Rethinking Microwork: the Invisble Labour of the Platform Economy

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The rapid development of artificial intelligence over the last decade has not yet brought about the dystopian scenario of mass unemployment predicted by its critics. Paradoxically, on arriving at automation's 'last mile' there has been a flourishing of new work – precarious and poorly paid – pushing the horizon of human redundancy ever-further into the future.[1]

Indeed, present AI innovations turn on an illusion. What so often appears as algorithmic power is in fact an ambient workforce, supervising Uber's algorithms, rating Google's search results and making sure our Facebook feeds are clear of violent imagery. These 'ghost workers' train the data for autonomous vehicles and facial recognition software; they transcribe audio for chatbots and power the cloud computing of companies like Microsoft. They are the workers that step in when the algorithm falls short, the workers that clean the data and, ultimately, make our digital lives legible.[2]

We find this hidden workforce of on-demand workers on microwork platforms such as Amazon Mechanical Turk, Appen and Clickworker. These platforms host short data tasks that are outsourced by requesters ranging from smaller start-ups to companies like Google, Amazon and Microsoft. The platforms act as intermediaries and take a cut from every transaction between the two parties.[3]

Tasks on the platforms might include labelling objects on a photo, transcribing audio of voices, copying or translating short pieces of writing and filling in surveys. These tasks fulfill the work that:

1. Algorithms are still unable to complete
2. Workers can complete more precisely and efficiently
3. Workers can complete at a lower cost

For this reason, workers on these platforms have been described as 'artificial artificial intelligence,' 'humans in the loop,' and 'data with a human touch.'[4]

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1. Mary Gray and Siddharth Suri, Ghost Work: How to stop Silicon Valley from building a new under-class (Houghton Mifflin Harcourt: USA, 2019).
2. Ibid.
3. Nick Srnicek, Platform Capitalism (Polity Press: London, 2016).
4. Appen, "Data with a human touch." August 2017. https://appen.com/wp-content/uploads/2017/08/Appen-Healthcare.pdf; Appen, "What is human-in-the-loop machine learning." 2019. https://appen.com/blog/human-in-the-loop/.

The use of microwork sites is growing rapidly. A survey by the Trades Union Congress and the University of Hertfordshire found that as much as 5.8% of the UK working age population use microwork sites at least once a week.[5] The majority of those surveyed said they were in full-time employment, suggesting that microwork tops up incomes in a moment of ongoing wage stagnation.[6] A significant minority said they were part-time or self-employed, also suggesting that the growing popularity of microwork is a response to under-employment.[7] In response to a global survey of workers using five microwork platforms conducted by the ILO, over 60 per cent of respondents expressed a desire for more work other than microwork, again suggesting a high degree of underemployment – 41 per cent of participants reported actively looking for other paid work.[8]

Microwork platforms recruit workers by promising flexibility and independence in terms of the schedule, quantity and location of work. The flipside of this is that the work is highly contingent: temporary and casual tasks, often lasting little more than a few minutes. Workers patch together a livelihood out of bits and pieces of work, meaning workers end up working for multiple requesters over the course of a single day. As 'independent contractors,' they receive none of the rights or benefits that come with 'worker' or 'employee' status.

Treatment of workers differs depending on the type of platform they work for, which can be divided into two distinct but mutually overlapping kinds: crude crowd platforms and tailored crowd platforms (See Figure 1). Using this typology, it's possible to generalise that curated crowd platforms tend to service long-term clients and, for this reason, use tests and formal applications to decide which workers can use the platform, while crude crowd platforms are open to anyone who wishes to outsource or fulfill tasks (though requesters often provide tests for tasks requiring specific skills).

5. Trades Union Council and University of Hertfordshire. "Platform Work in the UK 2016-2019." Foundation for European Progressive Studies. 2019. https://www.feps-europe.eu/resources/publications/682-com_publications.publications.html.
6. Ibid.
7. Ibid.
8. Janine Berger, Marianne Furrer, Ellie Harmon, Uma Rani and M. Six Silberman. "Digital Labour Platforms and the Future of Work: Towards decent work in the online world." International Labour Organization. 2019. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_645337.pdf.

Figure 1: Typology of microwork platforms

	Crude Crowd	Curated Crowd
Platforms	Amazon Mechanical Turk, Clickworker, Microworkers, Lionsbridge	Appen, Playment, Mighty AI, Hive, Scale, Wirk, Microsoft UHRS, Google Raterhub
Tasks Hosted	Generalist: clickwork such as surveys, data entry, content moderation, as well as some machine learning tasks	Specialist: Machine learning training – data classification and labelling, audio transcription, sentiment analysis
Project Length	Highly contingent: 30 second – 30-minute tasks (though some may be longer)	A mixture of highly contingent and longer term 'task projects', where smaller tasks are packaged together to offer 8-40 hours' worth of work
Requesters	General requesters - marketing, sectoral and academic researchers. Also some large tech companies	Google, Microsoft, Uber, Facebook, Amazon, IBM, Tesla
Average Payment	$2-3 per hour	$7-9 per hour

Working Without Pay or Rights

a) Low Pay or no Pay

While pay differs significantly from platform to platform, it is generally very low, with average hourly earnings often totalling well below the minimum wage in most EU countries.[9] Pay is especially low on crude crowd platforms (*see* Figure 2).

Figure 2: Hourly pay by platform (US$)

		Paid work			Paid and unpaid work		
		Median	Mean	Observations	Median	Mean	Observations
AMT USA	2017	7.50	8.51	222	5.63	6.54	222
	2015	6.00	7.56	652	4.66	5.56	651
AMT India	2017	2.14	3.40	217	1.67	2.53	217
	2015	2.19	3.95	98	1.66	2.95	98
CrowdFlower	2017	1.50	2.65	298	1.11	1.95	299
	2015	1.50	3.04	306	1.00	1.92	307
Clickworker	2017	3.19	4.49	389	2.13	3.19	390
Prolific	2017	4.55	5.45	450	3.56	4.26	446
Micorworkers	2017	1.60	3.00	444	1.01	2.15	448
All platforms	2017	3.00	4.43	2027	2.16	3.31	2029
	2015	4.39	5.92	1056	3.33	4.26	1056

Source: "Digital Labour Platforms and the Future of Work: Towards decent work in the online world." International Labour Organization. 2019.

On these platforms, pay has to be low for the sites to remain both profitable and popular with requesters. The majority of work on sites like Mechanical Turk and Clickworker is not geared toward doing tasks that algorithms can't do but tasks that workers can do at a lower cost and faster pace than algorithms; thus, price as opposed to accuracy is often what motivates requesters.[10] The fact that paying a minimum wage on these platforms would effectively make outsourcing tasks financially unviable suggests that legislators and policymakers should seriously consider the role of these platforms in the UK economy, a problem returned to in the policy section below.

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9. Ibid.
10. Mannas Mittal and Yaron Singer. "Pricing Tasks in Online Labor Markets." Association for the Advancement of Artificial Intelligence Workshop, 2011. https://www.aaai.org/ocs/index.php/WS/AAA-IW11/paper/viewFile/4001/4266/.

One of the largest surveys carried out on microwork sites found that over 30 percent of workers regularly experience wage theft.[11] While some of this figure is due to requester malfeasance, a significant number of incidents are the result of the way platforms organise workflow and payment. Wage theft is often baked into the architecture of many platform's, which allows requesters to dock or deny pay due to:

1. Task time limits – strict timeframes on the completion of tasks, if broken, can result in non-payment. This is because much of the work offered on these sites can already be done by machine learning algorithms; workers retain the upperhand in terms of pace.[12]

2. 'Bad quality' – tasks that do not meet requester standards will go unpaid. On Amazon Mechanical Turk, for the same task completed by a multitude of workers, those in the majority are paid while the outlier is assumed to be incorrect and forgoes payment.[13]

3. Lack of checks and balances – Requesters can easily deny payment illegitimately. While microwork platforms supply rating systems that allow requesters to review workers, no such system exists for workers to do the same. This means repeated offenders are difficult to identify.

On top of explicit wage theft, workers on these platforms also fall victim to excessive and unregulated data appropriation. A platform like Amazon Mechanical Turk not only imposes a levy on every transaction between workers and requesters but also receives a data set about every task completed on the platform.[14] This effectively gives Amazon a carbon copy of the task's product as well as information about how the task was completed entirely free of charge.

b) Lack of Workers' Rights and Benefits

The characteristic contractual arrangement of microwork is 'self-employment.' In theory, this means that individuals and firms are free to negotiate terms agreeable to both parties, according to the minimum standards set out by legislation.[15]

On microwork platforms self-employment disproportionately benefits the contractor, allowing them to avoid costly financial obligations such as national insurance payments. The worker, on the other hand, loses the rights and benefits of being an employee or worker yet receives few of the gains associated with self-employment - for instance, pay is non-negotiable (see Figure 3).

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11. Mary Gray and Siddharth Suri. Ghost Work: How to stop Silicon Valley from building a new underclass. Houghton Mifflin Harcourt: USA, 2019.
12. Alexander Quinn, Benjamin Bederson, Tom Yeh and Jimmy Lin. "CrowdFlow: Integrating Machine Learning with Mechanical Turk for Speed-Cost-Quality Flexibility," Human Computer Interaction Lab, 2010. See: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.232.4190&rep=rep1&type=pdf.
13. M. Six Silberman and Lilly Irani, "Operating an employer reputation system: Lessons from Turkopticon 2008-2015.' Comparative Labor Law and Policy Journal, 37 (2016): 505–542 .
14. Amazon Mechanical Turk. "Participation Agreement." 2020. https://www.mturk.com/participation-agreement.
15. Gov.uk. "Employment Status." 2020. https://www.gov.uk/employment-status/worker.

Figure 3: Employment rights for employees, workers and the self-employed

Self-Employed	Worker	Employee
Not covered by employment law	Statutory minimum wage	All of the rights listed in the 'worker' column and:
	Statutory minimum amount of paid holiday	Statutory sick pay
Rights and responsibilities are agreed with contractor on an individual basis	Statutory minimum level of rest breaks	Statutory maternity and paternity pay
Still entitled to protection from poor working conditions and some forms of discrimination.	Protection from unlawful deductions from wages	Statutory redundancy pay
	Protection for whistleblowing	Protection against unfair dismissal
	Protection from working more than a 48-hr week.	Time off for emergencies
		Minimum notice periods for dismissal or resignation

Source: Gov.uk, 2020.

With platforms like Uber and Deliveroo, there is a strong argument to be made that workers using the platform are not self-employed, but actually work for the companies. Both platforms set the terms of the work, control the workflow, set pay rates and even decide when workers can work.[16] By the estimation of some, workers on these platforms thus represent 'dependent contractors,' a section of the self-employed who are contracted long-term by a single employer, and should, therefore, be eligible for workers' rights.[17]

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16. Kari Paul, "California landmark workers' rights bill sends waves through gig economy firms." The Guardian. 11 September 2019. https://www.theguardian.com/business/2019/sep/11/.
17. Matthew Taylor, Greg Marsh, Diane Nicol, Paul Broadbent, "Good Work: the Taylor review of

With microwork, the case is less clear cut. Instead of one platform doing all of the above, a multitude of requesters design tasks, set pay rates and control the workflow. Workers on these platforms are employed by innumerable requesters, but undertake their work at a single site of work, where pay, organisation and often hours are non-negotiable. In short, they neither fit the rigid categories that comprise the UK's system of workers' rights, nor do they readily meet the criteria set out for 'dependant contractors.'[18] As we will see, this is why extending a single 'worker' definition to all employees, temporary and zero-hour workers as well as self-employed contractors offers a better – though still imperfect – solution to this problem.

Policy Solutions

While microwork represents a global challenge for policymakers, some of the proposals recommended here are targeted at the UK's labour market and are, therefore, highly specific to one country's institutional and legal arrangements. Other proposals outlined here are generalisable and thus transferable to the labour markets of other national and international jurisdictions.

a. Platform Equality

There are many issues specific to microwork platforms that are not yet covered by existing legislation. Problems like wage theft and one-sided rating systems are either entirely unique to microwork or do not affect the wider labour market to anything like the same degree. For this reason, government should introduce legislation that specifically targets the architecture of these platforms:

To prevent wage theft it should be legislated that all completed tasks are paid for by requesters. As it stands, payment is only made to those who complete tasks to a satisfactory standard, an arrangement that disproportionately benefits requesters. To make the errors of workers less costly, requesters should use other channels to incentivise good work, i.e. the available ratings systems, which allow requesters to mark down workers for persistently poor work. This would mean that rather than forfeiting pay, workers who repeatedly produce 'bad work,' either through negligence or malfeasance, get a bad reputation and are identifiable as such by other requesters.

Rating systems should be made multi-sided so that workers can review requesters. These should be modelled on Turkopticon, an innovative requester reputation system designed by workers on Mechanical Turk.[19] The plug-in overlays the worker's screen and allows them to rate requesters and publicize this information in real-time. Rather than being external to a platform's architecture it should be made internal. By allowing workers to warn others on the platform about 'bad' requesters, such a system would help iron out inequities between workers and requesters.

modern working practises." Department for Business, Energy and Industrial Strategy. 2017. https://www.gov.uk/government/publications/good-work-the-taylor-review-of-modern-working-practices.
18. Ibid.
19. Silberman and Irani, "Operating an employer reputation system: Lessons from Turkopticon 2008-2015".

Worker messaging services should be made a legal obligation of microwork sites. As it stands, workers are forced to use forums and Reddit threads to discuss platform problems, bad requesters, as well as hints and tips around task completion. This creates a lag in response times and makes the real-time communication that workers share in other lines of work close to impossible. Internal messaging services would go some way to improving communication between workers.

Shorter tasks should include a 'finders fee' to cover the lengthy fallow periods between tasks. This would cover the large amounts of shadow work undertaken by workers to simply find tasks. A worker that undertakes 15 two-minute tasks undertakes significantly more unpaid shadow work than one who does two 15-minute tasks. The 'finders fees' for time spent searching for tasks should, therefore, be graded, so that two-minute tasks receive a greater payment boost than a five-minute task. These payments should be incurred by requesters via monthly taxes on their earnings and paid to taskers on a monthly basis.

b. Universal Workers' Rights

In an age where arrangements like the gig economy and microwork are testing the very legal definitions upon which the labour market rests; where employees are in decline and the self-employed on the rise; and where a highly interconnected world means all workers face the same global risks – pandemics and climate catastrophe – we need a system of universal rights that no longer privileges certain segments of the labour market, but provides the same safety net and benefits for all.

This would mean that all who exchange their time for a wage, whether it be a salaried employee or a 'self-employed' microtasker, are categorised under the single banner of 'worker' and are given the same access to the full range of rights usually preserved for employees.[20] As we see in Figure 3, workers on microwork sites are not covered by employment law, and are not extended even the most basic level of security in terms of rights and benefits. There is no good reason why, for instance, minimum wage legislation or holiday pay should not be extended to such workers.

In most cases, this greater extension of rights would not entail radical adaptations to existing legal or institutional arrangements. The scope of minimum wage legislation or working time directives, for instance, would simply be amended to include a larger section of the labour market.

But because many rights arrive as financial support from employers, the means of receiving such support would need to be adapted for those who are not contracted full-time or over the long-term. For these workers, holiday, sick and maternity pay should be paid through a new government fund, set up in the country where the work is completed, which distributes these benefits, financed by the platforms through existent tax and national insurance contributions (NICs). For instance, in the UK, this would mean that microwork companies pay national insurance and tax on any work carried out on their platforms within the UK, which would go into the fund and then be distributed as financial support such as sick or holiday pay.

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20. The Institute of Employment Rights. "UK Sick pay nearly worst in Europe and in breach of international law." The Institute of Employment Rights. 13 March 2020. https://www.ier.org.uk/news/uk-sick-pay-nearly-worst-in-europe-and-in-breach-of-international-law/.

Platform companies could choose to place some or all of the burden of this tax on requesters via additional levies on using the platform, but platform companies should be responsible for paying the tax in the first instance.

The amount of financial support workers would have available to them would be defined by the amount of hours they work. This would mean that those who work full-time hours on microwork sites would have the same amount of holiday and sick pay available to them as, say, a full time employee. Part-time or shorter hours would mean a reduction of the full value of benefits available.

c. A New National Insurance System

To make workers' rights – and indeed employer responsibilities – universal, the national insurance system should be levelled up, so that all employers and contractors of labour pay a set rate of national insurance contributions (NICs) per annum, and all in the new universal category of 'worker' pay a slightly lower rate (with remittances for low-income workers). As it stands, employers are being incentivised to misrepresent the legal status of workers to avoid paying NICs, frequently downgrading employees to 'worker' or 'self-employed' and depriving them of the rights they deserve (see Figure 4).

Figure 4: Type of NICs in 2020[21]

As it stands, the self-employed pay two types of NICs: Class 2: £3.05 a week if profits are above £6,475 a year Class 4: 9% on profits between £9,501 and £50,000 a year. 2% extra on profits over £50,000	While employees pay one type of NICs and their employer another: Class 1: 12% on earnings above £9,504 a year and an additional 2% on £50,000 a year Employer NIC: 13.8% of employee earnings above £8784

Adjusting the parameters of NICs so that employers and firms continue to pay the same but workers pay less overall, all employers and contractors should continue to pay 13.8% of earnings per annum and all employees, workers and self-employed a flat 10%. While this represents slightly more for some sections of the labour market (and slightly less for others) the gains accrued in rights and benefits far outweigh what appear at first glance as income losses. There would also be a system of remittances for lower earners, making below £9,504 a year, such as those using microwork sites as their main source of income (see below).
Unlike the present system of remittances which distinguished between 'self employed' and 'employee,' all workers would pay the same 10% national insurance

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21. Gov.uk. "National Insurance rates and categories." 2020. https://www.gov.uk/national-insurance-rates-letters; Gov.uk. "Self-Employed National Insurance rates." 2020. https://www.gov.uk/self-employed-national-insurance-rates.

and have access to financial benefits such as maternity allowance and a state pension. Due to the nature of being 'self-employed,' these benefits would not be paid by employers, but by a government fund for 'self-employed' workers.

Similar proposals to adapt NICs to curb bogus 'self-employment' have been made elsewhere but without the significant raise in the standard and availability of rights proposed here.[22] The system here proposed would mean that the responsibilities of employers and contractors are set by their use of labour as opposed to their legal relationship to it.[23] In other words, any firm, platform or institution that uses labour pays the same rate into national insurance, no matter the form of labour.

Making sure all receive the same rights no matter their relationship to the contracting firm or employer requires that all workers operating on these platforms inside the UK pay a flat percentage of their income. This allows us to soften the hard distinctions between self-employment and dependent employment found across our legal and social insurance systems. Indeed, microwork to a significant degree already flattens these distinctions; thus, adapting NICs accordingly would simply reflect a transformation already underway.

Rather than this being based on each worker's income category, all contractors would now pay 13.8% of all the wages they have paid each month. This moves our insurance system away from one where contributions are worked out by the firm's or contractor's relationship to individual workers to one where the value of total labour used determines how much the contractor pays.

So that all have the same access to universal rights and benefits, all workers should pay the same national insurance contributions, once their wages meet a certain threshold. However, significant reductions in contributions would be available for low-income workers, whether they be microworkers, on a standard contract or small business owners. Unlike our present system, these reductions would not entail reduced access to any rights. The point being that income should not dictate which rights are available to workers.

22. Benedict Dellot and Fabian Wallace-Stephens. "Entrepreneurial Audit: Twenty policy ideas to strengthen self-employment and micro businesses in the UK." RSA: Action and Research Centre. 9 February 2017. https://www.thersa.org/discover/publications-and-articles/reports/the-entrepreneur-ial-audit.
23. Colin Crouch, Will the Gig Economy Prevail (London: Polity Press, 2019).

d. Better Rights

Even if you are currently an 'employee,' the range of rights available are far from comprehensive. Indeed, in terms of financial support for workers, the UK's employment rights rank among the worst in Europe.[24] Support currently available needs significant enhancement to meet international standards.

Of particular concern in wake of the coronavirus pandemic is statutory sick pay (SSP). In the UK, SSP is among the worst in Europe, and was found to be in breach of the European Social Charter, which described it as 'manifestly inadequate.'[25] If we compare the UK's £95.85 per week for up to 28 weeks to other European countries, we see just how far it falls short.[26] In the Netherlands, which has the most generous SSP, workers receive 70% of their pay for up to two years.[27] In Norway, employers are obligated to pay a worker's full salary for up to a year.[28]

SSP in the UK should combine the best facets of the Norwegian and Dutch systems and offer full pay for up to two years. Even if micro- or gig-workers had access to SSP, at its current rate it would hardly provide enough to live off, given that most of these workers do not have savings or other consistent sources of income.

Aside from issues with specific rights, the UK system also has general problems, not least limits on the rate of income necessary to access the system. Large numbers of workers, including those that use microwork sites, currently make below the lower earnings limit of £118 per week, meaning they do not qualify for any financial support from their employers.[29] Considering that part of the point of Universal Workers' Rights is to decouple access to rights from hours and income, this limit should be entirely lifted, so that all workers have access to the same amount of holiday and sick pay.

24. "Which Countries in Europe Offer the Fairest Paid Leave and Unemployment Benefits." Glass-door, 2016. https://www.glassdoor.com/research/app/uploads/sites/2/2016/02/GD_FairestPaidLeave_Final-2.pdf.

25. The Institute of Employment Rights. "UK Sick pay nearly worst in Europe and in breach of inter-national law." The Institute of Employment Rights. 13 March 2020. https://www.ier.org.uk/news/uk-sick-pay-nearly-worst-in-europe-and-in-breach-of-international-law/.

26. Gov.uk. "Statutory Sick Pay." 2020. https://www.gov.uk/statutory-sick-pay.

27. European Commission. "Netherlands: Sick pay and benefits in the event of illness." European Commission: Employment, Social Affairs and Inclusion. 2020. https://ec.europa.eu/social/main.jsp?-catId=1122&langId=en&intPageId=4992.

28.. Ibid.

29. Gov.uk. "Rates and Allowance: National Insurance contributions".

e. Data Rights

On top of enhancing and extending the existing system of rights, any new settlement must take into account the growing role data extraction plays in the expropriation of workers. To make sure that workers as well as firms see the benefits of the data economy, a new set of rights must include:

The right to access data – workers on microwork sites produce vast amounts of data, not only about their work but also their personal habits and preferences. This data should be made available to workers, so they can gather insights into work flow and working time; enhance their own working practises in ways they see fit; bolster their power in collective bargaining negotiations; and identify the kinds of data that are collected by firms and contractors.[30]

The right to a data dividend – a data tax should be levied on every microwork platform. This tax would be calculated based on a given platform's monthly profits, based on the assumption that platforms with higher profit margins are better at extracting and moneitising data. The decision as to whether payment of this tax is shared with larger requesters – clients like Google and Facebook – should be the prerogative of individual platforms. The balance of the taxes should then be paid to all workers on these platforms, based on the hours they work, as a monthly dividend.

The right to a data fund – part of the data tax should be collected in a national fund, collectively owned by all the microworkers across the platforms operating in that country. This could be invested and produce a yearly return, or go toward organising workers' conferences or a union. There has so far been little in the way of unionisation among microworkers, partly due to the geographical challenges posed by remote work, and the pressures associated with a large global pool of cheap workers. Another limit is that starting a union entails sourcing new funding.

30. Hettie O'Brien and Matthew Lawrence, "Data and the Future of Work". Commonwealth. 20 July 2020. https://www.common-wealth.co.uk/reports/data-and-the-future-of-work.

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