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Universal Credit and Automated Decision Making: A Case of the Digital Tail Wagging the Policy Dog?

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Intended to simplify the benefit system and 'make work pay', Universal Credit (UC) is the UK's first 'digital by design' benefit. Proponents of UC highlight the greater efficiency and effectiveness of digitalisation, while critics point to costly IT write-offs and the 'digital divide' between people with the skills and resources to access digital technologies, and those without. Less attention has been paid to automation in UC and its effects on the people subject to these rapidly developing technologies. Findings from research exploring couples' experiences of claiming UC suggest that automated processes for assessing entitlement and calculating payment may be creating additional administrative burdens for some claimants. Rigid design parameters built into UC's digital architecture may also restrict options for policy reform. The article calls for a broadening of thinking and research about digitalisation in welfare systems to include questions of administrative burden and the wider effects and impacts on claimants.

Keywords: Universal Credit, digitalisation, automation, automated decision making, welfare reform.

Introduction

Digital technologies driven by algorithms and 'automated decision making systems' (ADMS) are an increasingly central aspect of access to and delivery of social protection and public employment systems. Australia, the United States and the United Kingdom are at the forefront of policy innovations (Millar and Whiteford, 2020), but the UK is the first to have designed its single working-age benefit – Universal Credit (UC) – to be 'digital by design.'[1] Intended to simplify the benefit system and to incentivise paid employment and higher earnings among working-age people both in and out of work, Universal Credit is the flagship welfare policy of the Conservative Government, and standard bearer of its digital transformation strategy (Cabinet Office, 2017). UC replaces six means-tested 'legacy' benefits and tax credits[2], integrating elements for adults, housing costs and children, together with any supplements for disability and childcare costs into a single award paid monthly in arrears into one bank account per individual or couple[3]. Entitlement and payment is calculated retrospectively, once any earnings received in the preceding month have been paid, giving rise to a minimum five week wait for payment at the start of the claim. A repayable advance loan can be requested to bridge the waiting period.

Delivered by the Department for Work and Pensions (DWP), Universal Credit fits into an overarching policy narrative of technology-driven benefit simplification and improved service delivery. Its architects highlight the greater efficiency and effectiveness of online and automated technologies for the timely and accurate payment of claims and in driving down fraud, error and overpayments (DWP, 2014). Automated payment processing, whereby applicants 'go from application to receiving help without any manual intervention' (McKinnon, 2020), is intended to ensure claimants 'automatically receive everything they are entitled to', thereby increasing take-up (DWP, 2020b: 52). Reductions in bureaucracy and information obligations compared with the legacy system are also central to the promised 'huge benefits for claimants' (DWP, 2018b: 3). However, ever since UC was first proposed, IT-related issues have been a source of controversy and criticism. Beset by a series of technical setbacks, its target completion date has been reset numerous times (Timmins, 2018). Pre-pandemic, the working assumption of the Office for Budget Responsibility (OBR) was that it would be 2026 before UC is fully implemented (OBR, 2020). Long before UC started rolling out, concerns were raised about the use of a digital interface as the primary means of accessing benefits and of engaging with staff. Early criticism centred on the 'digital divide' between people who have the skills and resources to access internet-based technologies and those who do not (Easton, 2014). Latterly, increasing disquiet is being voiced about legal, ethical and human rights considerations and the risks that algorithms and automated decision making systems can pose for citizens' social rights and access to justice (Carney, 2018; Alston, 2019a; Alston, 2019b; Schou and Hjelholt, 2019).

But while specific elements of UC – such as the online application and the five week wait for payment – have been subject to intense scrutiny, the wider issues raised by digitalisation[4], have received much less attention. Few studies have critically examined the effects on the individuals subject to these rapidly developing technologies and there is a paucity of empirical research which documents how people experience automation in UC and how it affects their everyday lives. This article contributes to filling the gap. The article begins by describing the key elements of Universal Credit Full Service – the fully digital version of the benefit – before going on to chart the origins and drivers of its evolution, from early IT write-offs through to the unprecedented surge of more than 3 million new claimants in response to the Covid-19 pandemic. The next section draws on the findings of qualitative research exploring the experiences of couples claiming Universal Credit (Griffiths *et al*., 2020), focusing, in particular, on issues associated with automated monthly assessment. The article concludes with a discussion of policy implications.

A 'digital by design' benefit

While several European countries are digitalising aspects of their social protection and employment support systems, Universal Credit is the 'first truly digital welfare service' (DWP, 2012a: 29). From the online application through to payment, core processes for determining eligibility, assessing entitlement, calculating payment and detecting fraud have been transferred from human decision makers to automated decision making systems. For working claimants who pay income tax via HMRC's PAYE (pay as you earn) system, there is automatic adjustment of the monthly payment through the integration of UC with earnings data from HMRC's real time information system (RTI)[5]. Earnings

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from paid employment are based on wages recorded within the claimant's monthly assessment period after other income has been taken into account, if relevant.[6] The 'assessment period' (AP) starts on the first day of eligibility for UC and ends a calendar month later, and cannot be changed. For working parents and certain categories of disabled people, a 'work allowance' means that the first tranche of net monthly earnings[7] is disregarded before a single taper (currently 63 per cent) automatically adjusts the monthly payment. Working parents can also reclaim up to 85 per cent of childcare costs once evidence of expenditure has been uploaded and verified online. Data analytics and ADMS similarly drive a process of debt recovery in which deductions are taken at source from a claimant's UC payment to repay benefit and tax credit overpayments, advance loans, rent arrears, fines and child maintenance, together with other debts owed to third parties (DWP, 2020b).

Accompanying the automated assessment and payment regime is a digital platform for self-management of the claim through the use of an individual online journal and account. Accessed using a smart mobile phone app, tablet, laptop or desktop computer, and containing a historical record of messages, actions and payments, the online journal functions as a two-way communication conduit between DWP staff and claimants. Mobile text messages and emails prompt claimants to check their online journal for messages and directives posted by DWP staff, and displayed in a 'to do' list. 'Telephony agents', 'decision makers' and 'case managers', located in a national network of contact and service centres,[8] provide a further raft of administration and customer support.

The journal operates in parallel with a programme of work conditionality overseen by Jobcentre-based work coaches. An online-posted personalised 'claimant commitment' specifies the number of hours claimants must work or look for work, underpinned by sanctions for non-compliance. Claimants are also required to use the journal to report any relevant change of circumstance which may affect entitlement including starting or stopping work, having a baby, moving house and a partner moving in or out of the household. A week before the payment due date, a statement is posted to the claimants' online account notifying them of how much they will be paid that month. A week later, the payment is electronically transferred into the claimant's (or couple's) nominated bank account. Statements can be printed out, but the payment system has primarily been designed to operate on a paperless basis.

Origins and drivers of digitalisation

Reducing social security spending

Driven by the perception of growing 'welfare dependency', the design of Universal Credit as a 'digital first' benefit has its origins in the austerity-driven imperative of the Coalition Government to reduce taxpayer spending amid growing disquiet over what was seen to be an unsustainable social security bill (Taylor-Gooby and Martin, 2008). With deficit reduction taking precedence over all other manifesto commitments, digitalisation was intended to cut costs by streamlining claims and payment processing, reducing Jobcentre footfall and freeing up staff time for claimants with the most complex needs. Between 2016 and 2018, 100 Jobcentres – about 15 per cent of the DWP estate – closed their doors to the public (Finn, 2018). Yet despite a swingeing programme of Jobcentre closure and job cuts that has seen thousands of staff in customer-facing roles made redundant, during

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the past decade, UC's costs have in fact risen to more than six times the original budget (NAO, 2018). Software and systems for an early version of UC – known as the 'live system' – were written off at a cost to the taxpayer of around £40 million (Ballard, 2013). The heavy reliance on outsourced expertise based on multi-million pound contracts with a small number of IT suppliers also proved to be costly and inherently risky. In a highly critical report, the National Audit Office was sceptical as to whether any of the promised efficiency savings would ever be realised (NAO, 2011).

In response to such criticism, in 2013, the entire project was re-engineered using 'agile' techniques[9] and 'Full Service' Universal Credit was launched as a 'digital first' benefit. As part of the Government's wider digital transformation strategy, the DWP began to re-focus its IT strategy towards developing greater in-house capacity and since this time has hired more than 1,000 data scientists (Clement-Jones, 2020). In 2020, it was announced that the DWP's main external IT provider[10] will join with DWP staff to create a single digital function (Say,2020). However, the government's ambition to have 'one of the most digitally skilled populations of civil servants in the world' (DWP, 2020a) has come at a cost. The DWP is now the government department with the highest spending on digital services and, by 2018, UC was four times more expensive to operate than originally forecast (House of Commons Work and Pensions Committee, 2018). OBR forecasts indicated that UC will probably end up costing significantly more to administer than the legacy system (OBR, 2020)[11].

Driving down fraud, error and overpayments

Another stated goal of automation was to drive down the error, fraud and overpayments that were seen to characterise the legacy system of tax credits. Claimants of Working Families Tax Credit (WFTC), introduced in 1999, completed a form based on their forecast earnings for the year ahead, giving rise to significant overpayments (Godwin and Lawson, 2012). With up to 14 per cent of expenditure also believed to be fraudulent, WFTC was withdrawn in April 2003 and replaced with Working Tax Credit and Child Tax Credit. Using a system of annual retrospective reconciliation based on actual earnings, the prevalence of overpayments, underpayments and fraud reduced; but concerns remained. By replacing the system of self-completed form filling with automated monthly assessment in UC, the aim was to improve payment accuracy and lessen the financial hardship that recovered overpayments (and underpayments) could cause for people on low incomes (Millar and Whiteford, 2020). Risk-based ID verification and data analytics in UC now cross-references claimant data with a range of third parties for checks of identity, address, income and occupancy (Department for Digital, Culture, Media and Sport, 2019). Data matching technologies also help identify fraudulent and erroneous claims arising from undeclared capital, income and partners (Public Accounts Committee, 2020). Automated systems to confirm the existence of dependent children and to verify childcare and housing costs are now central to the online application. A new 'transaction risking' system based on algorithms and profiling tools is also under construction (Public Accounts Committee, 2020: Q24).

But here too, UC's performance to date has singularly failed to match the ambition. The DWP's own research showed that only a third of applicants were able to prove their identity using Gov.UK Verify' – an online system for authenticating personal identity credentials – obliging them to present documentary evidence in person at a Jobcentre

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(Glick, 2018). Delays in authorising ID mean that some applicants wait significantly longer than the stipulated five weeks before receiving their first payment (Griffiths *et al*., 2020). Because ID verification is required before the claim becomes live, such data never find their way into the official statistics recording the timeliness of payment. 'Verify' also proved to be susceptible to fraud. The ability to verify a person's identity remotely meant that fraudsters posing as applicants, or who duped applicants into disclosing their personal details, were able to apply for an advance loan – worth up to a full month's predicted entitlement – without ever meeting Jobcentre staff face to face. Around 100,000 claims, worth between £98 million and £147 million, were suspected to have been made fraudulently (NAO, 2018: 7). In September 2019, the DWP tightened its policy and an advance loan request was only granted following a face-to-face interview. Fraud subsequently dropped (NAO, 2020), but when this restriction was removed in response to the Covid-19 pandemic, levels surged again. Late in 2020, a new 'Confirm Your Identify' service was introduced. Its ability to reduce the incidence of fraud is as yet unknown.

Overpayment and underpayment of UC is also highly prevalent. In 2019/20, 9.4 per cent of total UC awards (worth £1.7 billion) were overpaid, the highest rate for all benefits (DWP, 2020b), and only a little under the highest ever recorded overpayment rate of 9.7 per cent for tax credits (Public Accounts Committee, 2020:Q15). HMRC and employer error is also rising. Between 2017 and 2018, there was a fourfold escalation in earnings disputes (NAO, 2018), with up to 5,700 people per month affected (Booth, 2019). HMRC have also acknowledged that around 10 per cent of PAYE schemes have data quality issues affecting the accuracy of individual tax records which could potentially result in an underpayment or overpayment of UC[12]. Unlike the legacy system, overpayments due to official error must now be repaid, with the amounts owed automatically deducted from a claimant's UC payment. There has also been a higher than expected proportion of claimants with 'atypical' forms of employment whose earnings are not captured by HMRC's PAYE system including self-employed people and those working a small number of hours. Here, earnings must be self-reported monthly using the online portal. Failure to do so within strict timeframes can result in a reduced or nil payment.

Behaviour change

> Far more than a new IT system alone, what Universal Credit is really about is a sweeping cultural change (DWP, 2015: 3).

Automated processes are also central to UC's goal of promoting behaviour change. Monthly adjustment of the award in response to changes in earnings in real-time is intended to make the financial rewards of working and of earning more, more visible and motivating to claimants (DWP, 2014). Less explicit was the underlying moral intent. Framed within a set of normative values about people 'who support themselves solely through work' (DWP, 2014: 9), behaviour modification goals designed to encourage personal responsibility and reduce 'welfare dependency' have literally been coded into UC's design. Designed to mimic a monthly salary, a single, integrated payment in arrears is intended to make claimants responsible for paying their rent, as people who 'manage without support from the State' do (DWP, 2014: 12). Housing Benefit, by contrast, was

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often paid direct to the landlord. Automated deductions enforce 'social and financial responsibilities' by obliging claimants to repay debts, fines and child maintenance based on fixed, generally stricter and less negotiable, repayment terms than under the legacy system. Not simply a convenient repository of messages and payments, the journal and 'to do list' play a central role in the enforcement of work conditionality. Formally accepting the online 'claimant commitment' is a mandatory requirement of benefit receipt. Failure to do so can cause the payment to stop, requiring the claimant to request a 'mandatory reconsideration' to have the payment reinstated. The journal is also key to evidencing the job search which many unwaged and low-earning claimants are required to undertake.

Although never officially articulated, the ceding of human agency to automated assessment and payment systems may also have been motivated by the desire of policymakers to change the culture and behaviour of DWP staff who may have been seen as contributing to claimants' 'welfare dependency' and to programme deadweight. Virginia Eubanks speculates that a key driver of digitalisation in U.S. state welfare systems was to undermine the personal relationship between caseworkers and their clients (Eubanks, 2018: 52). Reducing the scope for 'street level bureaucracy'[13] may also have informed the decision to replace personal advisers with work coaches in UC, many of whom were recruited from outside the DWP, and to replace local offices with telephone contact and service centres whose staff are located remote from their local communities.

Given UC's explicit behavioural intent, a deep understanding of the people whose behaviour the benefit was intended to change might have been expected to inform the system design from the outset. However, in the early phase of 'reimagining the customer experience' (McKinnon, 2020), little attempt was made to test the assumptions on which UC's digital design were based, the effects they had on claimants, or whether they actually worked in the manner intended. Local authorities and third sector bodies with long experience of supporting benefit claimants and disadvantaged groups, though involved in a series of open consultation exercises, were largely excluded from the design process. Early warnings that the default online application was not 'grounded in reality' were not acted upon (Hitchcock, 2012). Making and managing the claim requires an 'ecosystem' of resources including a functioning, internet-enabled device and reliable internet access (Coles-Kemp *et al*., 2020). Home broadband and mobile data plans are expensive and the number of libraries and jobcentres where claimants could secure free internet access had decreased significantly in the wake of the government's austerity cuts (Alston, 2019a: 14). However, concerns over digital access, together with other potentially problematic aspects of Universal Credit's design, went unheeded.

In a rare display of frankness, when asked why government decision makers frequently fail to talk to the people who are the intended beneficiaries of new policies, the senior civil servant responsible for the digital aspects of UC admitted, 'the really, really terrible or brilliant answer is that it would just never occur to someone to do that' (Trendall, 2017). Somewhat presciently, early DWP research examining the attitudes of potential customers towards UC's proposed design – including the online application and single, integrated monthly payment in arrears – pinpointed many of the risks and challenges that have since proved to be problematic, including potential budgeting difficulties, increased scope for fraud and error and insufficiently compelling financial work incentives (Rotik and Perry, 2011). A more user-centred, 'agile', 'test and learn mind-set' based on small scale, 'iterative testing' was subsequently adopted by the DWP (DWP,

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2012b: 6), but a key recommendation, for 'using ethnographic methods to track actual day-to-day behaviours and barriers', was never acted upon (Rotik and Perry, 2012).

A more constructive dialogue between the DWP and key stakeholders began to emerge after UC was extended from single unemployed claimants to families and people with more complex needs. The DWP's own research found that more than four in ten applicants needed help to complete an online claim for UC and three in ten needed on-going support with using their digital account (DWP, 2018a: 3). 'Universal Support', a local authority-delivered initiative to provide digital and personal budgeting support for claimants, proved to be expensive and geographically variable (DWP, 2016). It was replaced in April 2019 with a new 'Help to Claim' service delivered by Citizen's Advice. The service provides hands-on help for would-be claimants who lack the digital skills or resources to complete the online application unassisted. However, help is only available up to the point that claimants receive their first payment; thereafter, they are expected to self-manage their claim. Telephony and face to face support is available for claimants unable to use or access digital channels, but official policy is to maximise use of the online journal. Consideration of the effects of digitalisation on claimants, moreover, remains narrowly framed in terms of access issues and according to strict technical parameters which focus almost entirely on the end-user interface. There has never been any official recognition, for example, that, regardless of an individual's technical capability, automated systems in UC might not always operate smoothly or in the best interests of claimants.

Claimant effects and impacts

In recent years 'lived experience' and participatory research, together with intelligence gather by third sector organisations, have begun to document the wider effects of different aspects of UC on claimants and their families (Patrick and Simpson, 2020). However, how the automated aspects of UC's assessment and payment regime function in real-life settings and affect people in their everyday lives remains under-researched. Given the limited evidence base, this section draws on the findings of a three-year, longitudinal, qualitative research study exploring work-care decisions and household money management in couples claiming UC jointly. Two waves of interviews were conducted. The first wave sample comprised ninety UC claimants from fifty-three households in four areas of England and Scotland that were amongst the first to roll out the Universal Credit Full Service. Of the fifty-three households, thirty were couples with children, eleven were without children, nine were lone parents and three were single claimants. In thirty-one households, UC was the main source of income and in twenty-four, at least one adult was in work. 123 individual and joint face to face interviews took place in participants' homes in late 2018/early 2019. Telephone follow-up interviews were conducted with sixty-three participants in the Autumn of 2020[14].

Digitalisation was not the focus of the research, nor did the study set out to investigate the effects of automation in UC. However, findings indicated that different aspects of UC's automated systems were creating additional administrative burdens, resulting in adverse outcomes for some claimants. We focus here on systems and procedures for assessing entitlement and calculating payment, but other aspects of digitalisation in UC were also found to be problematic. A much fuller account of these, and of the difficulties claimants can face, is included in Griffiths *et al*. (2020).

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Automated monthly assessment

By ensuring that claimants are paid an amount that more accurately reflects the needs and income of the household in 'real-time', assessing entitlement monthly in UC is designed to reduce the risk of overpayment. With only one agency to apply to and notify about changes of circumstances, no need to produce wage slips if earnings increase or decrease, and no need to close claims and reapply for different benefits when earnings and personal circumstances change, a key assumption is that automatic adjustment of the payment is also less administratively burdensome for claimants. A 'smoother' transition from benefits to work, and greater transparency between the payment amount and earnings, is also central to the policy aim of incentivising work and higher earnings. 'The design of Universal Credit will make the payoff from taking up work clearer to individuals … than they were on legacy benefits. Also, the transition into work is "smoother" due to reduced transaction costs of closing and reclaiming benefit' (DWP, 2018b).

This research found that, in practice, many of these assumptions did not hold. For working families in particular, the administrative burden of UC could be greater than the legacy system and the incentive to work reduced. Many of the issues centred upon the automatic calculation and adjustment of the monthly payment and the use of the RTI earnings feed from HMRC. A key issue was that, unlike legacy benefits which generally achieved a steady state once the claim was in payment, UC is designed to be highly dynamic and responsive to change of earnings and household circumstances in real time. It is precisely this volatility that working claimants, in particular, could find challenging and onerous.

A specific problem was the interaction of wages with the fixed monthly assessment period. People with irregular earnings, such as those with erratic shift patterns, on zero hour contacts or working overtime, found that the UC payment could fluctuate in unpredictable ways. Those paid weekly or four weekly, even some of those paid a regular monthly salary, could also experience large, month to month fluctuations in the payment. During certain months of the year, or if wages were paid close to the start or end of a claimant's assessment period, or paid early (due to a week-end or bank holiday, for example), two sets of wages would be counted in the monthly assessment period. Even though they had not actually earned any more money, this often resulted in a reduced UC payment or a nil award. Although a higher payment would generally be made the following month, many lost the work allowance to which they would otherwise have been entitled. Often, these were not one-off episodes, but a regular monthly occurrence.

Large oscillations in the award from one payment cycle to the next made it hard for claimants to predict when, or by how much, the UC payment would rise or fall, or if the amount received was correct. With notification of the award posted to the online account only a week before payment was due, claimants with awards that unexpectedly fell or stopped could find themselves with significantly reduced income for the coming month. Income uncertainty, in turn, caused budgeting difficulties, anxiety and stress. In dual earner-families, where the partners had different wage frequencies and pay days, these effects could be multiplied. Sometimes multiple sets of wages were included in the monthly assessment. The aggregation of earnings in couples also made it hard to tell how many sets of wages had been used in assessing entitlement, and therefore whether the payment was correct. If recorded earnings rose above the eligibility threshold for UC, this would automatically end the claim, requiring affected couples to reclaim UC the

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following month. Another area of difficulty was automated deductions for debts. Couples found that benefit and tax credit overpayments and historical loan repayments, even from before their relationship began, were aggregated and automatically deducted from the UC payment. In working couples, the amounts deducted often fluctuated month to month. With no advance notice given of the amounts that would be taken, this made budgeting challenging, regardless of employment status. By contrast, the earnings rules and annual assessment of tax credits (which generally fixed weekly or four-weekly payments for a year) were said, by many participants who had claimed them in the past, to be easier to understand and manage than the monthly recalculation of UC entitlement.

Accessing contributions towards childcare costs was also said by participants to be more complex and demanding in UC than under the system of tax credits, with payment required upfront and the reinbursement of their outlay subject to serious time lags[15]. Having to upload evidence of childcare fees and expenditure to the online account every month in the form of validated invoices, receipts and bank statements was a significant burden on the working parent with responsibility for organising and paying for child care; typically the female partner. Claimants often did not know whether the information had been received or was being acted on. The integration of childcare contributions in the single payment, tapered away with earnings, also caused budgeting difficulties and made hard to tell if the amount refunded was correct[16].

Complex algorithms underpinning the payment calculation meant that DWP staff were frequently unable to explain why claimants had been under- or over-paid, why their entitlement had reduced or why the payment had unexpectedly stopped. More information is now included on the statement, but the complex way in which entitlement, deductions, earned and unearned income interact to produce the monthly payment was said, by many participants, to be abstruse and impenetrable. Lack of transparency about how the payment is calculated made challenging decisions and resolving errors more difficult than under the legacy system. Dispute resolution was also frequently long and involved, sometimes taking many months to resolve, with claimants passed between work coaches, case managers and staff from debt management. Monthly assessment of entitlement meant that issues resolved in one month could subsequently recur.

For working families in particular, the weight of personal responsibility in uploading information, making calls to the service centre, responding to messages, filling in the journal, checking the monthly statement and challenging decisions could be a heavy administrative burden. Budgeting in the context of a variable and often unpredictable UC payment could also increase the amount of time involved in monitoring household cash flow. With typically greater responsibility for household budgeting and for managing the UC claim, responsibility for these tasks, together with the stress and worry that often accompanied them, fell disproportionately on the shoulders of women. The fear of not being able to cope, or that the family's difficult circumstances would come to the attention of social services, were further source of anxiety that were more typically voiced by women. For those who bore the brunt of these additional compliance costs[17], the extra effort and emotional heavy lifting meant that UC was not just 'like work', it was work, and frequently onerous, stressful work at that (Griffiths, et al., 2020: 205).

The all-consuming nature of managing the UC claim sometimes spilled over into couples' relationships, culminating in disagreements about money and debt. With no let up, the demands of managing the claim while also juggling childcare and paid work led some working mothers in this research to reduce their hours or give up employment

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altogether, contrary to the policy intent. The trade-off of a more responsive, digitalised, single, monthly payment thus appears to be increased financial insecurity, administrative burden and compliance costs, with greater risk and uncertainty transferred onto claimants.

Legal challenge to the treatment of earned income

Intelligence collected by the UK Child Poverty Action Group (CPAG) lends strong credence to these research findings (CPAG, 2019a; CPAG, 2019b). A legal challenge brought by CPAG on behalf of four lone parents argued that monthly assessment in UC incorporated an unlawful approach to the calculation of earned income (Johnson and Others v SSWP, 2020). Defending, the Secretary of State for Work and Pension's argued that, although counting two sets of wages in one assessment period may be 'unfortunate' and 'arbitrary', redesigning the IT system 'essentially from scratch' to accommodate an adjustment would cost in excess of £7 million (Johnson and Others v SSWP, 2020: 78). This defence was rejected and the challenge succeeded, but not because the automated assessment system was deemed to have infringed claimants' legal rights or could create income insecurity, but because the effects, in these instances, were judged to run counter to UC's policy aim of 'making work pay', so were 'irrational'. The relatively large number of claimants said to be affected also played a part in the ruling (Meers, 2020). A series of similar legal challenges in which the fixed monthly assessment period resulted in adverse outcomes for claimants have since failed because the public law irrationality threshold was judged not to have been met. Furthermore, although the DWP has since amended the regulations, and is intending to automate the correction, the new rules only apply to claimants paid a monthly salary, not to those paid four weekly or weekly, even though many are similarly affected and may also have reduced hours of work or withdrawn from the labour market (as our research showed), contrary to the policy logic.

In spite of continuous lobbying, the DWP has repeatedly insisted that monthly assessment and the use of RTI feeds from HMRC are hard-wired into UC's design and cannot be changed. Will Quince, Parliamentary Under-Secretary of State for Work and Pensions, stated that changing the system of monthly assessment was 'not operationally deliverable' (House of Commons Work and Pensions Committee, 2020). Neil Couling, the senior civil servant responsible to Parliament for delivering Universal Credit, similarly claimed that it would need human beings to manually operationalise such a fundamental design change, with serious knock-on effect in terms of the timeliness of benefit payment: 'If you play about with the architecture of Universal Credit you won't be able to pay the vast millions we have to pay every month … I've explained … many times that the month-long assessment period is integral for how it works' (Cauldfield, 2020). The government's position is thus that any hardship claimants may experience as a result of monthly assessment, or arising from automated processes in UC more generally, though regrettable, is worth it for the greater good of administrative efficiency in the processing of benefit payments. This trade-off involving the subordination of claimants' rights and greater compliance to the technical constraints of automation thus continues to hold sway within the Government and among DWP policymakers.

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Universal Credit's 'moment in the sun?'[18]

In the wake of the huge surge in claims due to the Covid-19 pandemic, some have claimed that UC's digitalised features may be helping to restore its tarnished reputation (Timmins, 2020b). Following the UK lockdown in March 2020, an unprecedented 3.7 million people applied for UC; around seven times the usual volume (DWP, 2020a). A surprise to even the harshest critics of UC, more than nine out of ten eligible claims, together with around 1 million advance loans, were paid in full and on time (DWP, 2020a). By December 2020, 5.9 million people were in receipt of UC (DWP, 2021), compared with 1.9 million in March 2020 (DWP, 2019). That the system was able 'to work at great volume … through [an] unprecedented claims spike' while achieving operational performance levels apparently in excess of pre-Covid rates was attributed by Neil Couling to the benefit's automated features (Public Accounts Committee, 2020: Q12). He claimed that in the face of such huge and unforeseen demand, Jobcentres would have been inundated and the legacy system would have collapsed within days.[19] Iain Duncan Smith, former Secretary of State for Work and Pensions and UC's principal architect, concurred: 'I shudder to think how many people would have put themselves in harm's way, in queues snaking away from job centres as they tried to sign on in the middle of a pandemic' (Duncan Smith, 2021). Commentators and think tanks from across the political spectrum tended to agree – that only a fully digitalised system could have processed such a large volume of applications and payments in so short a period of time (Brewer and Handscomb, 2020; Timmins, 2020b).

Others argue that had the legacy system received the same level of investment in IT as UC, it would have coped equally well (Bennett, 2020). In fact, online application procedures for several legacy benefits pre-date the roll out of UC. In 2012, almost 40 per cent of claims for JSA were made online (DWP, 2012a). Claimants could also view information about their JSA, ESA or IS award through a (now defunct) personal benefit account called 'My Benefits Online' (DWP, 2012a). 'New style' ESA and JSA, contributory benefits which operate alongside UC, and which also have an online application, proved to be equally resilient in the wake of the recent unprecedented increase in claims (Roberts, 2020).

Furthermore, while the digital application for UC may have avoided long queues forming outside Jobcentres, they snaked out of view, online, instead (Glick, 2020). The DWP's 'don't call us, we'll call you' policy, rapidly implemented to handle the unprecedented surge in claims, was largely a result of shortcomings in the online system. The ability of the DWP to handle, at the peak of the pandemic, more than 4 million telephone calls in forty-eight hours was, moreover, due in no small part to the Herculean efforts of 10,000 UC staff, supplemented by thousands of civil servants drafted from the furthest corners of the DWP and other government departments, to manually expedite the processing of new claims (House of Commons Work and Pensions Committee, 2020), a process which involved halting virtually all other DWP business (Butler, 2020). It has also since transpired that, among the 1 million advance loans approved since the start of the pandemic, many have been fraudulent. This recently came to light when thousands of victims of identity theft who had never claimed UC began to have advance repayments automatically deducted from their wages (Brignall, 2020).

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Discussion and policy implications

The Government is keen to promote digitalisation as a neutral, technocratic exercise designed to improve efficiency in the administration and payment of benefits. However, digitalisation in Universal Credit speaks to a larger set of policy goals than a simpler, more efficient and cost-effective benefit system. In different ways, the algorithms, automated processes and defaults which underpin UC's digital architecture serve to 'reward' or 'punish' certain work-related behaviours, enforce perceived social and financial obligations and encourage 'responsible' budgeting. That claimants bear greater responsibility for managing their claim, identifying errors and challenging decisions is thus no accidental by-product of digitalisation, but rather firmly rooted in the vision of its architects about how claimants ought to behave and act. Much more than a system designed to pay benefits 'in full and on time', Universal Credit is a vehicle for delivering the government's wider social policy agenda.

In these different ways, digitalised welfare systems are changing the nature of the bureaucratic encounter between the state and the citizen. As Philip Alston notes, online platforms, electronic procedures and automated processes, which place greater compliancy and administrative demands on claimants and which can affect the ability to understand their rights and challenge decisions, are beginning to overturn 'the traditional notion that the State should be accountable to the individual' (Alston, 2019b: 16). This is not to suggest that digitalisation is unavoidably detrimental for claimants. However, when procedures for determining eligibility and entitlement are underpinned by normative values and coded into automated systems 'that can autonomously carry out tasks without human intervention' (Booth, 2019), the risk is that technical issues (whether genuine or politically expedient), rather than human concerns, can become the key drivers of policy.

An apparent contradiction also exists between the 'transformational' aim of UC to foster independence and personal responsibility and 'deepening and widening control of claimants' lives' (Millar and Bennett, 2017). There is furthermore something Kafkaesque about a 'stubbornly closed system' operated by a government department which has a 'fine-grained, real-time view' of claimants' behaviour, while people wishing to access payments to which they are legally entitled must fumble around in the dark (Pope, 2020: 8). The recent government admission that DWP staff have the ability to retrospectively amend information posted to a claimant's journal without acknowledging the revision, only reinforces the need for greater transparency and accountability (UK Parliament, 2021).

The opaque, personalised and often hidden nature of these effects means that, in UK political and policy discourse, many of these wider issues raised by digitalisation remain under-explored. The use of algorithms in public services has been discussed by the Committee on Standards in Public Life (CSPL, 2020) and in the House of Lords (House of Lords, 2020a). In 2018, the House of Commons Science and Technology Select Committee highlighted the lack of transparency and accountability in the use of digital technology in the public sector, urging the government to adopt 'a legally enforceable right to explanation and redress, enabling claimants to find out how algorithmically-driven decisions are reached, allowing them to be challenged and overturned' (Science and Technology Select Committee, 2018). Their recommendations have yet to be acted upon. A recent report by Justice and the Administrative Justice Council similarly recommends that DWP should publish information on how and when automation is used in benefits

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decision-making processes (JUSTICE and AJC, 2021). However, its main focus is on administrative justice for people with disabilities and health problems, rather than for UC claimants more broadly. Moreover, as findings from this research show, the erosion of citizen's social rights is only one of the potentially detrimental outcomes arising from increased digitalisation. The greater administrative burden and compliance costs for claimants, their frequently gendered effects, and the potentially adverse impacts for relationships and psychological well-being, are also important but, thus far, neglected parts of the overall picture. But whether intended or unintended, administrative burdens are 'constructed' (Herd and Moynihan, 2018). This suggests that research and policy interest about digitalisation in UC, and in welfare systems more generally, would benefit from a broadening out to include questions of administrative burdens, together with exploration of their wider effects and impacts on claimants.

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Notes

1. Initially called 'digital by default', also sometimes known as 'digital first'.
2. These are: Income Support (IS), Child Tax Credit, Housing Benefit, income-based Employment and Support Allowance (ESA), income-based Jobseeker's Allowance (JSA) and Working Tax Credit.
3. The devolved governments in Scotland, Wales and Northern Ireland have some flexibilities over payment arrangements.
4. The term 'digitalisation' is used here to include all forms of electronic, online, algorithmic, automated and data-driven processes, procedures, calculations and systems.
5. UK employers' obligation to report PAYE to HMRC each time they pay their employees has been mandatory since 2013.
6. For joint claimants, the net monthly wages and other incomes of both partners are aggregated to give a joint figure against which Universal Credit entitlement is assessed.
7. After tax, national insurance and pension contributions have been paid.
8. Due to the Covid-19 pandemic, many DWP staff are currently home-based.
9. Agile methods in IT focus on end-user interactions, iterative design and development, and collaboration between the client and systems engineers.
10. BPDTS formed as a limited company in 2016 to provide digital and technology services to the DWP.
11. The Government's 'partially refreshed' Business Case for UC in 2021 states that estimated savings have 'significantly increased.' https://committees.parliament.uk/publications/6266/documents/69160/default/ [accessed 29.07.2021].
12. http://www.payerti.org/RTI-UC [accessed 28.07.2021].
13. It can also be argued that the *Welfare Reform Act 2012* enshrines an increase in discretionary decision making powers in UC as claimant's legal rights have been eroded.

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14. The aim was to re-interview participants face to face, but telephone interviews were substituted due to the Covid-19 pandemic.

15. The upfront payment and recovery of childcare fees in arrears in UC is currently the subject of a legal challenge.

16. Research participants' experiences of the childcare element of UC is addressed in Wood, 2021.

17. 'Compliance costs' here refers to the costs – time, money and psychological – that are imposed on applicants and recipients of benefits by meeting the various requirements placed on them by social security law and statutory authorities (Bennett *et al.*, 2009).

18. Timmins (2020a).

19. Neil Couling speaking at the Resolution Foundation on 27th May 2020.

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