will be unintended social consequences of self-sovereign and decentralised systems that have yet to be imagined.

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Economics failed us before the global crisis

Martin Wolf Economics

A framework that does not include the possibility of collapse misses the essential



Economics is, like medicine (and unlike, say, cosmology), a practical discipline. Its goal is to make the world a better place. This is particularly true of macroeconomics, which was invented by John Maynard Keynes in response to the Great Depression. The tests of this discipline are whether its adepts understand what might go wrong in the economy and how to put it right. When the financial crisis that hit in 2007 caught the profession almost completely unawares, it failed the first of these tests. It did better on the second. Nevertheless, it needs rebuilding.

In a blog for the Financial Times in 2009, Willem Buiter, now at Citi, argued that: “Most mainstream macroeconomic theoretical innovations since the 1970s... have turned out to be self-referential, inward-looking distractions at best.” An exceptionally thorough analysis, published in the *Oxford Review of Economic Policy*, under the title “Rebuilding Macroeconomic Theory”, leads this reader to much the same position. The canonical approach did indeed prove gravely defective. Moreover, top class professional economists differ profoundly on what to do about it. Socrates might say that awareness of one’s ignorance is far better than the illusion of knowledge. If so, macroeconomics is in good shape.

As David Vines and Samuel Wells explain in their excellent overview, the core macroeconomic model rested on two critical assumptions: the efficient

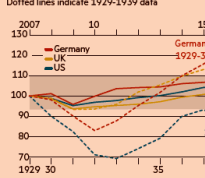
markets hypothesis and rational expectations. Neither looks convincing today. It is questionable whether it is even possible to have “rational expectations” of a profoundly uncertain future. Such uncertainty helps explain the existence of institutions – money, debt and banks – whose effects are so significant and yet were largely ignored in standard models. It is better to be roughly right than precisely wrong. Thus, Hyman Minsky’s view of the dangers of speculative tendencies in finance was roughly right, while many of the brightest macroeconomists proved precisely wrong.

It is not good enough to argue that the canonical model works in normal times. We need also to understand the risks of crises and what to do about them. This is partly because crises are, as the Nobel laureate Joseph Stiglitz notes, the most costly events. A macroeconomist that does not include the possibility of crises misses the essential, just as would a medicine that assumes away the possibility of heart attacks. Moreover, crises are endogenous: that is to say, they come from within the economy. They are a result of the interaction between tendencies towards excessive optimism and the fragility of any system of highly leveraged financial intermediaries.

My colleague Martin Sandbu notes, in particular, the possibility of “multiple equilibria” – the idea that economies might end up in self-reinforcing bad states of the world. This possibility makes it vital to respond to crises forcefully. Doctors’ first response to a heart

Less volatile this time

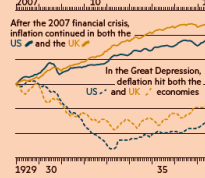
Real GDP per head at purchasing power parity, rebased (1929 = 100, 2007 = 100)



Sources: Angus Maddison; IMF; Bureau of Labor Statistics, Bank of England; Thomson Reuters Datastream. *1929-39 UK data are taken from Cost of Living Index

Deflation avoided

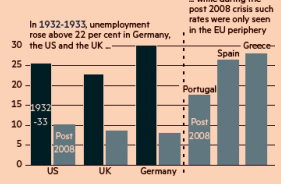
Consumer price indices, rebased*, Jan 1929 = 100, Jan 2007 = 100



Sources: Angus Maddison; IMF; Bureau of Labor Statistics, Bank of England; Thomson Reuters Datastream. *1929-39 UK data are taken from Cost of Living Index

Eurozone periphery had peak unemployment to rival the 1930s

Peak unemployment rates (%)



while during the post 2008 crisis such rates were only seen in the EU periphery the US and the UK

attack is, after all, not to tell the patient to go on a diet. That happens only after they have dealt with the attack itself.

So a big question is not only whether we know how to respond to a crisis, but whether we did so. In his contribution, the Nobel laureate Paul Krugman argues, to my mind persuasively, that the basic Keynesian remedies – a strong fiscal and monetary response – remain right. Also vital is swift revitalisation of the banking system. The contrast between the swifter US recovery and the

dreadful delays in the eurozone gives striking support for this view. Essentially, the latter lost five years before the recovery began.

A comparison between what happened in the 1930s and this post-crash period shows we have indeed learnt some important things. Compared with the Great Depression, the immediate declines in output and rises in unemployment were far smaller. Moreover, prices have also been far more stable this time. These are true successes. Nevertheless, after a decade, the level of output per head, relative to pre-crisis levels, is less impressive; Germany and the UK did even better last time. Moreover, the worst hit eurozone countries have suffered badly, by any standards. This recovery really has not been a triumph.

It is not enough to argue that the models work in normal times; we also need to understand crises

This suggests that fixing a huge crisis after the event is terribly hard. The obvious need then is to make economies more resilient. Even if we do not fully understand the economic dynamics, the broad lessons for the reform of our economies seem clear. Economies would be more resilient if they were less highly leveraged and, in particular, if they depended less on holdings of money backed by risky assets owned by the highly leveraged financial intermediaries known as banks. Obvious solutions include eliminating the incentives towards leverage in our tax systems, encouraging greater use by the economy of equity finance and debt that can be readily converted into equity, raising the reserve and capital requirements of banks and moving swiftly towards the issuance of digital central bank cash.

The analysis of fundamental macroeconomic theory suggests substantial ignorance of how our economies work. This is not that surprising. We may never understand how such complex systems – animated, as they are, by human desires and misunderstandings – actually function. This does not mean that attempting to improve understanding is a foolish exercise. On the contrary, it is important. But it is arguably more vital in practice to focus on two other tasks. The first is how to make the body economic more resistant to the consequences of manias and panics. The second is how to restore it to health as quickly as possible. On both counts, we can do better than we are. These are the practical challenges before us.

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Cities only work if they accommodate rich and poor

EMPLOYMENT

Sarah O'Connor



For much of the 20th century, a lawyer and a janitor from America’s Deep South could have boosted their incomes by moving to the New York area, even after housing costs. These days, that is only true for the lawyer. Housing is now so expensive around New York that, after paying rent or a mortgage, the janitor would end up with less.

This fact – drawn from an academic paper published last year – hints at a

bigger problem. Many of the lower-skilled jobs of the future will be created in successful cities like New York. But it is increasingly hard to live a decent life in one of these cities on a low wage. That is not just a problem for the janitor. It is a problem for the lawyer, the city and the economy itself.

Big cities are growth engines: so much so that they are pulling away from everywhere else. In Europe, new research shows that inequality between regions, which declined between 1900 and 1980 as poorer areas industrialised, is on the rise again. Europe has lost some industrial jobs to the developing world in recent decades (bad for places like Wallonia and Wales) but gained jobs in finance, creative industries and technology (good for cities like London and Paris). Since the financial crisis, Lon-

don’s share of UK jobs in these “advanced tradable industries” has grown from 23 to 27 per cent. Some other cities such as Manchester have done well too.

Bankers, designers and coders are not

It is neither feasible nor fair for lower paid workers to live in vast doughnuts circling the centre

the only winners. The Resolution Foundation think-tank found that for every 10 new jobs in these sectors in the UK, another six were created in the wider economy: builders, hairdressers, taxi drivers, plumbers and so on.

These workers need to live near their customers. But rising demand, often compounded by planning rules, has pushed up housing costs in flourishing cities. Janitors in the Deep South are not the only ones affected. A broader US phenomenon has been christened “skill sorting”: highly skilled workers are moving to high-income places, while lower-skilled workers are leaving them. London’s socio-economic map has turned inside out. Poorer people who used to live in the inner city have moved to its edges. The academic Tony Travers calls this the “suburbanisation of poverty”. Low-paid people increasingly commute from London’s fringes to their inner-city jobs. There are growing pains in Manchester, where little affordable housing has been built by developers in the rejuvenated city centre.

The problem may have been masked by international migration. In London, workers from the EU do a quarter of the construction jobs, a third of the hospitality jobs and 12 per cent of the retail jobs. Working for low pay in an expensive city is not easy, but it might be worth it if you want to study or learn English, or because your other options are worse.

Two years ago I interviewed a woman cleaning offices in London for the minimum wage. She and her husband rented a room in the south of the city. She got up each day at 3.30am and took three buses to work, seven days a week. She couldn’t speak English, and felt she had no better options.

We do not know yet the rules for EU migration after Brexit, but if the number of lower-paid migrants drops

substantially, the cracks in London’s economy will start to show.

Whether they are migrants or native-born, it is neither feasible nor fair to expect lower-paid workers to live in vast doughnuts around thriving cities, commuting ever-longer distances. Employers struggling to fill posts could raise wages, but that is unlikely to be sufficient. Policymakers need to make better interventions on planning, building and tax to boost housing supply. Affordable housing is not a “nice-to-have” but a necessity. Homeowners might worry this will dent the value of their houses. But so would rubbish-strewn streets, unstaffed hospitals, leaking pipes and shuttered shops. If cities only work for the highly paid, they just don’t work.

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