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Do punitive approaches to unemployment benefit recipients increase welfare exit and employment? A cross-area analysis of UK sanctioning reforms

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Abstract

Background: Globally, there is growing pressure on welfare systems to reduce spending. Starting in 2011, the UK introduced a series of reforms that expanded the use of punitive ‘sanctioning’, which terminates unemployment benefits if claimants fail to comply with one or more welfare conditionalities. We tested whether increasing sanctions under the new reforms reduce access to benefits without creating a concomitant rise in employment.

Methods: We collected monthly and quarterly data on the number of unemployment benefit claimants, employment and sanction rates from official UK government statistic databases, covering 375 local authorities between 2005 and 2014. Using cross-area fixed effects models, accounting for monthly time lags, we evaluated the relationships among sanctions, exit from unemployment benefit, and employment outcomes.

Results: Between 2005 and 2014, we found that each 100 adverse sanctions was associated with 23.8 (95% CI: 19.5 to 28.0) fewer people on unemployment benefit. This association was stronger after the reforms, with 42.4 persons fewer on benefit per 100 sanctions (95% CI: 33.8 to 51.0), a significant increase over the preceding period ($p = 0.02$). About 20% of those exiting unemployment benefits in association with an adverse sanction reported finding work; the remaining 80% left for reasons that were not specified as pertaining to employment. As a falsification test, we found no effect of non-adverse sanctions, wherein unemployment benefits were not withdrawn. We also failed to detect an association between sanctioning rates and increasing employment rates across local authorities.

Conclusions: Our findings indicate that the imposition of adverse sanctions is increasing exit from unemployment benefit in the UK. We were unable to detect an impact on employment recovery.

Key words: unemployment benefits, sanctions, conditionality, welfare reform, welfare caseload

Background

Europe's welfare systems have come under tremendous pressure in the wake of the Great Recessions of 2008. With the stated goal of reducing deficits, many nations have pursued deep austerity programmes. This has included budgetary reductions in health and welfare expenditure, but also structural reforms that reduce accessibility and eligibility (1-3). These have included additional conditions that those receiving benefit must meet and, in parallel, increasing application of punitive measures, known as 'sanctions' or 'disqualification', that cut recipients' funding if they fail to meet these pre-specified conditions (4, 5).

Sanctioning is often justified as a 'tough love' approach, necessary to break welfare dependency (6). It aims to stimulate job search activity and re-entry into the workforce. Starting the mid-1990s, virtually all EU Member States made receipt of unemployment benefits conditional on active search for work, variously including participating in Active Labour Market Programs, frequent meetings with employment counsellors, and monitoring job search activity among others (4). Failure to meet such conditions can be grounds for a sanction.

Starting in 2011, the UK Coalition government introduced three major reforms to its unemployment benefits (Jobseeker's Allowance, JSA) which made its sanctioning regimes among the harshest in Europe (4). While conditionality had its origins under New Labour in 1996 (5), they became much more extensive as part of new "Back-to-Work" schemes in 2011. These new programmes could require, for example, individuals claiming unemployment benefits to work without pay for privately contracted agencies (see Additional File 1: Web Appendix Box 1 for additional examples). In October 2012, the Coalition government increased the minimum sanctioning period to four weeks for minor offences, such as missing a meeting with an employment advisor, and to 13 weeks for offences deemed more serious, such as failing to apply for a job recommended by an advisor.¹ Lastly, the Coalition launched "Claimant Commitments" in 2013, requiring employment advisors to draw up agreements outlining claimant-specific conditions for JSA receipt, which must include 35 hours of job search activity each week.

Since these recent reforms began, numbers of persons being referred for sanctions have increased markedly, as shown in Figure 1. Between June 2011 and March 2014, 4.2 million people received sanction referrals, of whom 1.9 million had an adverse sanction imposed, which terminates payments. Neil Couling, Director for Working Age Benefits at the

Department of Work and Pensions, has defended the expanding use of sanctions by suggesting that “many benefit recipients welcome the jolt that a sanction can give them” and “[being sanctioned] is the wake-up call that they needed, and it helps them get back into work” (7).

[Figure 1 about here]

There is, however, only limited international evidence on the labour market effects of sanctions. Most studies compare the probability of re-employment among those sanctioned with those not. For example, a longitudinal analysis of administrative data in the Netherlands found that the imposition of sanctions significantly increased individual re-employment rates (8). Similar patterns have been observed elsewhere in Europe (9-13), with evidence that more intensive monitoring in Switzerland (10) and harsher sanctioning punishments in Germany (9) increase effectiveness. However, evidence from United States has been mixed. Several quasi-experimental studies evaluating the introduction of sanctioning policies for welfare recipients in 1996, found modest to null effects of sanctioning on re-employment (14-16). Yet, these studies have been critiqued for failing to account for potential selection biases in who receives a sanction, spill-over effects of sanctioning on area-level employment, the role of contextual factors, such as how the effectiveness of sanctioning may differ in periods of job scarcity, and, in some studies, for assuming that an exit from unemployment implied a transition into work (11).

A major gap in this literature is whether there are any harms associated with sanctioning. It has been speculated that sanctions may drive people off welfare, but not into work (5, 17), particularly in periods of job scarcity. In the UK, persons whose benefits are withdrawn through sanctions may fail to continue to sign on for benefit receipt, so becoming ‘defaulted’ out of access. Additionally, certain vulnerable groups, such as lone parents who face considerable time constraints, may be less able to comply with more exhaustive conditionalities of the new UK sanctioning regime (5, 15). In one recent study using labour market data from Switzerland, Arni and colleagues found that sanctioned welfare claimants were significantly more likely to exit welfare to non-employment (18), with similar patterns observed in the US (14-16). A series of public health studies in the US further documented that persons who had neither welfare access nor employment were at substantially elevated risk of homelessness, food insecurity, unmet medical needs, and declining self-rated health (15, 19).

Here, we take advantage of a recent quasi-natural experiment that occurred as part of the United Kingdom's unemployment benefit reforms and the associated rise in sanctioning that began in 2011 to assess both the consequences of sanctions for welfare exit and employment outcomes across local authorities. Specifically, we test the hypothesis that the greater imposition of sanctioning will reduce benefit access, but without a corresponding increase in overall employment rates.

Methods

We collected data on sanctions, claimant counts and unemployment data from 375 UK local authorities covering the period from April 2005 to March 2014, the latest available month at the time of study. Five authorities were excluded due to small population size (namely, City of London, Isles of Scilly, Eilean Sir, Shetland Islands, and Orkney Islands).

Sanction Referrals and Decisions

Monthly sanctions data were taken from the UK Department for Work and Pensions Sanctions Dataset (20). Receiving a sanction involves a two-step process (21). In the first step, a JSA claimant's advisor at a Jobcentre Plus office or Back-to-Work program files a referral for sanction to the Jobcentre Plus office when they believe the claimant has failed to meet one or more conditions of benefit receipt. As noted, these conditions have evolved over time but include those listed in Additional File 1: Web Appendix Box 1. In the second step, a decision-maker within Jobcentre Plus offices, commonly referred to as an "Independent Decisions Maker" because he or she is not the claimant's advisor, reviews the case, and ascertains whether a sanction should be applied (21).

There are four possible outcomes of a sanction referral: adverse, non-adverse, cancelled, or reserved (20). Briefly, of these only an adverse sanction leads to the termination of benefits. Additional File 1: Web Appendix Box 2 provides further details about the other outcomes, which we use as falsification tests. Adverse sanctions are imposed when there is evidence that the claimant violated conditionalities.

Unemployment Benefit Claimant Data

We collected monthly data on claimant counts from the Office of National Statistics Official Labour Market Statistics database (Nomis) (22). Each month's count corresponds to the numbers of people claiming JSA on the second Thursday, recorded at Jobcentre Plus offices.ⁱⁱ

In addition, we collected data on the number of new JSA claims each month ('on-flow') and the number of claims which were active in the previous month but not in the current one ('off-flow'). Although there can be slight actuarial discrepancies, the monthly change in total claimant numbers is equivalent to the difference between the on- and off-flow. All claimant and sanction data were converted to rates by dividing them by the working age population in the local authority.

We further disaggregated off-flow data into the reasons for exit, which included found employment, increasing work hours, enrolling in training, moving out of the country, or claiming another benefit. These data are available from the Nomis database, compiled by Jobcentre officers, who ask claimants to inform them as to why they no longer claim JSA. Claimants may fail to respond, in which case the reason could be entered as "ceased claiming", "failed to sign", or "not known" (i.e. referred to as unknown destinations). We grouped reasons into those related to finding employment, unknown destinations, and into other reasons. Since 1998 claimants response rates have dropped (22) and, in 2009, providing reasons for claimant off-flow became optional rather than mandatory in Jobcentre Plus offices (personal communication, Bob Watson, Labour Market, Office of National Statistics, 2014). Nonetheless, the response rate remained relatively constant at about 55% from 2011-2014 during the period since reform, as shown in Additional File 1 Web Appendix Table 1.

Statistical Analysis

To test the relationship between sanctioning incidence and monthly fluctuations in claimant flows, we used fixed effects regression models, examining within-local authority trends and correcting for geospatial correlation using time dummies, as follows:

$$\text{Equation 1: } \Delta \text{Unemployment Claimant Rate}_{i,t} = \alpha + \beta_1 \text{Sanctions}_{i,t} + \beta_2 \text{Sanctions}_{i,t-1} + \beta_3 \text{Sanctions}_{i,t-2} + \mu_i + \eta_t + \varepsilon_{i,t}$$

Here i is the local authority and t is month. *Unemployment Claimant Rate* is the monthly change in the total number of JSA claimants in each local authority, per working age adult. *Sanctions* is the total number of sanction referrals per working age adult, and subsequently, a vector of the rates of three main sanction referral decisions, including adverse sanctions, non-adverse sanctions, and cancellation/reserved decisions. To specify the lag structure, we drew on prior work indicating the concentration of effect within the first few months (11). Most referral decisions would occur after the monthly claimant count date, so that if a person left in

the wake of an adverse sanction it would be reported in the following month. Delays can also occur in claimant notification of the sanction decision (21). Thus, we also included the contemporary period and a lag of two months after the sanction decision.

The analysis proceeded in three steps. First, we examine the relationship between total sanction referrals and the change in claimant rate. Next we disaggregated the sample into the periods before and after the UK reforms beginning in June 2011 and stratified by the sanctioning decision. In a second step, we decomposed the observed changes in claimant rates into on- and off-flows, and evaluated the reasons for off-flow. In the final step, we tested for a potential association of sanctioning with overall local-authority level employment and unemployment rates, using 12-month estimates available on a quarterly basis from the Annual Population Survey provided in the Nomis database.

We also performed a series of robustness checks, including Simms causality tests, based on the principle that the future should not cause the past, as a check on the validity of the model's specification. Additionally we replicated models using first-differences. All models use robust standard errors clustered by local authority to reflect non-independence of the local-authority populations.

Results

Trends in Sanctioning Before and After UK 2011 Reforms

Prior to the period when the UK's reforms to unemployment benefits were introduced in June 2011, 6.24% of claimants received sanction referrals. After the reforms came into effect, this rate rose significantly by 2.76 percentage points (95% CI: 2.59 to 2.92; $p < 0.001$) to 9.00%. This was accompanied by a significant increase in the rate of adverse sanction decisions, from 2.82% of claimants receiving sanctions (95% CI: 2.80% to 2.85%) to 4.04% (95% 3.98% to 4.10%, $p < 0.001$).

There was widespread variation in extent of the imposition of sanctions across local authorities. Particularly high rates of sanction referrals were observed in Derby, Preston, Chorley and Southampton, exceeding 14% of all claimants since June 2011. The greatest rates of adverse sanction decisions were observed in Chorley, East Staffordshire, Richmondshire, and Derby, where over 10% of claimants received adverse sanctions between June 2011 and March 2014.

Association of Sanctions with Claimant Flows

Table 1 shows the results of the main statistical model of the cross-local area variation in changes in total sanction referrals with changes in welfare claimant rates. Based on the entire period, from April 2005 to March 2014, we observed that each 100 sanction referrals were associated with a cumulative reduction in claimant rates of 15.4 persons within two months of the referrals (95% CI: 13.9 to 17.0; Joint F-test: 146.1, $p < 0.001$).

[Table 1 about here]

We then unpacked these findings by time, type of sanction, and on- and off-flows, starting by comparing the periods before and after the JSA reforms. As shown in Table 1, prior to the JSA reforms we observed that each 100 referrals was associated with a cumulative reduction of 11.8 claimants (95% CI: 8.70 to 15.0; Joint F-test: 23.1, $p < 0.001$). Through the period of JSA reforms each 100 referrals was associated with a significantly larger reduction of 20.6 claimants (95% CI: 17.8 to 23.4; Joint F-test: 82.4, $p < 0.001$).

Next we disaggregated the total rate of sanction referrals into their associated rate of decision outcomes (Additional File 1: Web Appendix Table 3). Figure 2 shows that this overall association was largely attributable to adverse sanction decisions. Over the entire study period, each 100 adverse sanction decisions in the contemporaneous month and two months prior, the claimant count decreased by 23.8 (95% CI: 19.5 to 28.0; Joint F-test: 52.1, $p < 0.001$). In contrast, there was no significant relationship between non-adverse decisions and the change in claimant count, and as expected, cancelled and reserved decisions were associated with a decline in the count, as they relate to people who have already ceased claiming (20).

[Figure 2 about here]

The association between adverse sanctions and falling claimant rates strengthened after the UK reforms were introduced, as shown in Figure 2. Prior to the JSA reforms, unemployment-benefit claimant counts dropped by an estimated 13.8 persons for each 100 adverse sanctions. After JSA reforms, this increased to 42.4 (95% CI: 33.8 to 51.0) Joint F-test: 39.5; $p < 0.001$), which was a statistically significant increase over and above the pre-reform period (interaction of adverse sanctions with reform period: $p = 0.02$).

Association of Sanctions with On- and Off-Flow Rates

A reduction in claimant counts could be attributed to either a fall in on-flow rates or an increase in off-flow rates. To test these possibilities we then differentiated the overall claimant flow accordingly, as shown in the models reported in Table 2. Turning first to on-flows, we found that adverse sanctioning in the previous month was weakly associated with the on-flow count, such that each 100 adverse decisions in the one month prior was associated with only 5.67 claimants signing on to JSA (95% CI: 0.9 to 10.4). The association with cumulative sanctions in the current and past months was not significant. There was no effect of non-adverse sanction referrals on the on-flow rates.

[Table 2 about here]

In terms of off-flow rates, adverse sanctions were strongly associated with exit rates. For each 100 sanctions in the current and past two months, 43.1 (95% CI: 37.0 to 49.2) claimants flowed off JSA (Joint F test: 85.5; $p < 0.001$). Non-adverse sanctions also had a weak positive association with the off-flow count, such that each 100 non-adverse decisions in the combined months was associated with 10.2 more claimants moving off JSA (95% CI: 0.75 to 19.6; Joint F test: 7.93; $p < 0.001$).

Reasons for Claimant Off-Flow

Having observed that most of the association between adverse sanctioning and fall in claimant counts was from increasing off-flows, we then turned to evaluate why persons were leaving JSA, grouped into reasons related to work, unknown destinations, and for other reasons.

We estimated that for each 100 adverse sanction decisions in the current and prior two months, about 7.4 claimants moved into work (95% CI: 3.46 to 11.3). In contrast, the majority of cases of exit were to unknown destinations, which were not linked to work. Correspondingly, for each 100 adverse sanction decisions in this same period, 35.9 claimants moved off JSA to unknown destinations (95% CI: 32.2 to 39.6). There was no association between adverse sanctions and persons reporting other destinations, such as into other benefits or training programs.

[Table 3 about here]

To put these associations into perspective, we tracked the probabilities of population flow into various outcomes in a combined flow model, depicted in Figure 3. Out of every 100

sanction referrals made, 46 decisions were adverse, 28 were non-adverse, and 27 were cancelled or reserved in this period. Based on the statistical models reported in Table 2, we estimated that the 46 adverse sanctions decisions would correspond to 20 claimants moving off JSA (with the others continuing to sign on to benefit after expiry of the sanction). About 3.5 of these were associated with finding work; the rest moved to unknown destinations.

Association of Sanctions with Employment and Unemployment Rates

There was little evidence of a relationship between sanctioning and local authority employment and unemployment (Table 4). In particular, we did not observe that higher average rates of adverse sanctioning over 12 month periods related to more individuals moving into employment or leaving unemployment. These results were in contrast to findings for average claimant rates over the same time periods, where, consistent with models using data from monthly rates, an increase of 100 in the average monthly number of adverse sanctions from one quarter to the next over the same 12 month period related to an eventual decline in the average claimant count of 124 claimants (95% CI: 92 to 158, $p < 0.001$).

Robustness Tests

We performed a series of robustness tests on the model specification and sample composition. First, we added a control for unemployment rates from the Annual Population Survey, which did not alter the results (Additional File 1: Web Appendix Table 4). Then, we tested alternative lag structures using a series of finite distributed lag models, indicating that the model including the contemporaneous, first and second month lags provided the optimal fit to the data. Third, we tested further for temporality using Sims-causality tests, based on the principle that the future should not cause the past. We observed that whereas rates of adverse sanctioning in the previous four months were associated with a subsequent decline in claimant rates, future rates of sanctions had no such association (Additional File 1: Web Appendix Table 5), further validating the model's specification. We also examined the impact of adverse sanctions on the claimant rate in periods pertaining to the roll-out of specific reforms, including Back-to-Work schemes (July 2011-September 2012) and the new sanction regime (October 2012 forward). In both periods we observed a strong and significant association of adverse sanctions with falls in unemployment benefit claimant rates, which was greater than in the pre-2011 period prior to the reforms (Additional File 1: Web Appendix Table 6). Finally, we reproduced models using first-differences as an alternative

correction for between local authority differences, yielding similar estimated effect sizes (Additional File 1: Web Appendix Table 7).

Conclusions

Our study evaluated the impact of the rise in sanctioning that occurred following reforms to JSA conditionality and sanction regime from 2011. It has three main findings. First, the increasing application of adverse sanctions has corresponded to a substantial increase in persons exiting JSA. This relationship existed before the reforms, but the strength of association tripled under the new regime. Second, the majority of persons who lost JSA in association with an adverse sanction did not flow into employment but to destinations unrelated to work. Third, we failed to find an effect of the increasing application of adverse sanctioning and either rising employment or falling unemployment rates within local authorities.

As with all observational and aggregate analyses, our study has several limitations. First, our study was at the level of local authority, creating potential for ecological fallacies. It was not possible to access data at the individual level on sanction referrals or employment and welfare outcomes, since such data are not tracked by Jobcentre Plus offices. However, the advantage of the cross-area analysis is that it accounts for the economic context in which sanctioning is applied, avoiding individualistic fallacies (23), of particular importance in a period of job scarcity. Second, sanctioning rates could include multiple rounds of the same individual being sanctioned. Since our study was based on the monthly period, however, the numbers involved in any given month are likely to represent different individuals. For persons who receive repeat sanctions, the period of benefit withdrawal is, at minimum, one month, so it is unlikely that our results are driven by repeat offenders. We also had specificity in our findings, in that non-adverse and cancelled sanction decisions were not associated with exit from JSA, while there was a significant association with adverse sanction decisions. Third, it is possible that our observation of a null finding between sanctioning and employment and unemployment rates in local authorities is due to the sampling error resulting from the estimates being based on small samples for each area in the Annual Population Survey or because the analysis was limited to quarter-on-quarter changes in rates for 12 month periods. However, we found statistically significant and qualitatively similar findings with regard to the association of sanctions and claimant counts calculated on this basis. Fourth, although the data on reasons for off-flow is subject to a constant rate of non-

reporting, it is possible that persons who went to unknown destinations were actually in employment. This seems unlikely, however, given the market incentive for Jobcentre Plus offices to track claimants moving off JSA into work. There is a clear need to develop better monitoring systems for tracking what happens to persons who exit unemployment benefits, especially in light of the evidence of the growing disconnection between need and state support (5). A recent report by the House of Commons Work and Pensions Committee suggested that off-flow attributed to employment be instituted as a performance measure, rather than total-off flow counts (24). Fifth, we did not disentangle the intensity of sanctioning, ranging from a minimum of four weeks termination under a low-level sanction to up to a three year withdrawal under a high-level and repeat offence sanction. This longer lag could potentially dilute the associations we observed. Future studies are needed to investigate the differential consequences of sanctioning intensity in the UK. A final limitation is that, as with other studies, we did not evaluate a wider range of social costs of sanctioning, such as homelessness, hunger, depression, and suicide risk. There is a need for full cost-benefit analyses of sanctioning, including Health Impact Assessments and evaluation of the potential hidden and spill-over costs to other areas of welfare support.

Taken together, our findings support claims that punitive use of sanctions is driving people away from social support. We were unable to assess reasons why this is so. However, studies have shown that individuals who are sanctioned and end up disconnected from work and welfare have lower human capital and other disadvantages that suggest they would face barriers to complying with the extensive conditions for receiving unemployment benefits (5, 15). As highlighted, the conditions for receiving unemployment benefit have become increasingly demanding in the UK. The frequent interview requirements and required hours of job search activity likely make it difficult for those with restricted access to transportation, a computer, and a mobile phone, and those with young children to meet requirements. Similarly, the rise in individuals receiving sanctions for failure to participate in the Work Programme has raised concern that current processes for evaluating the needs of benefit claimants are inadequate, potentially resulting in inappropriate placements (24). It is also possible that people choose to abandon a welfare system that they find de-humanising. In one widely publicised case, a man who made redundant was forced to go back to the same company, only to work for free under conditions of a community work placement (25).

The use of sanctioning has been questioned on the basis of effectiveness and ethics (5). With respect to the former, our study adds to the literature that suggests while there is some

evidence of a modest positive association between sanctioning and movement off welfare benefits into work, sanctioning also results in higher rates of disconnection from welfare and work (18). Further research is needed to understand the social consequences of disconnection from welfare and work, including potential risks of homelessness, hunger, and mental health problems. The incidence of these social harms is likely to limit any potential cost-savings from reducing unemployment benefit claimant rates.

Our quantitative case-study of the UK has important policy implications. Across Europe and North America, governments are experimenting with conditionality and sanctioning policies. Using this quasi-natural experimental design of the UK's harsh regime, we find a potentially large, hidden human cost that arises from persons flowing off unemployment benefit whilst remaining unemployed. There is a pressing need to institute evaluations not just of sanctioning programmes' economic consequences but also of their human and social costs.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

RL compiled the data, designed and conducted the analysis, and co-led the drafting of the manuscript and revisions. AR contributed to design of the analysis and data interpretation, and contributed to manuscript drafting and revisions. MM contributed to manuscript drafting and revisions. DS conceived of the study, contributed to design of the analysis and data interpretation, and co-led manuscript drafting and revisions. All authors read and approved the final manuscript.

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Figures and Tables

Figure 1 Monthly sanction referrals and decisions per Jobseeker's Allowance Claimants across local authorities in the UK, April 2005-March 2014.

Figure 2. Association of each 100 additional adverse sanctions with JSA claimant rates, pre- and post-JSA reforms.

Figure 3. Estimated monthly outcomes of Jobseeker's Allowance claimants referred for sanction decisions over July 2011 to March 2014.

Table 1. Association of sanction referrals with claimant rates, pre- and post-JSA reforms

Table 2 Jobseeker's Allowance off-flow and on-flow rates in period of reforms (July 2011-March 2014).

Table 3 Jobseeker's Allowance sanctioning referrals and reasons for off-flow in period following implementation of back-to-work schemes (July 2011-March 2013).

Table 4 Jobseeker's Allowance sanctioning referrals and 12-month average employment, unemployment, and claimant rates before and after Jobseeker's Allowance reforms in local authorities, April 2005-March 2014.

Figure 1 Monthly sanction referrals and decisions per Jobseeker's Allowance Claimants across local authorities in the UK, April 2005-March 2014.

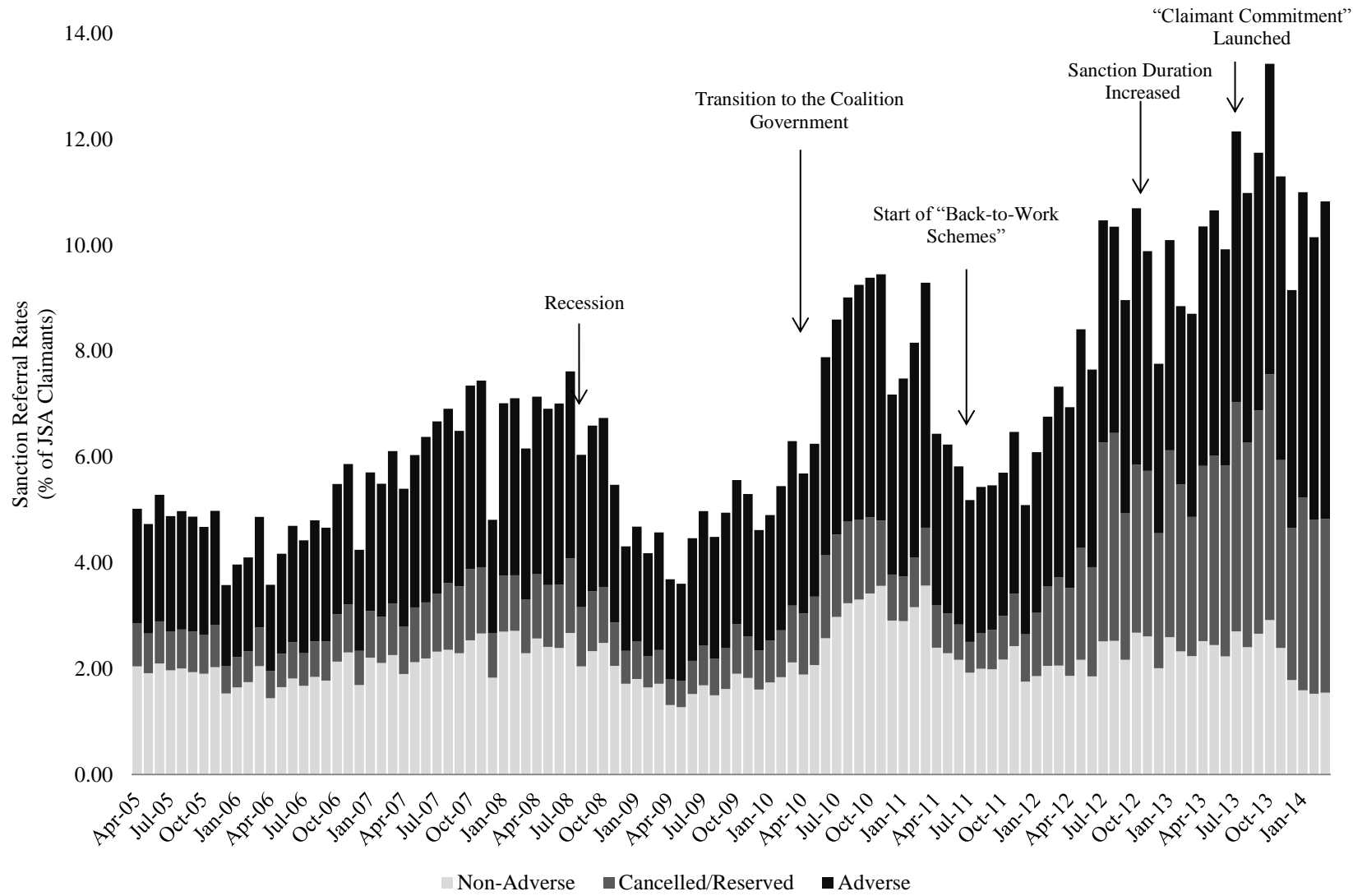
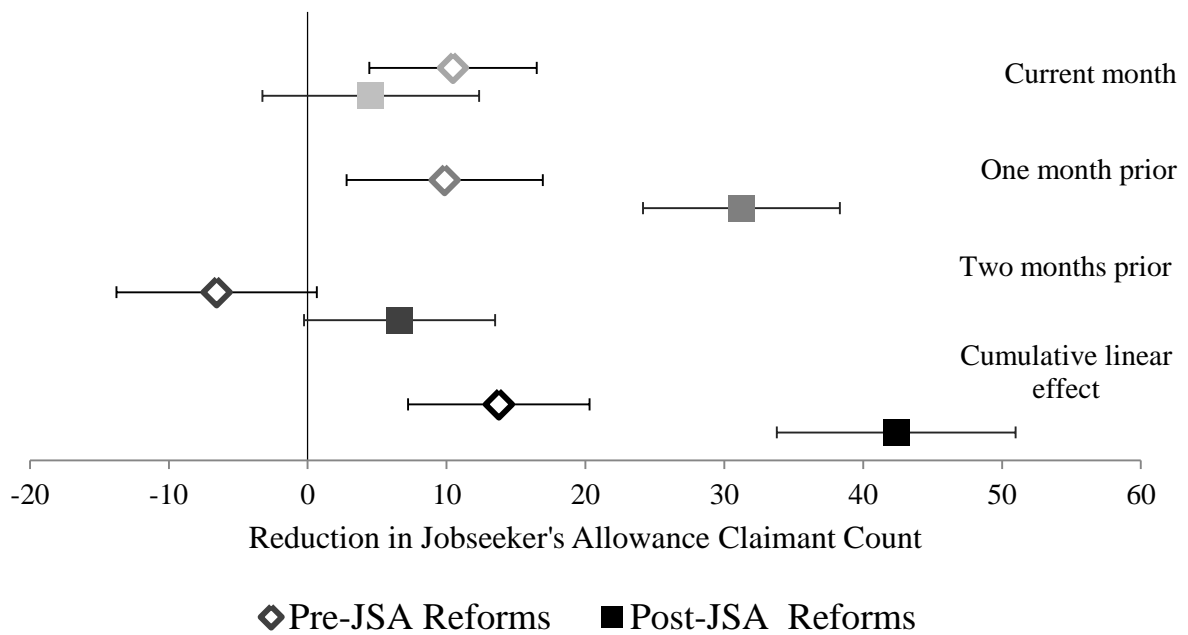


Figure 2. Association of each 100 additional adverse sanctions with JSA claimant rates, pre- and post-JSA reforms.



Notes: Estimates based on local authority fixed effects models (Additional File 1: Web Appendix Table 3). Bars represent 95% confidence intervals.

Figure 3. Estimated monthly outcomes of Jobseeker's Allowance claimants referred for sanction decisions over July 2011 to March 2014.

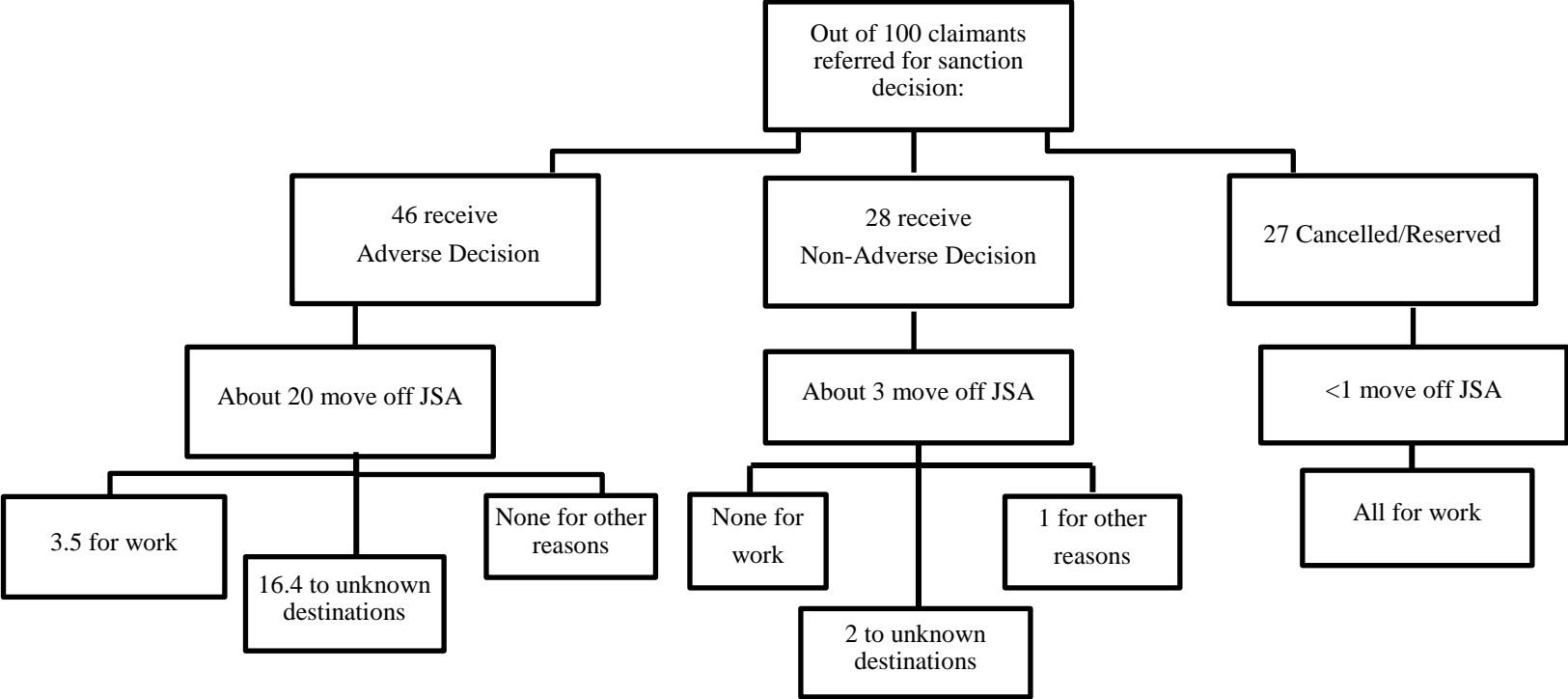


Table 1. Association of sanction referrals with claimant rates, pre- and post-JSA reforms

| | Change in Jobseeker's Allowance Claimants per Working Age Adult | | |
|----------------------------------|---|---|---|
| | Entire Period April 2005-March 2014 | Pre-JSA Reforms April 2005-June 2011 | Period of JSA Reforms July 2011-March 2014 |
| Each 100 Sanction Referrals | | | |
| Current month | -3.65** (1.18) | -5.71*** (1.67) | -3.42* (1.73) |
| One month prior | -13.2*** (1.20) | -9.38*** (2.10) | -16.6*** (1.46) |
| Two months prior | 1.45 (1.22) | 3.24 (2.12) | -0.57 (1.34) |
| Cumulative linear effect | -15.41*** (0.79) | -11.84*** (1.60) | -20.62*** (1.43) |
| <i>Joint F-test</i> | 146.05*** | 23.07*** | 82.41*** |
| Number of local-authority months | 39699 | 27375 | 12324 |
| R^2 | 0.584 | 0.598 | 0.526 |

Notes: N=375 local authorities. Models include local-area fixed effects. Robust standard errors shown in parentheses. All models include constant and time-dummies for month, but not shown. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2 Jobseeker's Allowance off-flow and on-flow rates in period of reforms (July 2011-March 2014).

| <i>Sanction Referrals</i> | JSA Claimants Moving On | JSA Claimants Moving Off |
|---------------------------------------|-------------------------|--------------------------|
| Each 100 Adverse Decisions | | |
| Current month | -3.63 (2.50) | 0.63 (2.75) |
| One month prior | 5.66* (2.41) | 35.9*** (2.77) |
| Two months prior | 0.15 (2.78) | 6.53* (2.65) |
| Cumulative linear effect | 2.18 (3.38) | 43.1*** (3.09) |
| <i>Joint F-test</i> | 2.01 | 85.52*** |
| Each 100 Non-Adverse Decisions | | |
| Current month | 5.06 (3.77) | 13.1*** (3.76) |
| One month prior | -6.53 (3.67) | 9.03 (4.64) |
| Two months prior | 7.32* (3.64) | -12.0** (3.67) |
| Cumulative linear effect | 5.86 (3.95) | 10.2* (4.80) |
| <i>Joint F-test</i> | 3.09* | 7.93*** |
| Each 100 Cancelled/reserved Decisions | | |
| Current month | -11.2*** (2.47) | -10.6*** (2.46) |
| One month prior | 6.79* (2.73) | 10.2*** (2.44) |
| Two months prior | -6.01* (2.59) | 2.02 (2.63) |
| Cumulative linear effect | -10.5*** (2.77) | 1.58 (2.54) |
| <i>Joint F-test</i> | 9.43*** | 9.82*** |
| Number of local-authority months | 12324 | 12324 |
| R^2 | 0.75 | 0.73 |

Notes: N=375 local authorities. Models include local-area fixed effects. Robust standard errors shown in parentheses. All models include constant and time-dummies for month, but not shown. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3 Jobseeker's Allowance sanctioning referrals and reasons for off-flow in period following implementation of back-to-work schemes (July 2011-March 2013).

| | Claimants moving off JSA by Destination | | |
|---------------------------------------|---|-------------------------------|-------------------------------|
| | Finding Work | Unknown Destination | Other reason |
| <i>Sanction Referrals</i> | | | |
| Each 100 Adverse Decisions | | | |
| Current month | -6.94 ^{***} (1.71) | 10.3 ^{***} (1.55) | -2.76 [*] (1.16) |
| One month prior | 14.9 ^{***} (1.67) | 20.0 ^{***} (1.38) | 1.06 (0.80) |
| Two months prior | -0.59 (1.65) | 5.58 ^{***} (1.31) | 1.38 (1.24) |
| Cumulative linear effect | 7.36 ^{***} (1.99) | 35.9 ^{***} (1.88) | -0.32 (1.01) |
| <i>Joint F-test</i> | 28.33 ^{***} | 142.37 ^{***} | 2.25 |
| Each 100 Non-Adverse Decisions | | | |
| Current month | 3.47 (2.46) | 8.12 ^{***} (1.81) | 1.64 (1.34) |
| One month prior | 2.06 (2.42) | 0.25 (2.13) | 6.73 ^{**} (2.22) |
| Two months prior | -5.93 ^{**} (1.89) | -1.38 (1.86) | -4.76 [*] (1.87) |
| Cumulative linear effect | -0.394 (3.30) | 6.99 ^{**} (2.68) | 3.61 [*] (1.55) |
| <i>Joint F-test</i> | 4.06 ^{**} | 7.56 ^{***} | 3.75 [*] |
| Each 100 Cancelled/reserved Decisions | | | |
| Current month | -3.97 [*] (1.65) | -3.83 ^{**} (1.17) | -3.20 ^{**} (1.11) |
| One month prior | 6.96 ^{***} (1.44) | 2.83 [*] (1.13) | 0.65 (0.85) |

| | | | |
|----------------------------------|------------------|-----------------|--------------------|
| Two months prior | 2.96 (1.60) | -0.98 (1.25) | 0.083 (0.83) |
| Cumulative linear effect | 5.95** (1.81) | -1.98 (1.39) | -2.47** (0.913) |
| <i>Joint F-test</i> | 12.78*** | 4.64** | 3.77* |
| Number of local-authority months | 12324 | 12324 | 12324 |
| R^2 | 0.659 | 0.655 | 0.503 |

Notes: N=375 local authorities. Unknown destinations include reasons recorded as did not sign on, unknown, or ceased to claim. Other denotes reasons recorded as other, went abroad, education training or government training, or signed onto another benefit. Models include local-area fixed effects. Robust standard errors shown in parentheses. All models include time-dummies for month and constant, but not shown. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4 Jobseeker's Allowance sanctioning referrals and 12-month average employment, unemployment, and claimant rates before and after Jobseeker's Allowance reforms in local authorities, April 2005-March 2014.

| | | Change from Previous Quarter: 12-month <u>Employment Rate</u> | | | Change from Previous Quarter: 12-month <u>Unemployment Rate</u> | | | Change from Previous Quarter: 12-month <u>JSA Claimant Rate</u> | | |
|---|----|--|--------------------|-----------------------------|--|--------------------|-----------------------------|--|---------------------|-----------------------------|
| | | Entire Period | Pre-JSA Reforms | Period of JSA Reforms | Entire Period | Pre-JSA Reforms | Period of JSA Reforms | Entire Period | Pre-JSA Reforms | Period of JSA Reforms |
| | | (1) | (2) | (3) | (1) | (2) | (3) | (1) | (2) | (3) |
| Each 100 Adverse Decisions | | | | | | | | | | |
| Concurrent | 12 | 5.88 | -20.4 | 4.77 | -225.6 | -360.0 | 117.3 | -93.5 ^{***} | -59.7 ^{**} | -124.6 ^{***} |
| | | (20.5) | (33.9) | (35.0) | (169.1) | (261.4) | (320.8) | (12.1) | (22.9) | (16.8) |
| 12 months beginning in previous quarter | | -12.0 | 9.09 | 9.97 | 228.1 | 382.0 | -61.4 | 63.8 ^{***} | 69.5 ^{**} | 7.27 |
| | | (21.8) | (34.5) | (39.3) | (174.9) | (270.6) | (346.7) | (11.9) | (21.5) | (18.7) |
| Each 100 Non- Adverse Decisions | | | | | | | | | | |
| Concurrent | 12 | 36.9 | 48.7 | 77.5 | -420.1 | -496.5 | -300.8 | -20.5 | -58.7 [*] | 38.0 |
| | | (27.7) | (35.2) | (54.5) | (232.9) | (298.5) | (461.0) | (14.6) | (22.8) | (22.9) |
| 12 months beginning in previous quarter | | -40.1 | -70.9 | -9.93 | 519.5 [*] | 686.5 [*] | 453.3 | 18.9 | 50.8 [*] | -43.1 [*] |
| | | (27.7) | (37.2) | (51.5) | (234.9) | (316.3) | (427.8) | (15.4) | (22.3) | (19.0) |
| Each 100 Cancelled/Reserved Decisions | | | | | | | | | | |
| Concurrent | 12 | 10.2 | 102.4 [*] | -10.6 | -266.5 | -472.4 | -538.5 | 35.9 ^{**} | -61.2 | 50.3 [*] |

| | | | | | | | | | |
|---|----------------|-----------------|----------------|------------------|------------------|------------------|---------------------|-----------------|--------------------|
| 12 months beginning in previous quarter | (23.4) 2.08 | (50.9) -69.6 | (33.9) 0.60 | (200.1) 165.9 | (404.5) 214.0 | (286.0) 313.1 | (13.7) -107.4*** | (32.3) -58.4 | (21.4) -99.1*** |
| | (24.7) | (52.2) | (31.3) | (219.9) | (426.9) | (284.4) | (14.4) | (33.4) | (15.3) |
| Number of Local-Authority Months | 11441 | 8552 | 2889 | 11236 | 8391 | 2845 | 11441 | 8552 | 2889 |
| R^2 | 0.013 | 0.013 | 0.004 | 0.033 | 0.034 | 0.010 | 0.865 | 0.860 | 0.823 |

Notes: N=370 local authorities. Models include local-area fixed effects. Robust standard errors shown in parentheses. All models include constant and time-dummies for quarter, but not shown. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Web Appendix

Web Appendix Box 1 Reasons for imposition of a sanction in the UK.

Web Appendix Box 2 Types of Sanctioning Outcomes

Web Appendix Table 1 Distribution of reasons for Jobseeker's Allowance claimants moving off benefit across local authorities by year.

Web Appendix Table 2 Descriptive statistics: Jobseekers Allowance Claimant Rate, On- and Off-Flow and Referrals for Sanctions.

Web Appendix Table 3 Jobseeker's Allowance sanctioning referrals and claimant count before and after Jobseeker's Allowance reforms in local authorities, April 2005-March 2014.

Web Appendix Table 4 Jobseeker's Allowance sanctioning referrals and claimant count before and after Jobseeker's Allowance reforms in local authorities including adjustment for unemployment, April 2005-March 2014.

Web Appendix Table 5 Sims causality model testing relationship between adverse sanction decisions and change in the JSA claimant rate.

Web Appendix Table 6 Jobseeker's Allowance adverse sanction decisions and claimant count before Jobseeker's Allowance reforms, after introduction of 'Back-to-Work' schemes, and after introduction of new sanction regime in local authorities.

Web Appendix Table 7 Change in Jobseeker's Allowance sanctioning referrals and change in Jobseeker's Allowance claimant count before and after JSA reforms, April 2005-March 2014.

Web Appendix Box 1 Reasons for imposition of a sanction in the UK.

Reasons for Sanction

Lower Level Reasons

Failure to attend or participate in an advisor interview

Refusing or failure to apply, or failure to participate, in a Back-to-Work scheme¹

Work Programme*

Sector-based Work Academies*

Skills conditionality*

Not completing a Back-to-Work programme once enrolled

Not completing activity outline in Claimant Commitment*

Intermediate Level Reasons

Failure to be available for or actively seeking work

High Level Reasons

Losing of employment due to misconduct

Voluntarily leaving employment without good reason

Not applying for, or accepting if offered, a situation in any employment which a job advisor has informed him/her about

Neglecting to avail oneself for reasonable opportunity of employment

Failure to participate in Mandatory Work Activity*

Notes: * new conditionalities launched since 2011 under Employment, Skills and Enterprise Regulations 2011, Mandatory Work Activity Scheme Regulations 2011, and new Claimant Commitment scheme.

¹ Work for your benefit schemes were piloted under New Labour from November 2010. They were aimed at long-term unemployed (i.e. at least 12 months); failure to comply could result in sanction of up to 26 weeks. (Jobseekers Allowance Work for Your Benefit Scheme Regulations 2010) (17).

Web Appendix Box 2. Types of Sanctioning Outcomes

There are four possible outcomes of a sanction referral: cancellation, reserved, non-adverse, or adverse sanction (20).

We describe each in turn. First, a cancellation refers to a decision where the claimant stopped claiming JSA before committing the sanctionable offence. This also applies in cases where Independent Decision Maker requests further information from the claimant's advisor, but did not receive a response within ten calendar days. It can also be invoked if the referral was found to have been made in error. A slight variation of a cancellation, a 'reserved' decision, occurs when the sanction is deemed justifiable but could not be applied because the individual was not currently signed on to benefit. In our analysis, we merged cancelled and reserved decisions as both indicate that a sanction was not applied because the individual was no longer a claimant, although none of our main results was affected by this step.

Second, the Independent Decision Maker applies non-adverse decisions in cases where a claimant demonstrates that he or she had a "good reason" for failing to meet the conditions of JSA. There is no formal guidance for what qualifies as a good reason but, according to a Department of Work and Pensions-commissioned independent review of the sanctioning process, (21) in practice such a reason may include an illness or death in the family. According to the Oakley Review, Independent Decision Makers judge based on the "balance of probabilities" and available evidence (21). Evidence is provided by advisors, and, according to the independent review, decision makers also attempt to collect evidence from the claimant, either by telephone, letter, or interview. Claimants are given a "reasonable time" (21) to provide a reason for their failure to meet requirements which, according to the Oakley Review (21), is typically about five days.

Finally, an adverse sanction, which results in claimants losing their benefit payment with immediate effect, is applied when there is evidence that the claimant violated conditions of JSA receipt. Historically, payments were stopped from the start of the benefit week after the Decision Maker made an adverse decision. However, as part of the new sanction regime that began in October 2012, Decision Makers could enforce sanctions more quickly, stopping payments on the first day in the same week that the sanctionable offence occurred if he or she has not yet been paid or on the first day of the benefit week following when the claimant was last paid JSA (26). The duration of the benefit sanction varies by the level of offence that occurred and whether it is a repeat offence within a year of a previous sanction. The new regime in October 2012 set a minimum sanctioning period of 4 weeks.

Web Appendix Table 1 Distribution of reasons for Jobseeker's Allowance claimants moving off benefit across local authorities by year.

| | 2005/6 | 2006/7 | 2007/8 | 2008/9 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Distribution of Reasons for Off-flow, mean proportion (SE) | | | | | | | | | |
| Gained work/More work hours | 43.66 (8.21) | 40.76 (8.04) | 38.99 (7.67) | 37.83 (7.37) | 39.34 (7.14) | 41.26 (6.60) | 42.46 (6.51) | 43.66 (6.24) | 44.41 (6.07) |
| Unknown Destination ¹ | 37.25 (7.76) | 40.08 (8.03) | 40.61 (7.43) | 42.76 (7.36) | 44.99 (6.32) | 41.69 (6.13) | 44.58 (6.20) | 45.54 (5.93) | 45.18 (5.77) |
| Other ² | 18.82 (4.88) | 18.97 (4.97) | 20.18 (5.17) | 19.30 (5.45) | 15.64 (4.68) | 16.97 (4.63) | 12.84 (4.58) | 10.65 (3.48) | 10.21 (3.41) |

Notes: N=4500 observations each year. ¹ Unknown destinations include reasons recorded as did not sign on, unknown, or ceased to claim. ² This category denotes reasons recorded as other, went abroad, education training or government training, or signed onto another benefit.

Web Appendix Table 2 Descriptive statistics: Jobseekers Allowance Claimant Rate, On- and Off-Flow and Referrals for Sanctions.

| Variable | Pre-JSA Reforms April 2005-June 2011 | | | | | Period of JSA Reforms July 2011-March 2014 | | | | |
|---|--|--------|--------------|--------|--------|---|--------|--------------|--------|--------|
| | Number of Local- Authority Months | Mean | Std. Dev. | Min | Max | Number of Local- Authority Months | Mean | Std. Dev. | Min | Max |
| <i>Sanctioning referrals as Percentage of Claimants</i> | | | | | | | | | | |
| Total | 28125 | 6.24 | 2.60 | 0.00 | 26.34 | 12324 | 8.98 | 3.65 | 0.82 | 37.93 |
| Adverse Sanction Decisions | 28125 | 2.82 | 1.30 | 0.00 | 12.34 | 12324 | 4.03 | 1.70 | 0.00 | 14.16 |
| Non-adverse Sanction Decisions | 28125 | 2.34 | 1.15 | 0.00 | 12.70 | 12324 | 2.36 | 1.12 | 0.00 | 15.52 |
| Cancelled/Reserved Sanction Referrals | 28125 | 1.08 | 0.83 | 0.00 | 10.33 | 12324 | 2.59 | 1.74 | 0.00 | 13.96 |
| <i>Per working age adult:</i> | | | | | | | | | | |
| JSA Claimants | 28125 | 0.025 | 0.013 | 0.004 | 0.087 | 12324 | 0.032 | 0.015 | 0.007 | 0.091 |
| Total Sanction Referrals | 28125 | 0.0015 | 0.0010 | 0.0000 | 0.0089 | 12324 | 0.0028 | 0.0017 | 0.0002 | 0.0137 |
| Adverse Sanction Decisions | 28125 | 0.0007 | 0.0005 | 0.0000 | 0.0046 | 12324 | 0.0013 | 0.0008 | 0.0000 | 0.0060 |
| Non-adverse Sanction Decisions | 28125 | 0.0006 | 0.0004 | 0.0000 | 0.0035 | 12324 | 0.0007 | 0.0004 | 0.0000 | 0.0038 |
| Cancelled/Reserved Sanction Referrals | 28125 | 0.0002 | 0.0002 | 0.0000 | 0.0024 | 12324 | 0.0008 | 0.0007 | 0.0000 | 0.0062 |
| JSA Off-flow | 28125 | 0.0059 | 0.0025 | 0.0010 | 0.0182 | 12324 | 0.0066 | 0.0024 | 0.0016 | 0.0181 |
| JSA On-flow | 28125 | 0.0061 | 0.0027 | 0.0006 | 0.0204 | 12324 | 0.0065 | 0.0024 | 0.0017 | 0.0170 |
| Proportion of off-flow moving off for work | 28125 | 0.0023 | 0.0010 | 0.0003 | 0.0100 | 12324 | 0.0029 | 0.0011 | 0.0005 | 0.0097 |
| Proportion of off-flow moving off into unknown destinations | 28125 | 0.0024 | 0.0012 | 0.0002 | 0.0091 | 12324 | 0.0030 | 0.0011 | 0.0007 | 0.0080 |
| Proportion of off-flow moving off for other reasons | 28125 | 0.0011 | 0.0006 | 0.0000 | 0.0064 | 12324 | 0.0007 | 0.0005 | 0.0000 | 0.0066 |
| Unemployment | 27573 | 0.063 | 0.027 | 0.010 | 0.222 | 12324 | 0.072 | 0.030 | 0.014 | 0.181 |

Web Appendix Table 3 Jobseeker's Allowance sanctioning referrals and claimant count before and after Jobseeker's Allowance reforms in local authorities, April 2005-March 2014.

| | Change in Jobseeker's Allowance Claimants per Working Age Adult | | |
|---------------------------------------|---|---|---|
| | Entire Period April 2005-March 2014 | Pre-JSA Reforms April 2005-June 2011 | Period of JSA Reforms July 2011-March 2014 |
| <i>Sanction Referrals</i> | | | |
| Each 100 Adverse Decisions | | | |
| Current month | -5.26* (2.57) | -10.5*** (3.07) | -4.53 (3.97) |
| One month prior | -20.0*** (2.43) | -9.86** (3.59) | -31.2*** (3.60) |
| Two months prior | 1.52 (2.52) | 6.56 (3.67) | -6.62 (3.49) |
| Cumulative linear effect | -23.8*** (2.17) | -13.8*** (3.32) | -42.4*** (4.37) |
| <i>Joint F-test</i> | 52.10*** | 9.97*** | 39.53*** |
| Each 100 Non-Adverse Decisions | | | |
| Current month | 4.10 (2.77) | 14.1*** (3.75) | -7.58 (4.94) |
| One month prior | -7.57* (3.14) | -2.66 (3.90) | -16.4** (5.28) |
| Two months prior | 7.70** (2.89) | -4.49 (3.97) | 21.8*** (5.28) |
| Cumulative linear effect | 4.23 (2.87) | 6.95 (4.41) | -2.15 (5.69) |
| <i>Joint F-test</i> | 4.84** | 4.79** | 7.47*** |
| Each 100 Cancelled/Reserved Decisions | | | |
| Current month | -6.81* (2.69) | -30.0*** (4.86) | -0.30 (3.38) |
| One month prior | -9.01*** (2.32) | -22.0*** (4.32) | -3.31 (3.08) |

| | | | |
|----------------------------------|--------------------|--------------------|-------------------|
| Two months prior | -2.34 (2.82) | 7.14 (4.89) | -8.09* (3.65) |
| Cumulative linear effect | -18.2*** (2.02) | -44.8*** (6.17) | -11.7** (3.55) |
| <i>Joint F-test</i> | 28.42*** | 29.80*** | 4.38** |
| Number of Local-Authority Months | 39699 | 27375 | 12324 |
| R^2 | 0.585 | 0.599 | 0.530 |

Notes: N=375 local authorities. Models include local-area fixed effects. Robust standard errors shown in parentheses. All models include constant and time-dummies for month, but not shown. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Web Appendix Table 4 Jobseeker's Allowance sanctioning referrals and claimant count before and after Jobseeker's Allowance reforms in local authorities including adjustment for unemployment, April 2005-March 2014.

| Change in Jobseeker's Allowance Claimants per Working Age Adult | | | | |
|---|---|--------------------------------|--|--------------------------------|
| <i>Sanction Referrals</i> | Pre-JSA Reforms April 2005-June 2011 | | Period of JSA Reforms July 2011-July 2013 | |
| | w/o unemployment | w/ unemployment | w/o unemployment | w/ unemployment |
| Each 100 Adverse Decisions | | | | |
| Current month | -10.5 ^{***} (3.07) | -10.7 ^{***} (3.10) | -10.5 [*] (4.50) | -10.5 [*] (4.50) |
| One month prior | -9.86 ^{**} (3.59) | -9.94 ^{**} (3.62) | -30.2 ^{***} (3.92) | -30.2 ^{***} (3.92) |
| Two months prior | 6.56 (3.67) | 5.56 (3.69) | -5.33 (4.41) | -5.26 (4.42) |
| Each 100 Non-Adverse Sanction Decisions | | | | |
| Current month | 14.1 ^{***} (3.75) | 13.8 ^{***} (3.77) | -3.01 (5.67) | -2.94 (5.68) |
| One month prior | -2.66 (3.90) | -3.08 (3.93) | -16.2 ^{**} (6.09) | -16.3 ^{**} (6.09) |
| Two months prior | -4.49 (3.97) | -4.70 (4.05) | 21.4 ^{***} (5.65) | 21.3 ^{***} (5.65) |
| Each 100 Cancelled/Reserved Referrals | | | | |
| Current month | -30.0 ^{***} (4.86) | -30.4 ^{***} (4.89) | 3.17 (4.19) | 3.16 (4.19) |
| One month prior | -22.0 ^{***} (4.32) | -21.7 ^{***} (4.40) | -4.12 (3.61) | -4.10 (3.61) |
| Two months prior | 7.14 (4.89) | 7.41 (4.94) | -4.32 (4.05) | -4.32 (4.04) |
| Each unemployed adult per | | | | |

| | | | | |
|---------------------------|-------|-----------|-------|-----------|
| working age | | | | |
| Year forward | | 0.0024** | | 0.00090 |
| from current month | | (0.00073) | | (0.0014) |
| Current year forward | | 0.000047 | | 0.000015 |
| from 1 month prior | | (0.00094) | | (0.0015) |
| Current year forward | | -0.00067 | | -0.00072 |
| from 2 months prior | | (0.00071) | | (0.00091) |
| <hr/> | | | | |
| Number of Local-Authority | 27375 | 26823 | 8998 | 8998 |
| Months | | | | |
| R^2 | 0.599 | 0.601 | 0.526 | 0.526 |

Notes: N=375 local authorities. Models include local-area fixed effects. Robust standard errors shown in parentheses. All models include constant and time-dummies for month, but not shown. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Web Appendix Table 5 Sims causality model testing relationship between adverse sanction decisions and change in the Jobseeker's Allowance claimant rate.

| Each 100 Adverse Decisions | Change in JSA claimant rate per working age adult |
|---|---|
| Four months prior | 8.76* (4.10) |
| Three months prior | 6.66 (3.53) |
| Two months prior | -13.2** (4.71) |
| One month prior | -31.5*** (3.99) |
| Contemporaneous month | -8.51* (4.16) |
| One month later | -1.70 (3.85) |
| Two months later | -2.09 (3.55) |
| Three months later | 1.61 (3.89) |
| Four months later | -5.52 (4.10) |
| <i>Joint F-test for contemporaneous month and all lagged months</i> | 14.89*** |
| <i>Joint F-test for all future months</i> | 1.13 |
| Number of Local-Authority Months | 10854 |
| R^2 | 0.532 |

Notes: N=375 local authorities. Models include local-area fixed effects. Robust standard errors shown in parentheses. All models include constant, time-dummies for month, and contemporaneous and lagged non-adverse and cancelled/reserved sanction decisions but not shown.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Web Appendix Table 6 Jobseeker’s Allowance adverse sanction decisions and claimant count before Jobseeker’s Allowance reforms, after introduction of ‘Back-to-Work’ schemes, and after introduction of new sanction regime in local authorities.

| | Change in Jobseeker’s Allowance Claimants per Working Age Adult | | |
|----------------------------------|---|--|---|
| | Pre-JSA Reforms April 2011 | Introduction of “Back-to-Work” Schemes 2005-June 2011- July September 2012 | Sanction Regime Change October 2012- March 2013 |
| <i>Sanction Referrals</i> | | | |
| Each 100 Adverse Sanctions | | | |
| Current month | -10.5 ^{***} (3.07) | -7.68 (6.60) | -1.99 (5.34) |
| One month prior | -9.86 ^{**} (3.59) | -29.4 ^{***} (5.38) | -34.0 ^{***} (5.41) |
| Two months prior | 6.56 (3.67) | -0.93 (6.16) | -11.1 [*] (4.30) |
| Cumulative linear effect | -13.8 ^{***} (3.32) | -38.0 ^{***} (7.16) | -47.0 ^{***} (6.78) |
| <i>Joint F-test</i> | 9.97 ^{***} | 15.32 ^{***} | 18.46 ^{***} |
| Number of Local-Authority Months | 27375 | 5625 | 6699 |
| R^2 | 0.599 | 0.510 | 0.512 |

Notes: N=375 local authorities. Models include local-area fixed effects. Robust standard errors shown in parentheses. All models include time-dummies for non-adverse sanction decisions and cancelled/reserved decisions, month and constant, but not shown.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Web Appendix Table 7 Change in Jobseeker's Allowance sanctioning referrals and change in Jobseeker's Allowance claimant count before and after JSA reforms, April 2005-March 2014.

| | Change in Jobseeker's Allowance Claimants per Working Age Adult | |
|-----------------------------------|---|---|
| | Pre-JSA Reforms April 2005-June 2011 | Period of JSA Reforms July 2011-March 2014 |
| Per 100 adverse sanction increase | | |
| Current month | -5.80 (3.51) | 3.81 (3.39) |
| One month prior | -12.9*** (3.92) | -22.0*** (3.63) |
| Two months prior | -4.14 (3.64) | -27.2*** (3.56) |
| Cumulative linear effect | -22.9* (9.34) | -45.4*** (7.88) |
| <i>Joint F-test</i> | 10.39* | 82.8*** |
| Number of Local-Authority Months | 27000 | 12324 |
| R^2 | 0.5981 | 0.5182 |

Notes: N=375 local authorities. Robust standard errors shown in parentheses. All models include time-dummies for non-adverse sanction decisions and cancelled/reserved decisions, month and constant, but not shown.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

ⁱ Only a few other EU Member States (i.e., Greece, Italy, Ireland, Luxembourg, Romania, Portugal, Slovenia, and Slovakia (4)) impose complete termination of payments.

ⁱⁱ Over 2013, a new means-tested benefit (Universal Credit) began to be rolled out in select local authorities in the UK. This benefit replaces the means-tested element of JSA. At the time of the analysis, the claimant count did not include JSA claims that were part of Universal Credit, therefore, local area months where Universal Credit was rolled out were dropped from the analysis. This included a total of 14 local authorities for a total of 95 local authority-months.