

Implementing a UBI: An income stream through a reconceptualization of data in the digital economy

Introduction

A significant loss of jobs brought on by mass automation in the workplace, is one of the chief arguments presented in favour of a universal basic income (UBI). Technology, it is said will make huge swathes of human skills redundant, leaving millions without a livelihood. My presentation assumes that the displacement of jobs brought about by current information and communication technologies, and technologies based on Artificial Intelligence (AI), will not result in a net increase in available jobs, and as such a UBI will be a socio-economic-politico necessity as we move to renegotiate the social contract that governs our day to day existence. However technology, I will argue, is also the very mechanism which will make implementation of a UBI possible and save us from the dystopia where millions are left without means to a livelihood. My presentation will focus on the implementation of a UBI, in particular where the funds for implementing a UBI will come from.

Central to implementing a UBI is the question of affordability (Haigh 2016). Bill Gates, has for instance, recently said that even rich countries, such as the USA, would not be able to afford a UBI¹. Others have expressed concern that a UBI might prove a 'false economy' if it displaces traditional social welfare programmes such as government provided education and healthcare (Spies-Butcher 2016). That is to say, diverting and replacing governments' financial resources originally intended to fund schooling and hospitals in order to pay for a UBI, will result in at best, a zero-net benefit compared to the status-quo ante; while the

¹ See <http://basicincome.org/news/2017/03/bill-gates-addresses-ubi-reddit-ama/> (accessed 3 August 2017)

citizen now receives a UBI, the purchasing power of that UBI will be significantly reduced because the citizen now has to pay for a service, such as healthcare, that was previously provided at no charge. The UBI has to be able to provide for other essentials, such as clothing, food and internet, in addition to those services such as healthcare previously provided precisely because the citizen is not receiving an income from a traditional job. The money for a UBI will thus need to come from new sources of revenue.

My argument is that such revenue will need to come from the 'big data' multinationals that now control our economy, and by that term I mean to include any company that generates any economic value through the use and manipulation of data. Following Jaron Lanier in *Who owns the future?*(2013) I argue that a stream of nano-payments as micro-royalties on any and all the data we generate and transmit, payable to us by any entity that uses such data, represents fair and just economic exchange in the new digital economy. The revenue stream these micropayments generate will provide the income necessary to support a UBI.

I commence my argument by first briefly delineating how the information, or digital, economy operates, in particular how 'data' is conceptualised within such an economy. Data is exchanged for 'free' services such as search and social media and then 'mined' by AI(artificial intelligence) algorithms for insights that can be used to generate new commercial opportunities. I emphasise that data as content is less important and valuable than meta-data, which we constantly generate by simply being in a digital economy. I continue by calling attention to the inevitably and ubiquity of this (meta-) data generation which results in an 'ambient intellectual property'. Thereafter I follow how this data is *captured* by the digital economy rather than *given* by us through a consideration of the 'crisis of consent' and the failure of privacy self-management. In the event, privacy is

revealed as a red-herring; the terms and conditions of privacy notices obscuring the transfer of wealth. I then argue that data reconceptualised as ambient IP will provide the basis for securing a stream of royalties and that the cumulative income these nano-payments provide will constitute a UBI. Finally, such a UBI circumvents the vexatious entitlements debate as our ambient IP is generated merely by participating in the digital economy and as such we all contribute to the creation of value in the digital economy.

The Digital economy

The new information/digital economy is also sometimes characterised as ‘The fourth industrial revolution’ (Schwab). Douglas Rushkoff (2016; 13-67) identifies the common thread between the old industrial economy and the new digital economy as the “removing [of] humans from the [economic value] equation”. Industrialization amounted to “developing manufacturing processes that required less skill from human laborers”, which in turn justified paying lower wages for that job and thereafter, eliminating that job. This process would increase productivity and efficiency. The resultant cost saving to doing business was then captured in profit to the business owner. What exaggerates this dynamic in the digital economy is the ‘network effect’ – which results in a service or good increasing in influence and value the more that service or good is used. So for example the more users Facebook has the more users it is able to attract because the new user in gaining access to the existing network also thereby increases the size and influence of that network with his/her addition to the network. The network effect is then driven by power-law (exponential) distributions resulting in a ‘winner-takes-all’ marketplace. Monopoly and Oligopoly are thus systemic features of the digital economy. What the winners in the digital economy win is data, and the bigger their network the bigger the data-sets they win.

Conceptualising data in the information economy

Facebook and Google originally used the data they collected from their users to develop more effective ways of targeting them with specific advertising (Economist 2017). However the value of data has increased because Facebook and Google have come to realise that data “can be turned into any number of AI (artificial intelligence) or cognitive services” which will generate new sources of revenue (ibid). One source has dubbed data ‘the fuel of the future’ which would, like oil in the past, power the new economy –the data economy (ibid). The oil simile tries to capture how data should be conceptualised in this new economy –is it a commodity, like oil, that can be traded? But data, as digital information is non-rivalrous “meaning that it can be copied and used by more than one person (or algorithm) at a time” unlike a physical commodity which permits exclusive use by one party.

It is also illuminating to consider the metaphor of data-*mining*, which is ubiquitous in the literature, and similar to the oil simile encountered above, both being instances of an extractive industry. Firstly, it is important to note that the ever increasing amounts of data companies are collecting from us is not simply a matter of volume; rather the shift from data to big data is “not just a quantitative shift, it is a qualitative shift as well” (Sax 2016; 26). Big data is less about the amounts of data than it is about “thinking about data, dealing with data, and approaching challenges and opportunities through the eyes of data” (ibid).

In amassing as big amounts of data as possible the goal for ‘cognitive’ services and AI in addressing particular challenges is not “to simply paint an as accurate as possible picture” – that would serve merely to more finely tune the advertising message – rather “the goal is to come up with interesting and unanticipated insights that do not follow directly from the aggregated data themselves, but that need to be *extracted* or *generated* from them” (ibid).

What extracts or generates these unanticipated insights – the mining, or boring tool if you will – from the data deposit are the company’s complex algorithms. It is these insights which, to extend the mining metaphor, represent the valuable ore the company can now either beneficiate itself or sell onto others to beneficiate. What are some of these insights? They chiefly concern prediction through tracking probabilities, and extend far from just commercial applications – ‘who is more likely to develop a particular cancer within a certain time-period?’ ‘Who is likely to change their vote for a candidate based on a particular policy position?’ ‘Which religious denomination and age-group is most likely to be radicalised?’

In the digital economy the crucial question then becomes where the primary source of value is located – from the data deposit, or the algorithm which extracts from that data. Google’s chief economist Hal Varian argues that the dominant value lies in the algorithm because data “exhibits decreasing returns to scale, meaning that each additional piece of data is somewhat less valuable and at some point collecting more does not add anything” (Economist 2017). However, as AI becomes increasingly more sophisticated and the algorithms increasingly self-teaching, newer and fresher data will be constantly required, at which point collecting more data *will* add something, leading to potentially more service add-ons (ibid).

At this juncture it is necessary to understand what data, as information, is. Information was previously most obviously conveyed as content, such as the contents of emails, or the verbatim conversations about specific things conducted telephonically. However what is more important in the digital economy is what is termed ‘meta-data’. What specifically you talked about with your friend during your phone call is far less interesting to the extractors of unanticipated insights than when you made that call, the calls duration, where you the

initiated the call and the places you went while making the call etc., i.e. the meta-data (Rushkoff 2016; 41). Rushkoff asks us to imagine “how many more data points there are in that single act than there are in [...] the subject of your call” and deduces that the more data the algorithms can collect “the more data they have to compare with those of all the other people out there: hundreds of millions of people, each with tens of thousands of data points” (ibid).

However, this citation fails to do justice to the staggering quantity of these data points: Telefónica, an ICT company, estimates that 21 billion ‘data events’ are created each day². These data-events arise out of the networked technologies we are constantly using, most notably our always connected smart-phones, but also the increasing number of devices linked to the internet, or cloud, and fitted with digital sensors, giving rise to the so-called internet of things; from smart-fridges, fit-bit activity trackers to the nest thermostat, all are constantly emitting meta-data. We will leave a digital trail wherever we go, even if we are not connected to the internet; as Paul Sondereger of Oracle says, “Data will be the ultimate externality: we will generate them whatever we do”(Economist 2017). In the process we will constantly be revealing information about ourselves: our spending patterns, our sources of income, our political sympathies, and our sexual proclivities.

Ambient intellectual property and economic value

Jaron Lanier (2013; 231) describes these data (and meta-data) clouds we inevitably create as ‘ambient intellectual property’. Our current understanding of intellectual property, covering, inter alia, patents, trademarks, and copyright, is inadequate to account for this

² See <http://www.wired.co.uk/article/the-possibilities-of-technology-are-reshaping-lives> (accessed 3 August 2017)

more general and ambient intellectual property. The basic idea behind granting a patent for example is that time and money has been spent in creating something original and the owner of the patent deserves to reap the benefits of such creation. Although intellectual property is seen as a 'creation of the mind'³, geographical indications and appellations are also considered intellectual property, and thus ambient intellectual property derived from the data one 'creates' is not an extension too egregious.

The important thing is to get us to realise that our (meta-) data is valuable, like all intellectual property, and as such has a monetary value; or to phrase the point more forcefully, as Glen Weyl an economist at Microsoft research does, –“ Data is Labour” (Economist 2017). If this is true then the digital economy has turned into an 'economy of likes' (Rushkoff 2016; 30) where wages due for value added have been remonetized into the alternative currencies of reposts, reblogs, views and shares; except that the only vendors who can cash these tokens in for money in the real world are the companies 'awarding' these 'play' currencies in the first place. For the most part then we give our data away as a 'gift' to the operators of the digital economy; in fact the original meaning of 'data' as 'things given' or 'gifts' is more than two-thousand years old (Furner 2016; 290). In classical Latin 'data' as the perfect participle of the verb *dō* (I give) operated like an adjective so that a phrase like *pecunia data* meant 'the money given' (ibid).

'Capta', Privacy and Informed Consent

We are mostly unaware of the monetary value of the data we 'gift' in exchange for 'free' services such as social media, so data is better reconceptualised as 'capta' – 'that which is

³ See <http://www.wipo.int/about-ip/en/> (accessed 3 August 2017)

taken⁴. It is at this point where the notions of informed consent and privacy come in. The recipients of our data will argue that in agreeing to the ‘terms and conditions’ of their service, which include for the most part giving our data to them, they are not just taking our data, and this consent makes the exchange fair. However common industry practices of “confronting individuals with long, legalistic privacy notices and ‘forcing’ users to consent” – the ubiquitous ‘terms and conditions’ boxes that requiring ticking in the affirmative before the service can be accessed – is based on an outdated notion of “data subjects mak[ing] conscious rational and autonomous choices about the processing of their personal data” (Schermer et al 2014; 171).

However, there is mounting evidence that “data subjects do not fully contemplate the consequences and risks” this processing entails such that they “may unwittingly consent to types of data processing they do not want. This diminishes their control over their personal data, creates a false sense of trust, and ultimately increases their privacy risks” (ibid). This situation also increases the legal and reputational risk to the data controllers as this means that the consent they rely on may rest on dubious grounds (ibid). These deep and pervasive concerns have led to a ‘crisis of consent’ (Schermer et al 2014) and the failure of “privacy self-management” (Pascalev 2017)⁵. A thorough examination of privacy and informed consent in the digital economy is beyond the scope of this presentation, but my point in raising them is to drive home Lanier’s point that “your lack of privacy is someone else’s wealth” (2013; 99). After the Snowden revelations in 2013 citizens and consumers have

⁴ The term ‘capta’ is taken from Drucker, J. (2011) who employs it to indicate a constructivist, as opposed to positivist, understanding of knowledge formation. I do not use it in that sense, but rather to convey the idea of things taken rather than given; the former implying the loss of choice.

⁵ Pascalev (2017; 39) argues that the solution to the crisis of consent is in the creation of privacy exchange authorities (PEA) – intermediaries who “empower individuals to define their own privacy terms and express informed consent in their dealings with big data companies [...] by streamlining, standardizing and automating the process of creating and applying privacy preferences for the individual consumer.”

rightly become more concerned with surveillance and tracking of their online presence, but in light of the unavoidable digital trail, as meta-data, we all now leave behind in our day to day existence “privacy is the red herring”(Rushkoff 2016; 41) of the digital economy. That is to say ambient intellectual property ownership has been framed as a privacy concern obscuring the displacement of economic value away from the individual, transforming the exchange from *capta* – that which is taken – into data – that which is given.

Generating an income stream for a UBI

Intellectual property rights are recognised as a means to secure an income stream from ones ‘creative’ activities, although as we have seen this does not restrict IP only to creations of the mind but also things such as geographical indicators. In the digital economy, our very existence becomes creative: A person need not even say or do anything specific or novel in order to contribute to the ongoing creative insights that power the digital economy. Something as rudimentary as one’s location at a specific place, at a specific time, in the presence of specific others, is data that contributes economic value, and thus needs accounting for beyond a currency based on ‘likes’. Anything a person says or does that “contributes even minutely to a database that allows say, a machine language translation algorithm, or a market prediction algorithm, to perform a task, then a nano-payment, proportional *both* to the degree of the contribution *and* the resultant value, [should] be due to [that] person” (Lanier 2013; 16). Going into the mechanics and challenges of such a system – such as attributing provenance for example –are beyond the scope of this presentation, except perhaps to note some basics such as “everyone will need to have a unique commercial identity in a universal public market information system” which

contrasts with the current system where “machines have unique identities, like IP addresses” (Ibid; 238).

By reconceptualising our data as ambient IP we achieve two interrelated things: firstly, the resultant income stream from nano-payments made for each contribution can be considered as a *royalty* stream so that each and every subsequent use of that data – remember data is non-rivalrous – will generate a payment to the owner of that data; secondly, I believe the vexatious ‘entitlements’ argument around a UBI dissolve. Some argue that a UBI is ‘morally corrosive’ because people receive money without a concomitant contribution to society (Haigh 2016). However data as ambient IP acknowledges that everybody every day, everywhere contributes to the global economy in a very significant way. Just by going about our daily routines, whether at the office, or at home, whether shopping or playing on our phones, we all contribute *data* to the global information economy. By reconceptualising data as ambient IP we will come to realise just how unfair the current exchange between ourselves and the companies in the digital economy really is.

Conclusion

A reconceptualization of data as ambient IP would form the basis of a UBI and circumvent the vexatious question of entitlement. It would also acknowledge the economic value of citizen’s ‘gifts’ to the digital economy and constitute a more ethical way of recognising their contributions. While I have hoped to demonstrate that micropayments derived from online activities represent a feasible way to afford and implement a UBI, resistance to this idea is to be expected from those who stand to lose from the current status-quo in which ‘free’ services such as search and social media are unjustly exchanged for our valuable data. Companies such as Facebook and Alphabet profit handsomely in the current set-up and

have no interest in changing the deal. If we accept that data is labour then we will need, as Weyl (Economist 2017) argues, “some sort of digital labour movement” to advocate for such a change.

The idea of a UBI may have taken on a new urgency in the digital economy, especially with the fear surrounding automation, but the idea of UBI is at least 500 years old, going back to Thomas More in *Utopia* (1516), where it was presented as an antidote to crime (Haigh 2016). Technology should thus not be seen as cause of our current woes, to which UBI will be the answer, rather as Rushkoff (2016; 54) argues “ Technology isn’t taking people’s jobs; rather, the industrial business plan is continuing to repress our ability to generate wealth and create value –this time, using digital technology. In other words, the values of the industrial economy are not succumbing to digital technology, digital technology is expressing the values of the industrial economy”.

Such values have led us to the current unsustainable levels of global inequality in which fewer share the wealth generated. In the digital economy “the production of goods and services of value increasingly rests on the collection, processing and management of information [...] It is the information-processing structures of firms, cities, nations and other institutions of human society that gather that information, and sort it, and turn it into the production that enriches people around the world. *The wealth of humans is societal*” (Avent 2016; 232; emphasis added). If so, that wealth must necessarily be shared equitably; a UBI recognises that imperative.

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