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There are three papers in issue 135. John Bibby's appreciation of a long-standing Radical Statistics member and activist; Janet Shapiro. This is followed by a powerful empirical paper by Frank Houghton et al, on data suppression around maternal mortality in Idaho, USA. Finally, Simeon Scott and Mark Dunkerley present a critical examination of the interplay between money, markets and inequality, a paper they first presented at the Sheffield Radical Statistics conference in March 2023.

RadStats Journal / Newsletter

The Radical Statistics editorial team has expanded but is still in search of people to help in terms of reviewing submitted articles or interesting books. The future of the RadStats journal is dependent on submissions from members and other interested parties. Since the Sheffield conference, we have seen a reasonable upturn in the number of papers submitted, and hope that this trend continues. If you have written something that you think would interest Radical Statistics, please consider submitting.

Getting Involved

The RadStats group is as strong as its membership and we welcome offers of help. If you are interested in becoming involved with the journal, a future conference or event (RadStats turns 50 in 2024) or have other ideas to advance the Radical Statistics aim of building a more free, democratic, and egalitarian society, please contact editors@radstats.org.uk.

RadStats are particularly concerned about

- Mystifying use of technical language to disguise social problems
- Lack of control by the community over what & how statistical investigations are conducted and interpreted.
- Power structures within which statistical and research workers are employed.
- Fragmentation of social problems into specialist fields, obscuring connectedness.

"We believe that statistics can be used to support radical campaigns for progressive social change. Statistics should inform, not drive policies. Social problems should not be disguised by technical language"

Administrative Issues

Please make sure you have updated your subscription, *or make a donation*! - by going to www.radstats.org.uk/membership/ where you can pay by cheque, standing order or PayPal.

Editorial Team (editors@radstats.org.uk)

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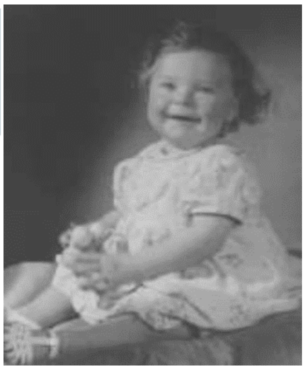
Please email if interested in joining this team.

Review Editor

Irina MOTOC (**irinamotoc@gmx.com)**

Janet Shapiro née Howe (1939 – 2023): An Appreciation.

John Bibby[1]



Our dear colleague, comrade and friend Janet Shapiro died suddenly on Saturday July 29th 2023. She will be sorely missed.

Janet joined Radstats in 1982, was treasurer from 2006 to 2016 and served on the Troika and Editorial Board.

About 100 people attended Janet's memorial service on August 13 at Lauderdale House in North. London. These included Jeff Evans and Diana Kornbrot from Radical Statistics. About ten people spoke, including National Pensioners Convention and local reps, Muswell Hill Labour Party. Speakers paid tributes to Janet's energy, drive and effectiveness

She left some interesting Memoirs which recalled her happy working-class childhood in Sheerness despite being "a surprise … born when the last boy was eighteen". Her mother Lilian née Smart was brainy - "her speed at mental arithmetic frightened me". Her father Robert was a dockyard carpenter - "he was a good craftsman". Born in 1939, Janet recalled wartime fears of bombing aggravated by spiders in the Anderson shelter. She had scarlet fever as a child and spent time away from family in an isolation hospital. She passed the eleven-plus and went to Sittingbourne Grammar School and later to Hockerill Training College where she qualified as a mathematics teacher. No-one from her school year went to university. "At college I shared a room with a girl from my school, Frances Hughes. We did not get on well but our surnames both began with H".

Janet then went on to teach, learned that secondary schools were not for her, met her husband Ray (also a teacher) through contacts in the Young Communist League, and had two children. In 1995 she completed her PhD on simulation modelling while bringing up two teenagers.

Eight years later "After my husband's death I gradually became more actively involved in campaigning organisations, quickly taking on the treasurer role for Radical Statistics; later I became an editor. My activity increased in those groups that I already belonged to such as the Labour Party, Friends of the Earth, other local environmental groups and the Hornsey Pensioners Action Group who play a big role locally. We take up local concerns like the location of the W7 bus stop and support important facilities such as local Libraries and the Muswell Hill Bowling Club. … Local activity is so important; … people should care about what is happening about them and feel that they can make a difference. … Many influences have combined to make me politically conscious, and thus get involved in more causes than is good for me; some may call this 'scatty'."

Comments received from Radical Statistics members and others highlight not only her industry and effectiveness, but also her exceptional amiability, vivacity and good humour:

"Janet gone, oh dear, she was such a bright face."

"I overlapped with Janet through our membership of RadStats troika for a few years and was welcomed as a house guest of hers in London when working part time there for a limited period (gratis in payment through giving her piano lessons!)."

"Janet was assiduous in dedicating herself to causes she believed in and was the master of fine detail. One such was her work with local senior citizens and with trade unions. She took over the task of running the Radstats Essay Competition with similar dedication. Family was very important to her. She showed substantial skills in life drawing which become a big part of her interests."

"I have nothing less than admiration for the energy, diligence and perseverance that she showed in all her voluntary activities."

"Her research was impeccable which gave her the confidence to speak on so many issues from the rights of disabled people, to the devastation over the last decade of the NHS and to discounted Silver Screen

cinema seats. She campaigned tirelessly and genuinely made a difference in her community."

"She was a mathematician and her accounts were always written meticulously."

"She fought on so many fronts with such knowledge."

"I was amazed how many issues she managed to keep abreast of, even when she was already seriously ill."

"A remarkable and resourceful woman with an abundance of energy, drive and intellect."

"Janet set us all a great example in showing us what we need to do to help activists with hearing loss: 'Speak up, use the mike, stand where I can see your lips'".

"I remember Janet as energetic and tenacious, but also as a kind and supportive colleague."

"She realised that not only do we have to work for today's pensioners but for the younger generations because they will be the future pensioners."

"As a statistician Janet's financial statements were clear, transparent and digestible. She was an asset to the group in terms of her clarity of thought, quiet demeanour, patience and willingness to listen. … As a pensioner, colleague and friend Janet will be remembered for her strength of character, selflessness, commitment, consistency of her principles and values and her achievements."

"As the Greek poet Costas Ouranis put it: 'The departed die only if we forget them'. Goodbye Janet. You will not be forgotten."

> "Activist, Academic, and Artist,
> Beautiful in spirit and heart,
> Considerate and Committed,
> Energetic,
> Friendly and a Fighter,
> Generous to all with her time and advice,
> Humble and Hospitable,
> Intellectual, intelligent, inspired and inspiring,

Kind and knowledgeable,
Loving,
Modest,
Non-compromising,
Optimistic,
Passionate,
Questioning and challenging injustices and inequalities,
Revolutionary and Reliable,
Selfless,
Trustworthy,
Uncompromising,
Voracious reader,
Wise,
eXcellent listener
Young at heart with unparalleled
Zest for life."

A recent email from Janet indicates how she kept up to date with current concerns and campaigns:

- Social media - merely exploitation from Big Companies, or does it promote true communication and debate?
- Is modern debate and democracy helped by social media?
- What is the modern role for the BBC? Does it contribute to national well-being and/or boost the economy?
- Are Trade Unions making good use of Statistical evidence?
- How can Radical Statistics help Trade Union members make more effective use of statistical evidence?

She has left us a legacy on which we must build.

Notes

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Information Suppression in Idaho: Maternal Mortality Data in the Shadow of Recent US Supreme Court Judgements.

Frank Houghton[1], Margo Hill[2], Daisy Houghton[3] and Mary Ann Keogh Hoss[4].

> *There are three things that cannot long be hidden: the sun, the moon and the truth*
> The Lord Buddha, Siddhartha Gautama

Legal Background

On June 4th 2022 the United States Supreme Court overruled both Roe vs. Wade (1973) and Planned Parenthood of Southeastern Pennsylvania vs. Casey (1992) and returned the legality of abortion to the states. The issue examined was whether the Constitution confers the right to obtain an abortion. The Court held that *"The Constitution does not confer a right to abortion; Roe and Casey are overruled; and the authority to regulate abortion is returned to the people and their elected representatives."* In Dobbs vs. Jackson Women's Health Organization, the U.S. Supreme Court considered the standard that is used to decide whether the Fourteenth Amendment's reference to "liberty" protects a particular right. The Constitution has no direct reference to abortion, but a number of Constitutional provisions are utilized to validate the constitutional right to abortion. Roe vs. Wade held that a woman's right to abortion is a right to privacy that comes from the First, Fourth, Fifth, Ninth, and Fourteenth Amendments. The dissenting opinion in the Dobbs Judgement points out that if sex was non-consensual, or a planned pregnancy takes a tragic turn due to a serious foetal abnormality or maternal health complications, treatments may now be denied or delayed due to potential prosecution.

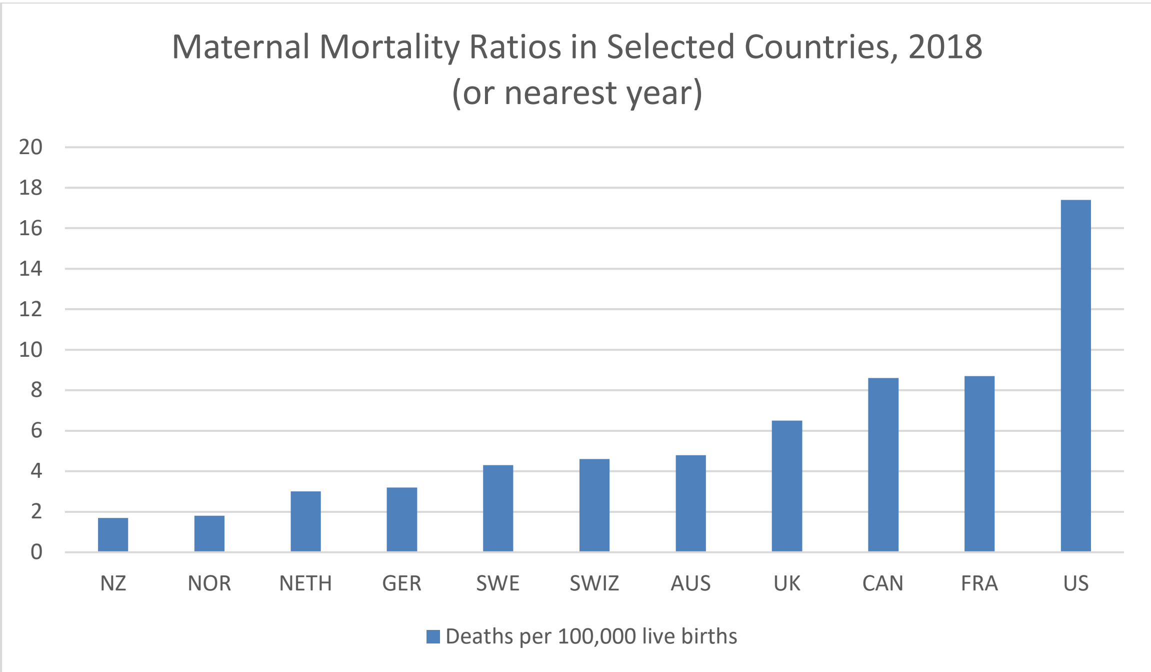
During the Supreme Court process thirteen States in the US prepared so-called ‘trigger laws’ in expectation, ready to be implemented immediately if the challenge was successful (Jiménez, 2022). Since the abortion protections of Roe vs. Wade have been overturned, an increasing number of States have severely restricted access to abortion, even in cases of rape and incest (New York Times, 2023; Nash & Guarnieri, 2023). This legislation clearly represents an assault on women, denying them bodily autonomy (Hill et al., 2023).

Maternal Mortality in the US

Legislation restricting access to abortion in the US will inevitably increase maternal mortality. A body of research has already emerged that has clearly identified significant increases in maternal mortality rates in US States where abortion services have been restricted (Vilda et al., 2021; Sherburne Hawkins et al, 2020; Gender Equity Policy Institute, 2023). Any increase in US maternal mortality rates is an issue of considerable concern as these are already extremely high. The US has the highest rate of maternal mortality amongst industrialised countries. To give an example, New Zealand, is a country which experienced significant economic difficulties from the early 1970s onwards following not only the oil prices shocks and inflation that marked this decade, but also the loss of its main trading partner as the UK joined the Economic Community (EC) at the start of 1973. However, as can be seen from Figure One, despite only moderate growth since then, New Zealand’s maternal mortality rate in 2018 was 1.7 per 100,000 live births. The equivalent rate in the US is ten times higher, at 17.4 (Tikkanen et al., 2020). Information from the Centers for Disease Control & Prevention (CDC, 2023) indicates an ongoing rise in maternal mortality rates in the US from a rate of 7.2 per 100,000 live births in 1987. Recent analysis from the National Centre for Health Statistics suggests the US maternal mortality rate in 2021 was 32.9 deaths per 100,000 live births. This is notably higher than the rate of 23.8 for 2020, which is in turn higher than the figure of 20.1 for 2019 (Hoyert, 2023). It is anticipated that this rate will continue to rise as data for 2022 and 2023 becomes available.

The United Nations' (UN) Millennium Development Goal 5a was to reduce maternal mortality by three-quarters over a 25 year period from 1990. Significant strides internationally were made towards this goal, with decreases observed in 157 out of a total of 183 countries (WHO, 2014). Globally maternal mortality declined by 44% during this period, with a slightly higher rate of decline noted in industrialized countries (WHO, 2015). However during the period from 2000 to the year 2014 it is estimated that maternal mortality rate in 48 US States plus Washington DC actually increased by 27 percent (McDorman et al., 2016). Only California showed a declining trend, while Texas demonstrated a late and sudden increase.

Figure One



Source: Tikkanen et al., 2020

US society is riven by endemic racism. This is reflected in its gross health inequalities. Incontrovertible evidence exists which clearly demonstrates the adverse impact of systemic and structural racism on morbidity and mortality rates in the US. There is a distinct racial element to health inequalities in the US, and maternal mortality is no exception to this pattern. Recent evidence clearly demonstrates higher mortality rates among non-Hispanic minority mothers (CDC, 2023; Yearby et al., 2022; Villarosa, 2018; Villarosa, 2022; Petersen et al., 2019; Crear-Perry et al., 2021). African-American mothers have particularly high maternal mortality rates. Inevitably those experiencing the intersection of multiple aspects of disadvantage, such as race, education, class and rurality, will suffer most from abortion restrictions (Hoang and Wong, 2022; Commonwealth Fund, 2022).

Maternity health care in the US will further decline into the future. Like many countries the US is suffering from a shortage of trained healthcare staff. Historically, a predominantly white workforce has been tempered, at least in part, by affirmative action in hiring and training. Although minority groups remain under-represented throughout the healthcare workforce, particularly in higher status and higher pay disciplines and specialities, affirmative action helped much needed diversification of the workforce. However, another recent Supreme Court judgment (Students for Fair Admissions [SFFA] v. Harvard and SFFA v. UNC) has removed the last legal protections for affirmative action, which had already been severely curtailed in recent years (Rios & Stein, 2023; Bero, 2023; Garces et al., 2015). The result of this judgement will undoubtedly be a further decline in minority participation in the US healthcare workforce. This is highly problematic as diversity is important for promoting both patient outcomes and health equity (Phillips & Malone, 2014; Aguwa et al., 2022).

The US suffers not only from a deficit in the number of maternity care providers, but in their disciplinary training profile. In most countries the number of midwives far outnumber medically trained obstetrics-gynaecology personnel. This works, as many births can be managed without expensive medical support that requires extended training (American College of Nurse-Midwives, 2020). However North America stands out as something of an outlier. In the UK the ratio of medically trained obstetrics-gynaecology personnel to midwives is 1:3.9. Whereas the comparative US ratio is 1:0.4 (Tikkanen et al., 2020). In a marketized system based on the primacy of private healthcare this inverse ratio is crucial, especially given severe inequalities in wealth and income which subsequently bar access to such services for many.

The legislation restricting abortion that has now been enacted in many states will result in increased maternal mortality through a variety of mechanisms. At its most basic level life-saving abortions, such as in instances of ectopic pregnancy, may be denied because of confusion over the bans and fear of prosecution in States such as Texas (Huff, 2022), with many other States having severely curtailed maternity care options. It is important to remember that, as the American Medical Association have noted, 'States that end legal abortion will not end abortion—they will end safe abortion' (AMA, 2022).

Women experiencing miscarriage will find it increasingly difficult to access maternity services (Human Rights Watch, 2023). Even in States where life-saving interventions to care for pregnant women are legal, legislation will inevitably result in delayed and inadequate care as hospitals may well delay treatment until the woman's health has declined to such a degree that they do not risk prosecution, fines and potential imprisonment (Abrams, 2023; Glenza, 2022; Ambast et al., 2023). There is a lack of clarity around the legalities of maternity care provision in the evolving legislative landscape in many States. For example, where does terminating pregnancy in order to commence chemotherapy or initiate potentially lifesaving surgery sit legally (Harris, 2022; Giglio et al., 2022)? In emergency situations women may also opt to travel further to cross State lines to access abortion services (Human Rights Watch, 2023). Such delays will inevitably increase the maternal mortality rate. It must be noted that abortion and general maternity care providers in less restrictive States, but adjacent to abortion restrictive States, may find themselves overwhelmed (Kaye & Samaniego, 2023; Donegan, 2023a). Such excess workloads will lead to diminished care for all (Harris, 2022).

Given the penalties involved, it is no surprise that even finding a health provider offering maternity services is increasingly problematic (Schoenfeld Walker, 2023). Many rural areas in the US are known as maternity care deserts. These are defined as administrative areas (usually counties) without either a hospital or birth centre offering obstetric care, and without any obstetric personnel (Brigance et al., 2023; Buller, 2023). However, the ongoing exodus of trained personnel from some abortion restrictive States is increasing the number of areas that are now defined as maternity care deserts

(McLoughlin, 2023, Brigance et al., 2023; Kaye & Samaniego, 2023). These maternity care deserts mean that women seeking even basic pre-natal care are increasingly forced to travel greater distances or forego such healthcare. Even access to basic contraception services is increasingly threatened under restrictions, especially given the growing dearth of maternity care providers in some areas (Human Rights Watch, 2023)

Doctor – patient trust will inevitably also be compromised in abortion restrictive States (Human Rights Watch, 2023; Samuels-Kalow et al., 2022). Professionals may well limit the information they share with patients in order to avoid accusations or prosecutions related to anti-abortion legislation (Human Rights Watch, 2023). Patients will inevitably be aware of this partial sharing of knowledge. In return patients may lie about conception dates in order to potentially keep their options open. It is highly likely that some pregnant individuals will decide not to opt for prenatal care in order to avoid surveillance and potentially prosecution (Human Rights Watch, 2023). Issues of privacy and confidentiality around medical records are very important under normal circumstances. However, in the increasingly polarized US privacy is even more important as attempts at prosecution for 'aiding and abetting' abortions are emerging (Donegan, 2023b). A total of 19 State Attorneys General have already written to US President, Joe Biden, seeking to gain access to medical records of residents of their States in order to track and prosecute those travelling for abortions and those that aid them (Ingles, 2023). These attempts stem from a lack of unitary data protection legislation in the US.

It is an unfortunate reality that many of the States which have, or are seeking to curtail abortion rights, are the same States that have steadfastly rejected expansion of the Affordable Care Act ('ObamaCare'), which significantly expanded health insurance coverage for many women (Marchi et al., 2021). Abortion restrictive States are also more likely to have high rates of poverty, minimal enforcement of child maintenance payments, few primary care services, and little in the way of safety nets for vulnerable populations (Vilda et al., 2021). As well as being an embarrassingly high outlier among industrialised nations in terms of maternal mortality rates, the US is also the only industrialised nation that does not have nationally required maternity pay. Some level of maternity pay is given in the UK for 39 weeks, with the period covered being even longer in countries such as Sweden, Norway, Austria, Japan & Estonia (Bryant 2020; Human Rights Watch, 2023). Abortion restrictive States are also much more likely to be States where both the minimum wage is the lowest rate ($7.25 per hour), and where tipped minimum wages are at their lowest ($2.13), as set by the Federal Government. In such environments restricting abortion access leaves women at significantly increased risk of economic insecurity, which negatively impacts health status.

The longer term forecast for maternal mortality in abortion restrictive States is dismal. Approximately half of all medical training programs in the US are in abortion restrictive States (Vinekar et al., 2022). Trainees graduating from these States are unlikely to achieve training in the full spectrum of maternity care services. Although some medical students may be able to travel out of State for such training, the legality of this option is questionable Lambert et al., 2023; Beasley et al., 2023). In addition, given that many States are abortion restrictive the logistics and feasibility, as well as the cost of arranging so enough out of State internships appears prohibitive (Beasley et al., 2023). Applications for Obstetrics-Gynaecology training in abortion restrictive States have also declined significantly , which will have long term implications for provision of even basic services in this field (Hoffman, 2022).

Abortion restrictive States will also inevitably witness a decline in physician competency through atrophy (Samuels-Kalow et al., 2022; Gyuras et al., 2023). In all likelihood medically trained personnel will not be able to perform enough medically required abortions, even in States that do have some exemptions, to retain competency in this field (Beasley et al., 2023). In a short space of time there will not be enough doctors left to either perform life-saving abortions or teach these skills to others (Harris, 2022; Lambert et al., 2023).

Problems with Maternal Mortality Data in the US

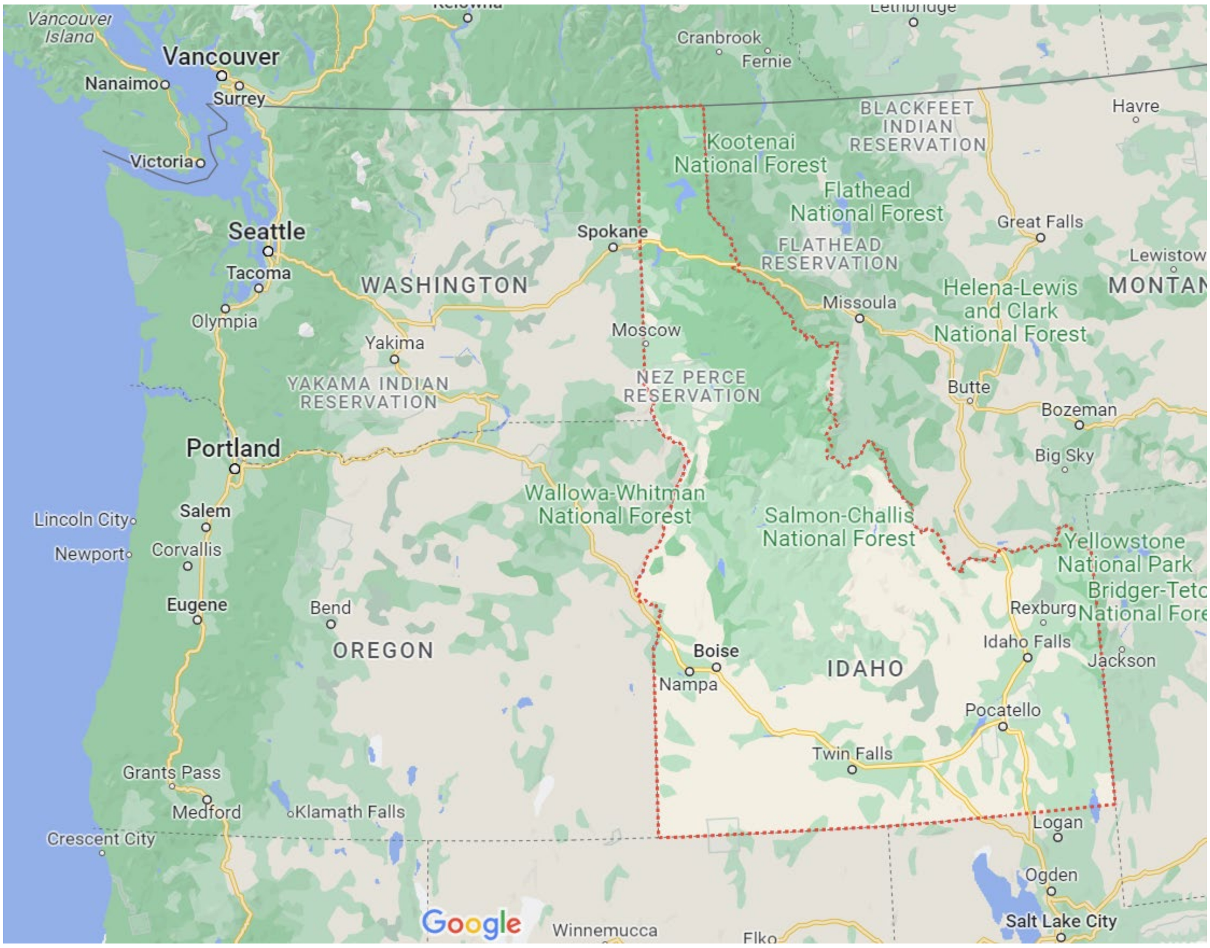
The US Government has not released an official maternal mortality rate since 2007. (Schoenfeld Walker, 2023; MacDorman & Declercq, 2018). The National Vital Statistics System (NVSS) is the source of official US maternal mortality statistics used for State & international comparisons. However, problems with accuracy in US maternal mortality data are long standing (Horon & Cheng, 2001; Mackay et al., 2005; MacDorman & Declercq, 2018). Efforts to improve reporting include a 2003 revision of the United States standard death certificate to include a pregnancy question (Hoyert, 2007). However, many States have been slow to implement this change and as a result both the quality and consistency of maternal mortality data across States is significantly compromised. By 2015 three States had still had not adopted this question, while there is evidence of over-reporting of maternal mortality in some States with the pregnancy question (CDC, 2017). It has been suggested that strict rules in relation to coding the cause of death around maternal mortality may serve to artificially inflate the rates recorded (National Center for Health Statistics 2017a; 2017b; MacDorman & Declercq, 2018). Although the US does have another specific health information system, the Pregnancy Mortality Surveillance System (PMSS), this is not the panacea to health information deficits in this field that one might assume. The NVSS, with all its deficits, is the main source of data for the PMSS. In addition, access to PMSS data is restricted to the Federal Government on confidentiality grounds. Interestingly, the PMSS is also prohibited from releasing data at State level, thus preventing State to State comparisons (MacDorman & Declercq, 2018).

Idaho- An Overview

As can be seen from Figure Two, Idaho is a largely rural State located in the Northwest of the US, which has a population of approximately 1.8 million. Although bordered by the more liberal States of Washington and Oregon, the State is both far more conservative and Republican than its two westerly neighbours.

Although achieving suffrage for women relatively early in both State and international terms (1896), Idaho was one of a number of States that enacted trigger laws ready to immediately restrict abortion if Roe was overturned (Kim, 2022; Jiménez, 2022). Idaho has one of the lowest tax regimes in the US, with a concomitant minimal health and social care security net. For example, in the recent legislative session a proposed Bill to expand postpartum Medicaid coverage in Idaho, did not even receive a hearing (Cohen, 2023). Idaho is also one of the States in which the minimum wage is the federally mandated minimum at just $7.25 per hour, less than half that of its neighbour, Washington State ($15.74), the highest in the country (Washington State Department of Labor & Industries, 2023). Idaho has maintained the Federal minimum rate at just $7.25 per hour since 2009.

Figure Two: The State of Idaho & the Pacific Northwest



Like Texas, Idaho has enacted extremely repressive abortion legislation (Oladipo, 2022). Idaho has also featured heavily in discussions of growing maternity care deserts. A number of news articles have focussed on both the closure of maternity care sites and the relocation of maternity healthcare staff to States with more liberal regimes (Abrams, 2023; Buller, 2023; McLaughlin, 2023; Oladipo, 2023; Tabachnick, 2023).

Maternal Mortality Data in Idaho

Up until recently Idaho was one of 49 States, plus Washington DC, New York City, Philadelphia, and Puerto Rico that had a Maternal Mortality Review Committee (MMRC) (Merelli, 2023). These committees are crucial as they have access to confidential information that can help determine the cause of death accurately. However, even when functioning only 36 of these routinely reported their data (Trost et al., 2022).

However, in the current environment maternal deaths have become a political issue (Merelli, 2023), and Idaho have moved to suppress this information. Idaho has become the first State to stop MMRC tracking of maternity deaths after State lawmakers opted not to extend a 'sunset date' contained in the original MMRC legislation when it was established in 2019 (Schachar, 2023; McLaughlin, 2023). Although addressing different issues the relevance of Chomsky's (2012) work on 'intentional ignorance and its uses' is obvious. In opting not to renew the legal standing of the MMRC, an important issue when dealing with confidential health information, Idaho lawmakers cited the costs of running the committee. However, others have highlighted the Federal funding which fully supports the MMRC (Schachar, 2023; Sullender, 2023).

What makes the decision to shut-down the MMRC in Idaho all the more ominous is that its 2020 Report notes that of the 11 maternal deaths in the State in that year all eleven were preventable and nine were pregnancy related (Liposchak et al., 2022). It is interesting to note that although the MMRC in neighbouring Washington State was also initially established in 2016 with a sunset clause, when the time for renewal came it was legislatively established on a permanent basis (Sullender, 2023).

The closure of Idaho's MMRC will significantly weaken attempts to monitor maternal mortality rates in the State of Idaho. Since 2019 it has been possible for the State to identify and examine maternal mortality rates and causes with a high degree of certainty. However, closing down the MMRC will effectively hide this rate, leaving only estimates, which are more easily ignored or refuted.

Conclusion

The impacts of the Dobbs judgement and the repeal of the protections inherent in Roe vs. Wade represent a blatant right-wing attack on gender equity and bodily autonomy for women. It is unmistakably obvious that the result of abortion restrictive legislation across many States will be to increase maternal mortality. The impacts of this legislation look set to spiral negatively as maternity healthcare providers either relocate or find their skills diminishing. The number of students opting for a specialism in maternal care in abortion restrictive States has already declined. Amidst this backdrop it is an extremely cynical and sinister move for the State of Idaho to purposefully establish what is essentially an information void around this issue. This form of information suppression will no doubt at least partially serve to cloak the increase in maternal mortality which is already becoming visible across the US. However, it represents an affront to gender equity and any vestiges of ideas of an informed democracy.

Notes

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Reification: Money, Markets and Inequality

Simeon Scott and Mark Dunkerley

Introduction

"…poor people are poor because they are lazy or stupid or weak…rich people are rich because they are hardworking, intelligent and strong…all the evident inequalities and injustices in the world result from those unpalatable facts"; Lanchester (2015, 17) referring to thinking that he believes is common amongst those who "speak money".

As statisticians we are aware that a large proportion of the data generated and processed is either expressed in monetary terms or is in some way related to monetary value. For example, the Office for National Statistics (ONS) announced that the rate of inflation in December 2022 was 9.2% as compared with December 2021; following years of relatively low inflation, between 2% and 3%. Unfortunately, mainstream statisticians and economists typically fail to consider the implications of our money-dominated social relationships. We may note, for instance, that current increases in the cost of living have set in motion a whole range of events, such as strikes by nurses, doctors, postal workers, railway staff and others, along with rises in homelessness, child poverty, the use of food banks and more. Therefore, the purpose of this paper is to investigate how and why money, increasingly expressed as numbers on screens, exerts such a strong influence over our lives. To this end we shall employ the term *reification*, an obscure word with Latin roots, showing how a *thing* exerts power over people. So, for example, how come £500 in crisp notes, which cost a few pence to produce, or as numbers on a bank statement, will make someone do a job they do not like for a week? In some countries an equivalent will make people work for a month or even longer. Similarly, we can ask how come a fall in the value of the pound against the US dollar in 2022, along with a rise in the cost of borrowing in the money markets, was soon followed by the departure of prime minister Truss? But lurking behind its reified appearance, which is all too real, money has a social essence; the nature of which we shall attempt to discover.

The notes contained on the inside front cover of issues of *Radical Statistics* refer to concerns regarding contemporary statistics. *Spectacle* is a term used by Guy Debord in the 1960s and in correspondence Roy Carr-Hill told me (SS) that he met Guy in Paris during those revolutionary times. What is important about Debord's (1987) notion of spectacle is that we are typically reduced to passively watching screens rather than being actively involved in creating a more equal, fairer and happier society. Not only are we often overwhelmed by the spectacle of equations, tables and graphs, but also the "mystifying use of technical language", as the above-mentioned notes explain. These notes also point to the "lack of control by the community" due to the "power structures within which statistical and research workers are employed". This results, the notes add, in the "fragmentation of social problems into specialist fields, obscuring connectedness". With these comments in mind, the authors of this paper will attempt not only to demystify relevant statistics but also challenge our preoccupation with numbers in general, including those relating to such issues as inflation and inequality. We will refer to descriptive statistics, using such concepts as percentages and mean values. Where we do mention inferential statistics, i.e. conclusions taken from samples, we will be critical of mainstream, or classical, approaches. With these challenges to textbook statistics in mind, the topics covered in this paper will include a brief history of how money has come to exert such reifying power over our lives. We then look at the money supply and inflation, and the relationship between them, which is followed by consideration of that false measure of our well-being: Gross Domestic Product. The paper then turns to the issue of financialisation and the money markets; including the reifying power of debt which lead not only to the earlier mentioned fall of prime minister Truss but also the EU and IMF's assault on the Greek working class. Prior to the conclusion we seek an answer to the crucial question: where do the profits in the money markets come from?

Is money merely an efficient form of barter?

Conservative writers, such as the historian Ferguson (2019), project their belief that humans are *naturally* given to transactions into prehistory; arguing that prior to the existence of money people exchanged goods for goods, a process known as barter. They argue further that the invention of money was a major step forward for humanity as it made the exchange of goods more efficient. The anthropologist David Graeber rejects these claims, in Graeber and Wengrow (2021), arguing for the variety and complexity of human existence in prehistory. It would seem, he writes, that during most of pre-history people lived in tribal communities in which food, clothing and shelter was produced collectively and distributed according to need and status. Graeber points out that barter was rare, existing in exchange between tribes, often on different land masses. He does not seek to idealise life in prehistory, as some Marxist anthropologists have done, noting that when tribes fought, for example, survivors of the defeated side were sometimes enslaved and, particularly the females, used as a means of exchange. Graeber addresses the issue of other alleged means of exchange, such as shells or items of jewellery, which were distributed across tribes; mainstream economists claiming this as proof of our alleged natural propensity to buy and sell. Other explanations of this spread, argues Graeber, are perfectly possible citing, for instance, evidence of prehistoric women's gambling habits.

The first use of money in Britain was during the iron age, i.e. the 500 years or so prior to the Roman invasion; coins being imported from the European mainland. Hoards of potin coins, made of a copper, tin and lead alloy, of Roman origin have been found mainly in the southern half of the country. One recent find of potins occurred in the excavations along the HS2 train route during 2021; gold stater coins have also been found in hoards. Most archaeologists believe that iron age coins did not circulate as a means of exchange amongst tribal members, but rather were accumulated by tribal chiefs either as tokens of their power or formed part of religious ceremonies. There is evidence that some of the most powerful chiefs later minted their own coins as symbols of their status. Because these tribes, often wrongly referred to as Celts, had no written language, apart from the archaeology we only have Roman textual sources which typically seek to denigrate the early inhabitants of Britain. After the Romans left Britain, so far as we can tell, given the lack of written records, the tribal culture continued with only intermittent use of money.

What became clear by the Middle Ages was that, far from being merely a more efficient form of barter, the accumulation of money became an *end in itself*. As Aristotle's works circulated in Europe, via Muslim sources, there developed a debate on the proper use of money. Aristotle believed money should only be used to buy and sell goods and services, whereas those who made money out of money by charging interest, were acting "contrary to nature" and engaged in "mutual cheating" (cited in Marx, 1990, 267). The Christian thinker Aquinas and a number of Muslim scholars discussed the notion of a "just price" and Aristotle's negative views on the charging of interest, referred to as usury, were to influence thinking in much of the Christian and Muslim world until the 18th century. Today, in a process known as financialisation, banks and other financial institutions ignore the long-standing debate on usury, and making money as an end in itself has come to dominate the global economy. However, as we shall see, it is the case that money and wage labour are closely related; only in a society where wage labour is dominant will the use of money be near universal. That the majority of the UK's population, as elsewhere, is more or less forced into wage labour and the use of money is the result of various events in history, such as the enclosure of formerly common land. This has meant that the vast majority of the British population has been robbed of its ability to acquire food, clothing and shelter by its own communal means. Therefore, as wage workers we have little or no option but to rent out our ability to labour and become victims of the seemingly all-powerful god of Mammon.

Aristotle's views on usury introduce us to one of the fundamental artefacts of statistics: percentages. A bank might charge a *simple* 15% annual rate of interest on a loan, which consists of the prevailing rate of interest in the economy, set by the central bank, plus an extra charge for the risk of non-repayment. However, as with most credit agreements, including those offered by loan sharks, *compound* interest is often charged so that interest is charged on the interest. As the most vulnerable sections of the working class often find to their cost, rates of interest charged when they have to borrow are often both complex and highly exploitative. There is a myth propagated by conservative economists that, as intermediaries between savers and borrowers, banks make their profits by charging a higher rate of interest to those who borrow, or overdraw on their current accounts, than to the depositors who lend them money. In reality, banks do not rely primarily on savers to finance their loans; they simply create money out of thin air by putting money into the accounts of lenders; indeed around 90% of all new money is created in this way. Banks are subject to certain controls on their money lending but, as is currently the case in Britain, these are often relaxed leading to failed stress tests and, as in 2007/8, failures and government bailouts.

Throughout recorded history most currencies have been made from, or were exchangeable for, gold or silver. But there were a number of problems with the use of coins made of precious metals; one of which was "clipping" away at the gold content and thereby debasing their value. Before ending this section, we may note that the Cragg Vale, or West Yorkshire, coiners clipped coins, which was a capital offence in the 18th century. The funerals of those caught by the authorities were often attended by local workers as the coiners were celebrated as defrauding the wealthy who regularly used gold coins, in contrast to the mourners who would never see such coins in their lifetimes. Since 1971, most currencies around the world are fiat money, i.e. are not exchangeable for, or related to, gold, silver or any other commodity. Having said this, the US dollar continues to dominate world currency markets, with the central banks of other national currencies, such as sterling, seeking to maintain their exchange value against the dollar.

Does 'printing money' cause inflation?

The self-styled "left wing" economist Varoufakis (2017), and a host of others who should know better, routinely refer to "printing money". Use of this term was popularised by the monetarist guru Milton Friedman and repeated by conservative politicians such as Reagan and Thatcher during the 1980s, a period of high inflation. Often using the example of Germany in the run up to 1923, the conservative argument is that printing money is positively correlated with inflation. In fact, the conditions in post-WWI Germany were unique, there was the strong possibility of the foundation of the world's first democratic socialist nation, but this was violently crushed by proto-fascists. The Allied victors had imposed draconian reparations on Germany, some of which had to be paid in gold; and it should be noted that, prior to 1914, the country had a currency of which at least a third had to be backed by gold. With the central bank running out of gold and the wealthy refusing to pay taxes, the government suspended reparation repayments and local banks began issuing currency notes with no link to gold. As is often the case, conservative economists blame the German government for not only "printing money" but also granting generous wage increases for striking workers. It seems fairly obvious that the point of issuing vast amounts of currency with no increase in the supply of goods and services was to create hyperinflation and thus thwart the allies' reparation arrangements altogether. The hyperinflation that ensued continues to be used by conservative economists to bolster the claim that any amount of printing money causes a corresponding amount of inflation. Using econometrics, i.e. the use of regression and other statistical techniques as applied to economic variables, all manner of fancy equations have been created by central banks, corporately financed think tanks and the like to 'prove' this claim. Indeed, some such economists argue that the currently high level of UK inflation is the result of lax monetary policy by the Bank of England.

Considering this claim, let us begin with the term "printing money". In Britain today, for instance, bank notes are printed in a Bank of England facility in Essex, which are bought by distributors who sell them on to banks to be used in their branches or ATM machines. Most of the new notes, however, simply replace worn out old ones which are taken out of circulation and destroyed. As we know, notes and coins are a falling proportion of the UK's money supply, being increasingly redundant with the rising use of credit cards, chip and pin, contactless and other means of payment. To the extent that the Bank of England creates money out of thin air, as it does, this does *not* involve any printing of notes; rather amounts are credited to the accounts of banks which, by law, have to be maintained at the Bank of England. In fact, as we have noted, the vast bulk of new money is not created by the Bank of England, but by bank loans to customers which again involves no printing of money, but rather credits in customers' accounts. The fact that these customers are borrowing money is simply part of the day to day working of any capitalist economy and in itself has little to do with inflation, except to say a growing economy is more likely to have inflationary pressures than one in recession.

As is the case today, during the 1980s “printing money” debate, banks and other financial institutions were not happy that the interest they were receiving from their loans was being repaid in money that was rapidly depreciating in value due to inflation. So, if a bank was receiving simple interest at 15% on loans, but inflation was 20% as it was during the mid to late 1970s, the bank was losing out, especially if the loans were extended over lengthy periods. Although banks lose out on their lending in inflationary times, borrowers gain as they repay their loans in depreciated money; we may also note that businesses often prefer mild inflation as it legitimises putting their prices up. A good instance of this is referred to as *gearing*; whereby if an investor obtains a mortgage for an inner city flat for £100,000 and pays a 10% deposit of £10,000 and property inflation is similarly 10%, after a year the investor has already recouped the value of their deposit. Championing the banking cause, in order to halt inflation, Friedman proposed a thought experiment involving a helicopter dropping freshly printed dollars onto the “citizens” below. With echoes of Germany in 1923, he assumed most, if not all, of this money would be spent and therefore cause inflation to rise. As summarised in Skidelsky (2019), along with Anna Schwartz, Friedman later produced an econometric model allegedly confirming the argument that increases in the money supply causes rises in inflation. Critics accused the two authors of the model of a range of statistical jiggery-pokery, such as averaging data values and making unwarranted assumptions regarding high levels of spending of new money. As is well known, the higher your income the higher your savings. Undeterred by such criticism, Mrs Thatcher introduced a version of monetarism, with high interest rates used to restrict increases in the money supply; yet inflation actually *increased*. As a result, monetarism was quietly dropped, Mrs Thatcher claiming she had never heard of Friedman, even though whilst in favour he had been a regular guest at number 10. The fact that attempts to curb inflation by controlling the money supply, in both its hard Friedmanite and the softer Thatcherite forms, both failed begs the question; what was the real purpose of cutting the money supply by cutting government spending?

Committed to looking after the interests of speculators, more recent Tory governments have shown that cutting government spending, especially in those areas where working class people benefit most, is a priority. We may note that research, such as that by those working for the sensiseeds.com website, reported in *The Observer* (21.7. 2012), suggests that the banking system's flow of printed notes is in large measure provided by the laundering of the receipts of drug dealers and other criminals; most UK banks having been fined for laundering such money. Needless to say, this puts the issue of cash and "printing money" into a rather different light from that offered by conservative economists, with their illusions regarding the causes of inflation.

So if printing money, except in highly exceptional circumstances, does not cause inflation; then what does? Currently the Sunak government, along with the governor of the Bank of England, is blaming striking public sector workers for causing inflation by seeking wage rises which match inflation, so called wage-push. In fact, there is a debate regarding whether public sector pay rises have any effect on inflation at all. That said, few workers in any sector of the economy are keeping up with inflation; if they are merely playing catch up following years of below inflation wage rises, it is difficult to see how they are *causing* inflation. Government ministers and think tank apologists make little mention of global commodity traders, who buy future contracts on such basics as oil, gas, wheat, coffee and more. Such traders often hoard these commodities hoping to sell at a time when prices have risen due to war, climate disasters and the like. Readers can draw their own conclusions regarding the massive increases in profits typically announced by energy companies, supermarkets and others who soak up such a large proportion of the income of working-class people, as reported by Unite the Union (2022).

The value of money

Despite the growth in cashless transactions, money's purchasing power is still calculated by the ONS, using the Retail Price Index (RPI), which includes an estimate of owner-occupied housing costs, and the Consumer Price Index (CPI) which excludes housing costs. Without wanting to be too harsh on the ONS, which does admit its errors in calculating inflation and other variables from time to time, these measures of inflation are, to be frank, a dog's breakfast. Obviously, no two people are likely to buy exactly the same things as each other in any given period of time, therefore each person's price changes are unique. So, rather than calculating 67 million UK rates of inflation, rough and ready averages are offered; with the responsibility for collecting the sampled data, doing the calculations and publishing the monthly percentages falling to the ONS. Already over-stretched, the ONS commissions samples of a few thousand people so as to estimate a "typical" basket of goods purchased by an "average" household in the UK's population. From these samples the price changes of hundreds of selected goods and services are weighted according to the respective proportions of the spending of this mythical "typical" household. Lots of state payments are linked to inflation measures, such as pensions, index-linked savings, student loans and more.

Just before the 2007/8 banking crisis, some argued that the then Labour government had "lost control" of inflation. Seager (*The Guardian* 28.7. 2006) wrote that "in the right-wing press" there are claims that those on higher incomes are subject to higher levels of price rises than the ONS's official CPI rate; citing increases in "private school fees, council tax, electricity and gas, and petrol". After pointing out that only around 7% of British kids attend private schools, mostly the sons and daughters of the rich, Seager added ironically: they "are suffering the most, because they have bigger cars and houses", pointing out that "the upper middle classes…are in the top 10% of households by income" and this has "risen healthily, well ahead of inflation…sharing £19 billion handed out in City and corporate bonuses this year…their houses have tripled in value". Yet "inflation inequality" between members of the main social classes in the UK is not measured by the ONS. For example, the poorest sections of the working class are more likely to pay more for products at local shops or mini-markets, as compared with out of town supermarkets and malls; they will also pay a greater proportion of their income on consumption taxes, such as VAT, than their better-off peers, who spend proportionately less and save and invest more as their income increases and are therefore less affected by inflation. Minimum wage workers are also more likely to have a less healthy diet, and thus rely more on an underfunded NHS, than the better off. We may also note that the richer a person is the more able he or she is to increase their disposable income by hiring the best accountants and lawyers to ensure that they avoid/evade as much tax as possible. The *utility* of money is also omitted in inflation data. £1,000 is a lot of money to a minimum wage worker but is just small change to the CEO of Yorkshire Water, for instance; therefore the burden of *any* level of inflation is heaviest for those on the lowest incomes.

In the 1980s, the Low Pay Unit sought to address inflation inequality by using spending weights for those on lower incomes, such as working-class pensioners. In response, the government briefly published the Pensioner Price Index, which made no distinction between high and low income pensioners, but withdrew the index when it recorded higher rates of inflation than the RPI. There are a number of other problems associated with the ONS's measures of the cost of living, such as accurately recording price changes across all parts of the country and making sure these are adjusted for variations in quality.

Gross Domestic Product and the growth fetish

"Only in economics is endless expansion seen as a virtue. In biology it is called cancer" (Pilling, 2019,13).

For mainstream economists the notion of an *economy* is a fetish, or reification. Such economists assume an individualist philosophy of buying and selling, seeking to suppress the rich array of social and culture norms that form the foundation of any civilised society. Accumulating consumer goods, buying property, investing in financial "products" and more, referred to as maximising personal *utility*, are propagated as the means to well-being. The statistic used as a proxy for a nation's total utility is Gross Domestic Product (GDP), with a spectacle of data on how it grows, or more recently, falls year on year routinely featured on our screens. Yet, it is difficult to exaggerate the extent to which GDP is inadequate as a measure of economic activity, let alone social well-being or happiness. Despite decades of secular growth in Britain's GDP, interrupted by slumps, millions of workers struggle to obtain adequate food, clothing, shelter and heating. GDP only measures those activities which involve a monetary transaction; so housework, which research would suggest is still mainly done by women, is not included. Breast-feeding a baby does not count, whereas feeding with bought formula does, despite the latter being less healthy for a child. If I do my own washing and cleaning this adds nothing to GDP, whereas if my neighbour and myself agree to pay each other to perform these services then, in theory, this does add to GDP. The proviso *in theory* indicates that, like most statistics, economic or otherwise, GDP is based on estimates derived from samples commissioned by the ONS, which has suffered major budget cuts since it was set up in 1996, and are of unknown accuracy.

At the core of any serious discussion of the measurement of national income and output is the contradiction between profit-driven global capitalism on the one hand, and the well-being of a given population on the other. Readers will gain some measure of the contradictions inherent in GDP in that, following the advice of the EU's Eurostat, the ONS added the services offered by sex workers and drug dealers to the UK's GDP in 2014. Taking no account of the exploitative relationship between capitalists and wage workers, GDP is part of a wider ideology transforming us all into *consumers*, encouraging us to spend, spend, spend and thereby maintain *growth*. But growth in what? Is the obvious question. GDP data ignores such important considerations as the state of a nations' infrastructure, its health and life expectancy, the level of crime, access to higher education and facilities such as parks, access to the countryside, youth-clubs and a mass of other life enhancing amenities. Amongst the critics of GDP data was the ill-fated American career politician Robert Kennedy who argued: it "does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry…the intelligence of our public debate or the integrity of our public officials…everything…that which makes life worthwhile" (cited in Hand, 2016,102).

Emphasising the triumph of quantity over quality, *per capita* income is often cited as a measure a nation's *average* well-being; it is calculated by dividing a nation's GDP by the size of its population. Mean values such as this are highly misleading because they tell us nothing regarding how income is *distributed*; in fact, since the early 1980s "the rich have been getting much richer while more or less everybody else has been falling behind" (Pilling, 2019, 121). "The ratio of CEO pay to the pay of the average worker increased from 20:1 in the 1980s to 149:1 by 2014"; writes Blakeley (2019, 79). GDP data also under-reports the extent to which customers are being obliged to perform increasing amounts of the labour, obviously without payment, associated with buying a product or service. For example, supermarkets are increasingly using self-service tills and air passengers are typically required to tag their luggage and print their tickets, tasks previously performed by paid employees. GDP growth thus fails to reflect all manner of socio-economic developments and comes at the cost of not only using up our productive assets and infrastructure, but also polluting our air and water, eroding our soil, flattening our forests and heating up our planet.

Statistics and the money markets

A key part of the *spectacle*, the money markets are rarely absent from our screens; working class people staring on passively at the multi-coloured moving index numbers, graphs and tables. Despite their apparent anonymity, these numbers are the result of the activities of real individuals and institutions. Opportunity cost is a term used in both accounting and economics, referring to the choices available to investors in a constrained setting. Whatever is chosen comes at the cost of the foregone choices. For example, if an investor chooses to offer £100,000 to a startup, this involves risk as regards their return on capital. The investor has thus given up the relatively safe option of the interest earned by using the £100,000 to purchase bonds, for example. Needless to say, the miser who hides her or his money under their bed loses out on any possible income and will suffer loss during periods of high inflation. At the high end of the investment hierarchy is those men, rarely women but often hedge fund managers, who meet at private clubs in Mayfair, such as 5 Hartford Street, and other fashionable London addresses. The ill-fated Ms Truss was, according to journalists with connections to the Tory party, in close contact with fund managers and others amongst the mega-rich who stood to gain greatly from cuts in the top rate of income tax and the ending of limits on bankers' and traders' bonuses. The extreme wealth of these people enables them to promote their interests by funding such so-called think tanks as the Adam Smith Institute, the Institute of Economic Affairs and the Tax Payers' Alliance, representatives of which are given lots of publicity by the broadcast and print media.

In their main news bulletins, and the business news broadcasts, the corporate media repeatedly tell us of the ups and downs of the markets for government bonds, company shares, foreign exchange and home mortgages. Following the "big bang" of the 1980s and the potential financial rewards the institutions involved in these deregulated markets began to hire maths graduates, especially those specialising in classical statistics known as quants. Inspired by the statistical theories developed by Frank Ramsey and Leonard Savage, these quants invented ever more sophisticated numerical techniques as a means of making their employers, and themselves, big money. According to the myriad of books and websites of the *How to Make Money Buying and Selling Shares* type, simply studying graphs is a good starting approach. It may, for instance, be the case that a particular share has been more or less stuck around a price for some period of time and then a breakout occurs, meaning the price moves up or down from this level; which might mean an investor can make some quick money.

One of the array of these statistical techniques consists of comparing the current price in a given market as compared with its moving average, normally the mean. The mean price of an asset is calculated for a given period, which may be an hour, a day, a week or more; which is then compared with the current price. The assumption is that the current price is normally distributed around the mean price and the classical toolkit comes into play via the use of standard deviations. The number of standard deviations the current price is as compared with the average gives an indication of the volatility of the asset's price, which suggests the level of risk for investors, i.e. the likelihood of making not only profits but also losses. During the 2007/8 crash, however, some quants were complaining that actual falls in prices were such a large number of standard deviations away from the moving average as to be theoretically impossible. Even the conservative Alan Greenspan of the Federal Reserve Bank admitted that the predictive models based on normal distributions had failed spectacularly. After 2007/8, the irrelevance of classical models as a means of predicting prices at times of uncertainty was plain to see and a range of Cauchy-style fat tail distributions, such as Extreme Value Theory (EVT), were given more serious consideration.

As explained in Scott (2022), the Cauchy distribution looks pretty normal but has fatter tails, meaning that outlying data points are much more common than is the case with the normal distribution. Samples taken from such a distribution will potentially produce wildly divergent mean values and standard deviations; with the result that these parameters have no practical meaning. Clearly, this distribution, despite its similarity with the normal one, drives a coach and horses through the Central Limit Theorem, p-values, statistical significance and the rest of the classical toolkit. In an attempt to hang on to their paradigm, classicals remain reluctant to discuss the Cauchy distribution, despite the fact that it is much better than the classical one at predicting wild swings in data values, such as the price of financial assets at times of crisis. Similarly, power curve distributions are much discussed in texts on business - so called because, to put it at its simplest, rather than $y = 2x$ the relationship could be $y = x^2$ or $y = 1/ x^2$ - and present a challenge to classical normal curves. Yet, we should note that all of the above-mentioned distributions are likely to fall short in terms of explaining and predicting the behaviour of dynamic variables. Variables may well be relatively stable over a period of time, but then go into unpredictable wild swings due to the interdependence of events, feedback loops and herd-like behaviour. This is confirmed by the much-discussed studies of historical data on world cotton prices; to mention but one example. In short, the boom and slump cycle that is inherent in the spectacle of capitalist social relations is often chaotic and therefore not predictable by means of statistical theory, yet has profound effects on the lives of working people. We can end this section by noting that insider trading is widespread. Who knows what price sensitive information the mega-rich in the know talk about in their homes, the gents' lavatory and elsewhere out of earshot of the toothless tigers that are the regulatory authorities. Many of those involved in these markets argue that insider trading should not be a criminal offence. For example, Burns (2005, 131) writes: such trading "is notoriously difficult to prove…(and) almost impossible to enforce".

Statistics and inequality

"The richest 1 percent of the world's population own 44 per cent of the world's wealth." How many times have you read statistics like these on how unequally income and property are distributed in advanced capitalist nations? Indeed, some such data was used earlier in this text. Graeber and Wengrow (2021,6-7) refer to this aspect of the statistical spectacle, offering a number of criticisms. They write: "Debating inequality allows one to tinker with the numbers, argue about Gini coefficients...even shock the public with figures showing just how bad things have become...a word like 'inequality' sounds like it's practically designed to encourage half-measures and compromise...it's not clear what ending inequality would even mean...how equal would people have to be in order for us to be able to say we've 'eliminated inequality'?...no real vision of social transformation is even on the table". As some readers will know, Graeber's reference to a Gini coefficient is typically presented on a graph depicting the deviation from income equality, often showing national differences.

In thrall to the reification of money, the debate on inequality implies that we should all become equally rich, but it could just as well imply that we all become equally poor. Either way the debate on inequality rarely engages with either its causes or the *impossibility*, given a capitalist economy, of attaining equality of income. At its simplest, equality of income would abolish the distinction between capitalist and worker; nobody would do the "bullshit jobs", to quote Graeber's colourful term, which are an insult to human dignity and yet many of us are more or less forced to take. Real equality therefore implies the end of money and the dehumanising wage labour relationship at the core of capitalism. Given the earth's resources and our level of technological developments, we could provide enough food, clothing and shelter for the world's population many times over. The reason we do not is that, for the most part, currently our needs and wants are only provided for if a capitalist corporation finds it profitable to do so. The implications of this profitability fetter are, needless to say, central to ongoing debates on climate change, population growth, famine and the like.

Debt as reification: a Greek tragedy

Another example of reification is the myth that, in terms of its finance, a modern nation state is no different from a household or a small business: expenditure should be balanced by income. The power of this myth is demonstrated by the rise and fall of prime minister Truss; some city-slickers simply did not support tax cuts for the rich if they were "unfunded" and lead to an "unsustainable" level of government debt, resulting in bankruptcy or inflation, or both. Based on the thinking of the dissident hedge-fund manager Warren Mosler, a number of economists challenged this myth by developing Modern Monetary Theory (MMT). Cutting across many of the assumptions of neo-liberal thinking, as a supporter of Bernie Sanders' US presidential bid, Stephanie Kelton (2021) claims that, in a post 1971 token money economy, a government can manage its income and expenditure as it wishes. Assuming that a government has total control over its currency, as is the case in the US, UK and Japan, then its right to tax its citizens, Kelton argues, is what gives value to its token currency. In other words, having to pay taxes turns a near worthless note of currency into a measure of value; thus government is able get taxpayers to "produce things for the state" (26). The key claim of MMT is that the US, and other capitalist nations with control over their own money supply, can run as big a deficit as they wish *without* the fear of state bankruptcy: governments can borrow, raise taxes or simply cancel the deficit. Neo-liberals in the know more or less accept this but, aware of the ghost of Milton Friedman, remain concerned about the threat of runaway inflation as a result of "too much money chasing too few goods". This can only happen, argues Kelton, if indeed there are too few goods and services; the point being to avoid the deficits that results from unemployment, a lack of health care, a decaying infrastructure, an unsustainable climate and more. As things stand, she writes: "we run our economy like a six-foot-tall guy who wanders around perpetually hunched over" (235). Thus our economies are operating well below their capacity and therefore government spending will not lead to inflation.

Murphy (2016) makes the point that when neo-liberals complain about governments "wasting taxpayers' money" they are talking nonsense; once paid in taxes, the money belongs to the government to spend as it thinks best. It is as if customers were to complain about the way in which their local supermarket spends their, i.e. the customers', money on marketing, directors' bonuses, shareholder dividends, contributions to Conservative Party funds and so on. Kelton argues further that those neo-liberals still arguing for balanced budgets find it "politically" useful to do so. A good example of this is when public sector workers demand pay increases, as in Britain in Winter 2022. The need for a balanced budget was quietly forgotten when it came to bailing out the banks in 2008 or funding the Covid lockdown. These are but two examples that demonstrate that a budget deficit does not lead to either state bankruptcy or hyperinflation. The real reason for a refusal to grant public sector pay increases is because they would lead to reduced profitability in other sectors of the economy, with private sector workers gaining the confidence to demand higher wages. Talk of balanced budgets is quietly forgotten when giving money to energy companies to reduce their bills as this reduces inflation and is politically useful for a government lagging behind in the opinion polls. As Graeber (2021) shows in his historical review, whether private or public, jubilees refer to the cancellation of debt. Such organisations as the IMF, however, have typically refused to cancel the debts of the world's poorest nations, with appalling consequences for the masses. In similar fashion government debt in the world's richest nations provides massive income for speculators, who are understandably appalled by Kelton's ideas.

On trade deficit numbers, Ms Kelton indicates that neo-liberal thinking is stuck in the age of mercantilism with money backed by gold, such that the object of overseas trade is to amass as great a surplus of gold as possible by exporting more than is imported. She argues against this, trade deficits are not only *not* a problem but, in the case of imports from China, their "workers are using their time and energy to produce real goods and services that China doesn't hold on to for its own people…allowing the US to take its stuff in exchange for an accounting entry…(in) US dollars, China has the option to sit on those dollars or use them to do something else. Uncle Sam doesn't pay interest on the dollars China keeps in its checking (sic) account at the Fed" (82-3). So Chinese businesses typically buy US bonds or other assets on Wall Street. Similar processes apply in other advanced capitalist nations with their own sovereign currencies, such as the UK with trade surplus funded investments in the City functioning in the same way as Wall Street. The socialist response to this state of affairs is that this is just one more example of the profound contradictions created by capitalist social relations. Cheap labour, be it in China or even cheaper labour in Bangladesh, Indonesia or wherever, is used to cut prices and penetrate foreign trade markets, whilst the wealthy of these nations make rich pickings on Wall Street or London.

Kelton points out that MMT only applies if a state has monopoly control of its money supply, pointing out that Greece, for instance, made the dreadful mistake of becoming an EU member *and* joining the euro. Because of the unwillingness of Greek elites to pay tax and the lack of will on the part of the government to collect it, the country effectively went bankrupt in 2010. The European Central bank, which represents the interests of the German and French banking sectors, soon imposed drastic austerity measures; the result being catastrophic for Greek workers. The “left-wing” Greek government was defeated at the polls, interest rates rose to 35%, the working class suffering dreadful unemployment and cuts in welfare state benefits. To make matters worse there was a rise in the electoral fortunes of the fascist Golden Dawn party. There can be no doubt that MMT supporters, such as Kelton and Murphy, have good intentions as regards the well-being of working-class people. However, socialist critics point out that MMT only applies to advanced capitalist economies and, crucially, does not challenge the exploitative essence of capitalism.

Appearance and essence: where do money market profits come from?

“...the finance sector represents not the creation of new wealth but the sector’s appropriation of wealth created elsewhere” (Kay, 2016, 6). Unfortunately, Mr Kay fails to inform us where this “elsewhere” is.

Let us now investigate the profits generated in markets in general and the financial markets in particular. After all, the fluctuations in share prices, interest rates, foreign exchange rates and more are merely bits of paper, or numbers on screens, going round and round the spectacle. Crucially, as Kay (2016, 2) points out, "if a closed circle of people continuously exchange bits of paper with each other, the total value of these bits of paper will not change much, if at all. If some members of that closed circle make extraordinary profits, these profits can only be made at the expense of other members of the same circle". And yet most financial institutions across the globe continue to record handsome profits year after year; so how can this be, *where* do the profits come from?

No advocate of any of the above mentioned economic perspectives, including MMT, have offered an answer to this question. Yet, the answer is to be found by examining the notion of *value*; which takes us back to the classical political economists Smith, Ricardo and Marx. These writers realised that the word value has two meanings: firstly the value that each of us as individuals give to an object; often described as value-in-use or utility. Notwithstanding some attempts to do so by statisticians and economics textbook writers, this cannot be meaningfully quantified as it is a personal psychological assessment. Yet, it was precisely this approach to value that predominated in pre-history, with tribal communities attaching all manner of cultural and ethical values to their few possessions. However, as tribes began to exchange goods with other tribes, a second approach to value came into being: value-in-exchange. Aristotle, cited in Marx (1976), for instance, refers to five beds being equivalent to either one house or a certain amount of money. So what is the basis of exchange value, why do so many of one good exchange for so many of another or so much money?

Obviously, the objects that satisfy our subsistence needs, food, clothing and shelter, along with all manner of luxuries, are the products of our interaction with nature. However lengthy or intense, this interaction involves our *labour*, be it picking an apple from a tree or building a house; crucially, it is our labour that creates value. Yet, Aristotle did not accept that the time or intensity of labour expended on producing a good or service formed the basis of its value. In this belief Aristotle was both right and wrong. He was right in that in ancient Greece the bulk of labour was performed by slaves, which were the lowest social class in the prevailing hierarchy. Therefore, in keeping with Aristotle's elite ideology, slaves could not possibly have created value. The real reason slaves did not create exchange value was that, for the most part, the goods and services they produced were not exchanged in any market, but rather were consumed by their owners.

By the time that Smith, Ricardo and Marx had completed their texts, the industrial revolution was well underway, with Britain's economy increasingly reliant on billions of manufactured goods being sold for prices expressed in sterling each year, a state of affairs that rapidly spread across the world. By the late 19th century economists, accountants and statisticians became aware that the price of any particular good tended towards a relatively stable level; most taking the view that this was the result of an *equilibrium* in the forces of supply and demand, an analogy taken from physics. Obviously, changes in supply and demand do affect price, but Marx insisted that the resulting relatively stable prices were correlated with the aggregate amounts of labour goods took to produce. However, this only applies to mass produced goods and services; clearly goods produced in small or single quantities, such as oil paintings, sell for whatever someone is prepared to pay and are in no way correlated to their labour values. Using a random example from today, supply and demand equilibrium cannot explain the long-term difference between the price of a bar of chocolate and that of an electric car, whereas the difference in the amounts of aggregate labour required for their production does do so. Neo-liberals tend to respond to this by arguing that it is the costs of producing goods that explains their price differences. This, however, is a case of assuming what you must prove, in that merely stating that costs, which is merely another word for input prices, are different is to take us round in circles.

Thus, if good A is twice the price of good B then, other things being equal, this is because good A requires twice as much labour to produce as compared with good B. We may note here that in the anarchy that is capitalism things never are equal and therefore prices do not precisely coincide with labour values; alas, details of this are beyond the scope of this paper. Moving on, needless to say, the workers actually producing the goods need tools, raw materials, machines, premises and more. But, Marx argued, these inputs are simply the result of previous labour processes such that all goods, in the final analysis, are the result of human labour as applied to the gifts of nature. Although the workers' labour created the value of the billions of goods being produced in factories and workshops, Marx added, the value of their total wages are not equivalent to the value of the goods their collective efforts have produced. As legal owner of the means of production, the capitalist appropriates the difference, known as surplus value, in effect workers' unpaid wages, which feature in the company accounts as profits.

This surplus is the source of profits in the financial sector. Whether paying wages or investing in constant capital, new businesses typically need to raise money which may involve investing family savings, issuing shares or borrowing money from financial institutions. The smaller the business the more likely it is to have to pay interest on bank loans; whereas larger companies tend not to borrow money, and may even buy back some of their own shares or lend profits out at interest rather than investing in constant capital. So, as Kay (2016) and neo-liberal economists fail to tell us, a portion of the surplus value created by the labour of workers, especially in small businesses, is appropriated by financial institutions; the higher the rate of interest the larger the amount of value taken by the banks. In the case of larger companies, their investments in money markets mean that they too appropriate a share of the surplus value of workers in other companies. Therefore, surplus value forms the pool from which not only agricultural and manufacturing capital, but also financial capital take their profits. This means that surplus value is not normally realised in full in the profits of any given company, rather it is redistributed to *other* companies. The price mechanism means that larger companies tend to cream off the surplus value created by the workers of smaller companies, with financial institutions taking their cut.

So the notes, coins, cheques and, increasingly, mere numbers on screens are the appearance of the spectacle that is the financialisation of global capitalism. In essence and out of sight, however, these numbers are intimately connected to the surplus value, the unpaid wages, created by workers around the world. In low wage economies, such as the young female clothing workers in Bangladesh, the amount of surplus value created is highest but most of this is *realised* by the retailers and financiers in Europe and the US.

Concluding remarks

"…you and Harlow were shipwrecked on a desert island, and you saved nothing from the wreck but a bag containing a thousand sovereigns, and he had a tin of biscuits and a bottle of water…Who would be the richer man you or Harlow?" (From Robert Tressell's *The Ragged Trousered Philanthropists*).

In the spirit of socialist worker/author Tressell, we could end this study of the reifications and contradictions arising from the use of money with the most obvious way of challenging its power, i.e. its total abolition. However, to do the subject of abolition justice would require another paper. Let us therefore briefly reflect on the key themes outlined in this paper and their implications for the spectacle that is classical statistics as it is applied to money. As a measure of quantity rather than quality, statistics can only describe what the "mighty" (to quote Marx) philosopher Hegel refers to as what *appears*, rather than the inner *essence*. So, for instance, it is not at all obvious that what money actually measures is exchange value, i.e. what Marx called average socially necessary labour. All we see is monetary values attached to commodities or tokens of value in such statistics as GDP, changes in labour productivity or share prices, to name but three examples. The one-dimensional nature of such statistics as the RPI and measures of income inequality again demonstrate how limited these reified numbers are in terms of helping us to penetrate beyond the spectacle and understand the inner workings of the capitalist mode of production. Rather than yet more numbers, in order to improve it, we need to know how economic and social life is actually experienced for the billions of victims of the global wage labour system struggling to maintain a semblance of subsistence for themselves and their dependents. Rather than objectifying us by means of the numbers we generate, as the ONS and other agencies do, we need to reverse the individualism implicit in the spend, spend and spend again ideology, such as collecting data on shopping mall footfall, and begin to encourage each other to take a greater part in our communities. It is not as individuals, but rather collectively, that we can tackle such threats as climate change, child poverty, drug and alcohol addiction and the rest.

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