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The Intergenerational Transmission of Worklessness in the US and the UK

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Abstract

This paper is the first international comparison of intergenerational worklessness, comparing the US and the UK. We compare intergenerational worklessness in two countries with varying access to welfare for the younger generation to assess the potential role of intergenerational welfare dependency in this transmission. Theories of intergenerational welfare dependency predict higher intergenerational worklessness in countries with greater access to welfare. We find no evidence to support this as the intergenerational correlations in both the UK and the US are very similar. For sons, this correlation varies by the local labour market conditions that the son is exposed to but, crucially, the extent of variation is identical in both countries. For daughters, there is some evidence of those from workless fathers turning away from the labour market in favour of the legitimate alternative life choice of early childbirth.

Key words: Intergenerational mobility, unemployment
JEL classifications; J62, J64

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1. Introduction

Evidence from the UK suggests that sons with workless fathers in childhood spend 7-16% more time out of work in early adulthood than sons with employed fathers. This association also varies substantially across local labour market conditions (Macmillan, 2013). One of the big issues with estimating intergenerational associations is that we have no real sense of the scale of the issue unless these estimates are placed in a comparative context. To date, there has been no comparative research on intergenerational worklessness to assess the size of the issue in the UK. This research is the first to estimate the intergenerational association in a comparable setting, comparing the UK estimates to new estimates from the US.

The observed association in workless spells across generations could work through a number of possible channels. A common debate in the public domain is one of structure versus agency. Structural arguments focus on the constraints imposed by deprivation and poor networks whereas agency arguments emphasise the role of individual behaviours suggesting people with different attitudes to work are more susceptible to poor work incentives. A particular version of the agency argument is the formation of a culture of welfare dependency, where the availability of welfare payments directly causes worklessness. In the UK, this idea of a dependency culture has been explicitly linked with intergenerational worklessness.

> "A radical welfare reform programme designed to tackle entrenched poverty and *end the curse of intergenerational worklessness* is set out today by new Secretary of State for Work and Pensions Iain Duncan Smith. Calling for an *end to a culture of welfare dependency* by bringing the welfare system into the 21st century..." DWP Press Release (2010)[1]

In the US, speaking during a Republican nomination debate with Mitt Romney and Rick Santorum, Newt Gingrich expressed sentiments that the existence of welfare programs creates dependency and negative attitudes towards employment.

> "We think unconditional efforts by the best food-stamp president in American history to maximise dependency is terrible for the future of this county. We actually think work is good." Republican nomination debate, Jan 16th, 2012[2]

We compare two countries with similar labour markets but varying access to welfare for new labour market entrants. We therefore begins to ask the difficult question of what might lie

[1] http://www.dwp.gov.uk/newsroom/press-releases/2010/may-2010/dwp070-10-270510.shtml
[2] http://blogs.suntimes.com/sweet/2012/01/fox_news_south_carolina_jan_16.html

behind the intergenerational transmission of worklessness and, more specifically, is this driven by intergenerational welfare dependency?

We estimate the intergenerational association of workless spells and the role of local labour market conditions in this transmission for the US and UK. We present two alternative hypotheses of intergenerational welfare dependency and the empirical predictions from these theories are then tested using data from the US and UK. Crucially, we argue that access to welfare is harder for labour market entrants in the US. In the first hypothesis, intergenerational welfare dependency arises through a learning effect from prolonged exposure to welfare claims throughout childhood. This creates a culture of dependency, reducing the cost of claiming as an adult. Alternatively, in the second hypothesis, intergenerational welfare dependency arises in deprived neighbourhoods where a reduced stigma to claiming benefits increases the reservation wage of those seeking work. In the first case, the intergenerational association arises regardless of outside economic conditions. In the second, intergenerational worklessness only arises in bad local labour markets. In both cases the comparative advantage of accessing welfare in the UK predicts stronger associations in this country compared to the US.

The next section positions this new research among the related literature. In Section 3 the empirical strategy and two intergenerational welfare dependency hypotheses are described while Section 4 describes the data. Section 5 discusses the main empirical results and the implications of these for the competing hypotheses. Section 6 ends with some conclusions.

2. Related literature

The shorter and long-term effects of worklessness on an individual's future have been shown to be large in both the UK and the US. These effects, often referred to as scarring, include both future wage and employment scars (Jacobsen et al., 1993, Gregg and Tominey, 2005, Stevens, 1997, Gregg, 2001). More recently a literature has emerged highlighting that parental job displacement has adverse effects on the next generation's educational attainment (Stevens and Schaller, 2010, Gregg et al., 2012) and later labour market outcomes (Oreopolous et al. 2008, Gregg et al. 2012). Here the father's job displacement is taken as exogenous and hence the adverse effect on children's outcomes is deemed causal. A more general intergenerational persistence in worklessness has been found to exist in the UK (Macmillan, 2013) and Norway (Ekhaugen, 2009). To date there has been no international

comparisons of intergenerational worklessness making it difficult to assess the scale of the issue in the UK.

The role of local labour markets in intergenerational worklessness has previously been considered for the UK (Macmillan, 2013). There is evidence that intergenerational worklessness varies across local labour market conditions with sons with workless fathers' disproportionately affected by bad labour markets in the UK. This is in line with related work on the varied employment experience by various strata of disadvantage including ethnicity, age and occupation (Wilson, 2009, Freeman and Rodgers, 2000, List and Rasul, 2010 and Li, 2012). These studies show how those from the most disadvantaged groups are disproportionately affected by higher unemployment rates than those from other groups. This is the first research to apply this concept in an international comparative setting to assess the role of intergenerational welfare dependency in this transmission.

The related intergenerational welfare dependency literature has focused primarily on the relationship between mothers' and daughters welfare receipt and therefore implicitly also captures intergenerational single parent status. This often results in higher intergenerational correlations than those found between fathers and sons. Gottschalk (1996) found a significant relationship between mothers and daughters claiming welfare using the PSID with an intergenerational correlation of 0.28 for white mothers and daughters. Page (2004) again uses the PSID to discuss the issues with measurement in the context of the intergenerational welfare dependency literature drawing attention to problems when only viewing short windows of welfare receipt. She finds an intergenerational welfare correlation for mothers and daughters of 0.30. Levine and Zimmerman (1996) consider whether the intergenerational correlation in welfare dependency in the US is driven by the 'welfare trap'. Whilst an intergenerational correlation in welfare receipt is suggestive that individuals in receipt of welfare pass this activity on across generations, an alternative explanation is that it is the low income and other family characteristics associated with being on welfare that is actually transmitted across generations. They find no evidence that the 'welfare trap' was driving this relationship.

3. Methodology

i) Empirical strategy

We compare estimates of $\hat{\beta}$ in each country from the following equation using OLS

$$w_i^{child} = \alpha + \beta w_i^{parent} + e_{i1} \quad (1)$$

where w_i^{child} measures the proportion of time spent workless in the 2nd generation and w_i^{parent} captures the workless status of the 1st generation (father or head of household) during the 2nd generation's childhood. The coefficient $\hat{\beta}$ estimates the marginal effect or the difference between the proportion of time spent workless of the 2nd generation with a workless father (head of household) and the proportion of time spent workless of the 2nd generation with an employed father (head of household). These estimates will provide the first directly comparable intergenerational workless associations, allowing us to assess the scale of the issue in the UK for the first time.

Although identifying whether this relationship is causal goes beyond the scope of this paper, we explore the extent to which the raw correlation is driven by observable family heterogeneity by including a number of family background characteristics that could be spuriously driving this intergenerational relationship, represented by the vector $\boldsymbol{X}_i$ in equation (2). This allows us to test the extent to which the intergenerational assocation is driven by observable differences between families who are workless and those who are not. If these observable differences were the main driver of the intergenerational correlation then we would expect the correlation to be insignificantly different from zero, or substantially diminish, with the addition of the background controls.

$$w_i^{child} = \alpha + \beta w_i^{parent} + \boldsymbol{X}_i\gamma + e_{i2} \quad (2)$$

Child characteristics and any potential causal mechanisms such as income are not included here as they would be endogenous to the model and hence reduce the estimated intergenerational relationship of interest without establishing clear causal processes. Instead we choose controls that are arguably exogenous, either fixed and hence not a result of workless spells or at least occur before or concurrently along with the observed workless spell of the 1st generation, to capture characteristics other than those driven by workless spells that can affect the opportunities available to the 2nd generation.

To consider whether the intergenerational correlation of worklessness varies by local labour market conditions we consider two alternative models: The first assesses whether the association arises purely because some father-son pairs live in areas with less work avaiable

compared to other father-sons pairs. We run a within-area fixed effects model in each country controlling for any life-cycle bias by including a vector of age controls, $\boldsymbol{A}_i\gamma$.

$$w_{ir}^{child} = \alpha + \beta w_{ir}^{parent} + \delta_r + \boldsymbol{A}_i\gamma + e_{ir} \quad (3)$$

By estimating a fixed effects model, any unobserved heterogeneity driven by differences in employment experiences across local labour markets can be removed, estimating the intergenerational correlation for families within their own local labour markets. Any reduction in the estimated correlation is therefore driven by differences in access to jobs across local labour markets.

The second model asks whether a combination of a lack of jobs and having a workless father leads to an additional penalty in the future work experiences of sons. This model includes an interaction between local labour market conditions and having a workless father in childhood to estimate the additional penalty of a workless father for any given unemployment rate. The proportion of time spent workless is calculated on an annual basis for the 2nd generation and estimated using an OLS model that is clustered at the individual level to adjust the standard errors according to the information available. The proportion of time spent workless for the 2nd generation individual i, in region r, at time t, w_{irt}^{child}, is therefore regressed on the workless indicator of the 1st generation in childhood, w_{ir}^{parent}, the local labour market unemployment rate in region r at time t, u_{rt}, and an interaction between the local labour market conditions and the workless experience of the 1st generation in childhood, $w_{ir}^{p} * u_{rt}$, separately for each country.

$$w_{irt}^{child} = \alpha + \beta w_{ir}^{parent} + \theta w_{ir}^{p} * u_{rt} + \tau u_{rt} + \boldsymbol{A}_{ir}\gamma + e_{irt2} \quad (4)$$

The inclusion of the interaction term allows us to derive information about the size of the intergenerational correlation at different levels of unemployment, depending on which unemployment rate the interaction is evaluated at. As local labour market unemployment rates range from 2% to 24% in each of the two countries, intergenerational associations can be estimated for a range of different values of the unemployment rate $u = [2, 3, 4 \ldots .24]$.

This range of estimates can then be assessed to illustrate any variation in the intergenerational correlation across local labour markets in both countries.

ii) Intergenerational welfare dependency hypotheses

To ascertain whether intergenerational welfare dependency is the main driver of intergenerational worklessness we consider two alternative hypotheses, outlining the expected results from our empirical analysis for each hypothesis to hold. Crucial to our argument is the case that access to welfare for labour market entrants is tougher in the US than the UK.

In the US, access to welfare for young male adults is very restricted and comes primarily through Unemployment Insurance (UI). Eligibility requires contributions to have been made whilst in work and access is normally restricted to a maximum of 29 weeks, although in periods of severe economic downturn Congress can extend this to 99 weeks. Social Security Disability is similarly based on contributions. Social Security Income can provide support for the disabled with no other means of support but this is very rare among young males. In contrast, the UK operates a social assistance model of welfare. Eligibility, which starts at age 18, is achieved solely on the basis of no other means of support and a previous work history is not required. After 1986 and the Restart process but in particular from 1996 (at the very end of the observed period for the younger BCS cohort) increasing behavioural requirements on the claimant were made with the advent of Job Seekers Allowance. These require proof of active job search in the preceding two weeks. Invalidity Benefit (the disability benefit in use over the period considered) operated in a similar way to Social Security Income in the US but claim rates are low among the young. We therefore argue that access to welfare for labour market entrants is tougher in the US compared to the UK. We now outline the two competing intergenerational welfare dependency hypotheses and the empirical predictions from these hypotheses before describing our empirical strategy.

Hypothesis 1: The Learning Effect

One form of the intergenerational welfare dependency argument is that extensive exposure to welfare benefits in childhood reduces the cost of learning how to claim welfare as these families have more information about the welfare system. This lower cost of access to information will increase the children's likelihood of participating in welfare themselves creating a culture of welfare dependency. Importantly, this will arise irrespective of outside

labour market conditions. This is a similar point to that made by Jargowsky (1997) who presents evidence of neighbourhood poverty increasing and decreasing with economic activity in the US. He argues similarly that if neighbourhood poverty was simply a self-sustaining culture, there would be little or no response to economic conditions. In the UK access to welfare is far easier among the young as no prior work history is required whereas the US has a compensatory style welfare system where prior work history is required to claim insurance payments. We therefore argue that if this was the main driver of intergenerational worklessness, *we would expect to see a stronger relationship in intergenerational worklessness in the UK* where welfare is more readily available for young adults, particularly for young men. In addition, if the 'learning effect' were the main driver of intergenerational worklessness, *we would not expect the association to vary by local labour market conditions in either country.*

Hypothesis 2: The conformity effect

Alternatively, intergenerational welfare dependency could be driving this correlation through a 'conformity effect' (Beaulieu et. al., 2005). It is possible that instead of a simple culture of dependency, welfare dependency could be driven by the transmission of tastes and attitudes toward welfare across generations. This reduction in stigma or lower distaste for welfare works to increase the reservation wage in labour supply models, increasing the work incentives needed to encourage employment (Blundell and MaCurdy, 1999). Any variation in the intergenerational association across labour markets could therefore be driven by a mismatch between the higher reservation wages from intergenerational welfare dependency and the lower wage offers that arise in bad labour markets. Crucially, in this setting *the intergenerational association would only arise in weak labour market conditions*. However, given the variation in access to welfare, if this effect were driving the intergenerational relationship *we would expect any variation across local labour markets to be stronger in the UK than the US.*

4. Data

Three longitudinal data sources are used for this analysis, two in the UK, the National Child Development Survey (NCDS) and the British Cohort Study (BCS) and one in the US, the National Longitudinal Survey of Youth starting in 1979 (NLSY 79). The NCDS and BCS were a cohort of all children born in Great Britain (UK excluding Northern Ireland) in one

week in March 1958 and April 1970 respectively whilst the NLSY sample used here were born across the US in 1962-1965. Those born earlier than 1962 were dropped from our analysis as we require full work history information from aged 16 which is not available for those born before 1962 as the survey did not begin collecting information until 1978. The timing of the US sample therefore falls between the two British samples. The longitudinal nature of the data allows analysis of two generations with a focus on four sets of individuals: father-son pairs, head of house-son pairs, father-daughter pairs and head of house-daughter pairs. The contrast between fathers and head of household results allows us to assess how the inclusion of lone parents changes the main findings. The father is assumed to be the head of household unless he is absent with the mother's information used in this case. The focus is therefore not on intergenerational lone parenthood, unlike much of the intergenerational welfare dependency literature, which form only a very small sub-set of the populations considered. Sons and daughters are analysed separately to allow for the different mechanisms influencing labour market participation across genders as our period of interest for the 2nd generation is up until age 29.

Workless measures are created for the 1st generation (father and head of household) to capture sustained periods of worklessness. This also helps to reduce attenuation bias driven by measurement error (Macmillan, 2013). In the US, the variable is constructed from a question of whether the 1st generation was out of work for any part or the whole of the year when the 2nd generation were aged 14 to 16 The measure is created in the form of a binary variable equal to 1 if the 1st generation were out of work for the whole year and 0 otherwise.
In the UK the measures are constructed from two separate questions about the employment status of the father (and mother for head of household measures where the father is missing) when the 2nd generation are aged 11(10) and 16 in the NCDS (BCS). The father (head of household) is defined as sustained workless if they are only observed as workless across the two time periods (see Data Appendix from Macmillan, 2013 for details).

For the 2nd generation workless measures, work history information is available in all three data surveys to create comparable measures of the proportion of time spent workless. Worklessness and unemployment are both considered here to contrast the intergenerational correlations for a transitory form of worklessness in the second generation compared to a more permanent form of worklessness. The unemployment measure only captures those who are actively seeking work whereas the workless measures, in addition to those seeking employment, also captures those individuals who have turned away from the labour market for some reason. In the US data, weekly work history information of the sample is available

for every week from 1978 onwards. As noted above, those born before 1962 were 17 or older in 1978 and therefore are not included in this analysis for comparability. In the UK data, monthly work history data is available for every month from aged 16 until age 42 in the NCDS and until age 29 in the BCS. For comparability, the window of observation is therefore restricted to age 16 to 29 in all three cohorts. This limits the potential impact of life-cycle bias found in measures that focus on early work histories only (Macmillan, 2013). The US weekly work history data is aggregated up to create a main activity over every four-week period to minimise any bias from shorter spells that may arise in weekly data that would not be observed in monthly data.

One potential problem is that the US data does not differentiate between those individuals who are in full time education and those who are out of the labour force. When calculating the proportion of time spent workless or unemployed from 16-29, education is viewed as a positive outcome and therefore counted alongside employment. To therefore distinguish between those who are genuinely 'workless' and those in full time education we impute the education status of the NLSY cohort using a combination of the highest reported qualification by aged 24 and the main economic activity of the year in question. Whilst recognising that this is imperfect, we hope that it goes some way to minimising the potential impact of wrongly defining individuals as workless when in education. In wrongly defining individuals as workless when they are actually in full time education we are likely to understate the correlation in the US if those with better outcomes than observed are less likely to come from workless families than those who are actually workless.

Table 1 gives summary statistics of the levels of worklessness and unemployment measured in the data for the three data sources. Panel A focuses on measures of worklessness for fathers and the head of household. As we would expect, there is more worklessness for head of households compared to fathers with the inclusion of mothers in households where the father is absent. The levels of worklessness in the NLSY are very similar to those found in the BCS cohort with the earlier NCDS cohort experiencing lower levels of worklessness. This in part is to do with the timing of the measures with the NCDS using information from the early to mid-1970s, a time of relatively low unemployment, whereas the BCS 1st generation are observed just before and after the 1980s recession. Similarly the NLSY are measured in 1978/1979, just before the 1980s recession.

Panel B of Table 1 shows the average percentage of time spent workless and unemployed from 16-29 for sons and daughters in the three cohorts. There are lower levels of worklessness than unemployment for each of the cohorts, illustrating the more transitory state

of unemployment compared to worklessness. There are higher levels of worklessness and slightly lower levels of unemployment spells for daughters compared to sons, perhaps indicative of an alternative focus to the labour market for women during this period. The NLSY has greater levels of worklessness than the two UK data sources, particularly for sons (the daughters we might expect to be more in line with the NCDS with the increase in female participation across the period). This may be a concern given the issue with the raw US data not distinguishing between those in full time education and those who are genuinely out of the labour force.

Table 2 considers the distribution of workless spells of sons by their highest educational attainment level by the age of 24. This suggests that while sons are spending more time on average workless across all education levels, high-school dropouts are disproportionately increasing this average, spending an average of 30% of time out of work compared to 10% or lower for all other education groups. Given the issues with observing education in the US data, we may be missing information on education among returners, particularly if people are returning part-time or for part of the year (note this is only an issue when they report not working). If individuals who return to education are more likely to come from workless families and we observe them as workless instead of in education then we will overstate the intergenerational correlation in the US.

When conditioning on observable characteristics comparative information on parental education, parental occupation, the age of the parents and the race of the parents are all available across the three data sources. In addition, although not available in the US, housing tenure is measured for the UK as this is a significant marker of deprivation and opportunities (Feinstein et. al., 2008). Measures of the early marriage (by age 23) and early childbirth (by age 23) of the female cohort members are created for our final analysis in Section 5 by using marriage and birth history information. Note that information is only available on marriage dates rather than cohabitation or partnership dates so we cannot directly distinguish whether early childbirth occurs in a stable partnership or alone if the cohort member is not married at the time.

For our analysis of variation in the intergenerational correlation across local labour markets, local unemployment rates in the US and the UK can be matched into the NLSY and BCS data. While we refer to these labour markets as ‘local’ it is important to understand the context of this phrase. We do not want to observe the sorting into deprived areas of cities (true ‘local labour markets’), which is endogenous to a person’s labour market trajectory but instead want to observe conditions in the broader labour market that the individuals have

access to. Ideally we would therefore wish to observe travel to work areas although it is not possible to obtain comparable data in both countries for these areas. We therefore focus on the metropolitan area[3] level in the US and county[4] level in the UK. We argue that this level of aggregation minimises any issues arising from endogeneity, whilst remaining relatively 'local' to characterise the broader labour markets.

We use information from the Bureau of Labor Statistics (BLS) on Metropolitan Statistics Area (MSA) unemployment rates in the US matching these into the NLSY using the restricted geo-code data on the 2nd generation's MSA of residence from 1978 to 1992. If the MSA is missing in any particular year their last MSA of residence is used. In the UK county level unemployment rates from 1986 to 1998 from the Employment Gazette are matched to the county (derived from local education authority (LEA)[5] data) of residence for the 2nd generation in 1986. The area of residence at 16 is the only disaggregated regional information available in the BCS and therefore we must assume that individuals stay within the county of residence from 16 onwards[6]. In the US the MSA of residence is recorded for each annual survey and so we restrict our sample to having at least 10 observations of their current MSA of residence. We are particularly keen to observe the current MSA in the US given the greater level of geographical mobility. Greenwood (1997) compares the number of residential moves per year, the most comparable mobility indicator when looking across countries, at two points in time. He finds that in the US, 18.7% of people moved in 1971 and 17.5% of people moved in 1981. In the UK the corresponding numbers were 11.8% and 9.6%. By 1981 the US had just under double the geographical mobility of the UK. People also often move further in the US than in the UK with Long (1988) reporting that for every thousand in the population, the number of people moving at least 50km per year was 46 in the US compared to only 15 in the UK.

5. Results

i) Empirical Analysis

[3] As of 2003 there were 362 MSAs in the USA (http://www.census.gov/population/metro/about/).
[4] There are 48 English counties and 13 Welsh counties. Scotland has a different system but an equivalent of 11 counties for this purpose.
[5] There are currently 152 local education authorities, or local authorities as they are now known, in the United Kingdom (Department for Education, http://www.education.gov.uk/).
[6] This is a stringent assumption although analysis of later county level information suggests that 80% of our sample were observed in the same county in 2000

The intergenerational correlations for the four groups (sons or daughters by father or head of household) are presented in Table 3. Panel A illustrates that sons with workless fathers spend an average of 8-13% more time out of work than sons with employed fathers. The US estimate lies between the estimates for the two UK studies. The difference across cohorts in the UK is significant here but there is no significant difference across the two countries at the 5% level for either UK cohort. The results for head of households and sons are similar to those found for fathers and sons. The NCDS is significantly lower than the NLSY cohort but this difference disappears when comparing the NLSY and the BCS cohort, which are almost identical. The intergenerational relationship is stronger for daughters with those from families with workless fathers spending 13-18% more of their time workless from 16-29 than those daughters with employed fathers. The results for head of households exhibit similar patterns with no significant differences across the two countries for these groups at the 1% level.

Panel B shows the results for the intergenerational correlations using the proportion of time that the 2nd generation spend unemployed across the period. The intergenerational correlation is lower for both sons and daughters than those seen in panel A, suggesting that individuals from workless families are more likely to turn away from labour market search when they are out of work, becoming discouraged workers. The correlations are stronger for sons compared to daughters with sons with workless fathers spending 4-10% more time unemployed than sons with employed fathers compared to daughters with workless fathers spending only 2% more time unemployed than daughters with employed fathers. This suggests that daughters are more prone to not seeking work.

There is a significant increase in the intergenerational correlation across the two UK cohorts with sons of workless fathers spending significantly more time unemployed than sons with employed fathers in the BCS cohort compared to the earlier NCDS cohort. Again the US estimates lies between the two UK data sources but for men the BCS lies statistically above both other cohorts, whilst for women the estimates are all very similar. For the remainder of the analysis we focus on the measures used in the upper panel of Table 4. This measure of worklessness includes both unemployment and inactivity which captures the behavioural element of individuals turning away from the labour market.

To assess the role of observable differences between the families in driving the intergenerational correlation we condition on a range of family characteristics discussed in Section 4. Table 4 presents the resulting conditional intergenerational correlations for our four groups for the proportion of time spent workless from 16-29 once observed differences in family background are controlled for. The inclusion of background controls does reduce the

estimated intergenerational correlations suggesting there is a role for intergenerational deprivation in this story as captured by our controls. However, 60 to 80% of the unconditional relationship remains despite these reasonably stringent controls. Comparing two families, broadly like with like but one with a workless father and one with an employed father living in the same type of housing (in the UK), with the same parental education, parental occupations, age and race, the son with the workless father in childhood still spends 6-10% more time workless from 16-29 than the son with the employed father in childhood. The background controls reduce the correlation to a greater degree in the US data compared to the UK data, reducing the correlation for fathers and sons by 40% in the NLSY compared to 20% in the NCDS and BCS respectively. However, there is still no significant difference across the two countries at the 5% level with the inclusion of these background controls. The picture is very similar for head of household and son pairs.

The introduction of family background controls for daughters has a slightly larger effect in the UK, especially in the BCS. The conditional correlations for father-daughter pairs in the BCS decrease by 40% and for head of household pairs decrease by 45% compared to 20% and 25% for corresponding sons pairs. The reduction in the NCDS and NLSY correlations are more similar to that seen for sons. There is therefore no significant difference at the 5% level between any of the three cohorts for daughters, before or after conditioning. Daughters with workless fathers, from like for like families in terms of parental education, occupation, age and race, spend 9-13% more time out of work from 16-29 than daughters with employed fathers. The results are very similar for head of households compared to when just fathers are considered and there is no pattern in the differences across the two countries. The fact that the majority of the correlation remains intact with the inclusion of family controls suggests that observable family heterogeneity cannot completely account for the intergenerational transmission of worklessness. This is consistent with evidence that worklessness and job displacement among parents have causal effects on the next generation (Chapter 4, Gregg et. al., 2012, Oreopolous et al., 2008). However, in this methodology we are not measuring all differences across workless and employed families that are likely to exist.

Moving on to consider whether the intergenerational correlation varies by local labour market conditions in both countries, two types of models discussed in Section 3i) can be estimated using the local labour market data available in the BCS and NLSY cohorts. Table 5 presents results from the various different models building up to the fully interacted model from equation (4). The first row of both panels of Table 5 repeats the correlation for father-

son pairs seen in panel A of Table 3. The second row illustrates the impact that the additional sample restriction we impose - of having local area information available - has on the intergenerational relationship. As a result of this sample selection, in the US the correlation increases a fraction and in the UK it decreases a fraction. This suggests that those who drop out of our sample in the US have a lower intergenerational correlation than average and those who drop out in the UK have a higher intergenerational correlation than the average. However, the difference between the original sample correlation and restricted sample correlation are small and are not significant. These results are the baseline for further comparisons with local labour market information included.

Interestingly, running a simple within-area fixed effects model at the MSA level in the US and the LEA level in the UK does very little in terms of reducing the intergenerational correlation. If the intergenerational correlation were driven purely by the father and son living in the same local labour markets then we would expect a within-area model to significantly diminish the intergenerational correlation. This is not the case here in either country, implying that the intergenerational correlation of worklessness primarily occurs within local labour markets. Similarly, controlling for actual labour market unemployment rates also does little to the intergenerational correlation. These results are particularly striking given the difference in geographical mobility between the two countries. People in the US not only move more frequently but also move further distances. In both countries the main reason that individuals' cite for moving across boundaries such as counties or states is that they are moving for work (Ihrke et. al., 2011, Dixon, 2003) although this happens more frequently in the US. With this in mind we might expect to see a weaker intergenerational correlation in the US within local labour markets as people in the US are more likely to respond to bad local labour markets by moving. However, even if sons move to a different MSA, as is the case for 42% of the sample in the US, they still carry this additional penalty from having a workless father in childhood with them. The similarities across the two countries suggests that it is not just the exposure to the same bad local labour markets that increases both the father and the sons' chances of being workless, even in a country with low geographical mobility.

The final row of both panels of Table 5 presents the second type of model including an interaction between local labour market conditions and fathers' worklessness. These results suggest that a combination of both the local labour market conditions and the workless experience of the father are driving these correlations. Sons with workless fathers are disproportionately penalised as local labour market unemployment rates increase compared to

sons with employed fathers within the same local labour markets. Both the intergenerational correlation at the average unemployment rate and its sensitivity to local labour market conditions are extremely similar across the two countries. The point estimates indicate that the correlation is higher in the US at average unemployment rates, whilst the point estimate of the sensitivity to labour market conditions is a fraction higher in the UK[7]. Although the interaction term is not significantly different from zero in the US the term is very close to the interaction in the UK and this is likely driven by the larger standard error due to the smaller sample size than any actual difference between the two results[8].

Figures 1 and 2 plot the intergenerational relationship across the range of unemployment rates for both countries. Figure 1 shows the BCS results for the UK and Figure 2 shows the NLSY results for the US. The intergenerational relationship varies hugely by the local labour market conditions experienced at the time by the 2nd generation. Sons with workless fathers in high unemployment local labour markets spend up to 25% more time out of work than sons with employed fathers in the same high unemployment local labour markets in both countries. By contrast sons with workless fathers in tight labour markets spend only around 5% more time out of work than sons with employed fathers in the same tight local labour markets with the correlation becoming marginally insignificant in both countries at the lowest levels of unemployment. The striking similarities across the two countries are evident from comparing these figures.

Figure 3 plots the z-scores of significant differences in the intergenerational correlations between the two countries at each unemployment rate observed in the data. There is no significant difference in the intergenerational correlations at the 5% level at any unemployment rate but over the full range the US lies insignificantly above that of the UK, reaching significance at the 10% level for unemployment rates of 5-7%. In both countries, sons with workless fathers are disproportionately affected by high unemployment local labour markets with the difference between their workless experiences and the workless experiences of sons with employed fathers diminishing as labour markets tighten. This clearly shows that sons with workless fathers are far more sensitive to local labour market conditions than others living in the same area despite similarities in welfare availability across local labour markets and differences in welfare availability across countries.

[7] Our results hold if we restrict the US sample to only being observed in the initial MSA of residence in 1979 (comparable with BCS restriction) although they are weaker as would be expected with the level of error introduced given that 42% of our sample move MSA at least once from 16-29.

[8] The interaction term for the slightly larger HOH-son sample is statistically significant at the 1% level albeit with a slightly larger estimate of the interaction term. The results hold for a white-only sample.

ii) Implications for intergenerational welfare dependency hypotheses

Sons

We argue that if welfare dependency were the main factor driving any observed intergenerational correlation, we would expect to see a stronger relationship in the UK where welfare is more readily available for young adults, particularly for young men. Young men in the US are only entitled to unemployment insurance based on contributions made from episodes in work (the exact details vary state to state) and it is of short duration (normally 29 weeks outside recession periods). In contrast, the UK has a social assistance based model where all individuals aged 18 or over are entitled to benefits based on needs rather than contributions. This entitles young men in the UK to benefits without having worked in the past and they are not time limited, although long durations lead to required participation in active labour market programmes. Welfare dependency based agency arguments of intergenerational worklessness would therefore have more scope in the UK as there is a potential route for young men with workless parents to not enter the labour market when leaving education by opting instead for welfare receipt. We find, however, very similar results when measuring the unconditional and conditional intergenerational correlation of worklessness across the two countries for a range of measures and samples.

The similarity across the two countries in terms of the intergenerational persistence of worklessness and the sensitivity to local labour market conditions suggests that eligibility for welfare in the younger generation does not drive the observed correlations. If the 'learning effect', based on cultural attitudes and a lower participation cost of welfare rather than work incentives, were the prominent driver of the intergenerational correlation, we would not expect to see any variation in the correlation by labour market conditions or across countries. Alternatively, if the 'conformity effect' of welfare dependency was driving the correlation by pushing up the reservation wage of individuals due to a lower distaste for welfare which could lead to more dependency in worse local labour markets, we would expect to find more pronounced local labour market variation in the UK where this effect has more scope.

We find that the variation in intergenerational associations across local labour markets is almost identical in both the US and UK leading us to reject both hypotheses of intergenerational welfare dependency being the main driver for these findings. While we accept that this analysis allows the potential for an additional factor to be affecting our results in an equal and opposite way, we would argue that this additional factor would need to be

impacting in a very precise manner across samples and measures given the consistencies in both the unconditional and conditional correlations and the local labour market analysis. The fact that we observe such consistent patterns across the two countries and such sensitivity to local unemployment levels suggests that the reason behind the increased worklessness in children of workless families lies elsewhere.

A number of pieces of work by William Julius Wilson (1990, 1997, 2009) which discuss the impact of joblessness within urban-poor areas in the US point to a combination of structural inequalities and behavioural responses to account for persistence in worklessness. In his book 'When Work Disappears', Wilson draws on a vast number of sources to describe the multiple impacts of jobs disappearing from urban centres in the US on the majority of black residents of these areas. This phenomenon began in the US in the 1970s with the mass exodus of high-income families from urban centres out to the suburbs with potential employers following suit to capture the migration in labour and cheaper land costs (Wilson, 1990). Although his focus is not specifically on intergenerational worklessness, the concentration of joblessness within the areas he studies suggests that many of those interviewed are likely to fall into this category.

As Wilson describes, there is a tendency of commentators to forget the specific impact of worklessness in the envelope discussion of poverty. "A neighbourhood in which people are poor, but employed, is much different from a neighbourhood in which people are poor and jobless" (Wilson, 1997). Crime, family dissolution, limited social networks and low levels of social organisation are all symptoms of a lack of work rather than a lack of money and growing up in these settings hinders both child development and intellectual advancement.

The role of informal networks is further brought out in other literature from the US. Loury (2006) found that 1 in every 5 US male found their jobs through males in the previous generation. Ioannides and Loury (2004) describe how, using the US Panel Study of Income Dynamics (PSID), 15.5% of unemployed individuals in 1993 looked to informal networks for information and contacts compared to only 8.5% of employed individuals. The importance of these networks as unemployment increases is also evident. Kramarz and Skans (2006) found that Swedish children were more likely to get a job at the same plant as their parents compared to other children in their class and this effect was particularly strong in high unemployment areas.

In Wilson's recent book "More than just race" (2009) he describes how low-skilled workers depend 'more than any other group' on a strong economy and tight labour market.

He argues that during hard times, slack or loose labour markets lead to employers being more selective about who they recruit and keep on, inflating job requirements and requiring greater soft-skills. In this setting, individuals who are disadvantaged in terms of their skill set suffer disproportionately. Conversely in tight labour markets, increased job opportunities both reduce unemployment spells and draw people into the labour force that would otherwise drop out.

Daughters

It is more difficult in the case of women to rule out the role of intergenerational welfare dependency in the same way as for men. In some settings, access to welfare is easier in the UK: in particular if the daughter is married or cohabiting with a husband /partner who does not work. For a workless single woman (without children) or married/cohabiting woman with a working husband (partner), they will have restricted access to welfare payments in both countries but as with the discussion around young men, this is less restrictive in the UK. In alternative settings, access to welfare is similar in the US and UK: lone parents are entitled to welfare receipt in the US as well as the UK although there are strong conditions attached in both countries.

The intergenerational correlations for worklessness are higher for daughters than sons (although the intergenerational correlations for open unemployment are lower). If we focus on head of household and daughter pairs the results in the US are higher than both of the UK cohorts suggesting again that this is working against the standard intergenerational welfare dependency argument as, if anything, benefits for women are more accessible in the UK than the US[9]. The mechanisms for daughters also appear to differ as the local labour market conditions seem to be second-order issues for daughters. While the magnitude of the correlation for the local labour market analysis is similar for father-daughter pairs in the UK and US, the coefficient on the interaction term is indistinguishable from zero, both qualitatively and statistically in both countries[10]. Daughters from workless families are therefore more frequently turning away from the labour market in both countries, irrespective of local labour market conditions. An obvious place to investigate is early marriage and child birth. We explore this distinct alternative route of labour market withdrawal for women to see how much of this higher intergenerational correlation is associated with these factors by

[9] although this is dependent on the number of childless women, lone parents and partnered mothers with workless partners in each sample

[10] -0.0032(.010) in the US, 0.0047(.022) in the UK

conditioning on these observable endogenous variables in the regression[11]. While this methodology limits our claims regarding the causal role of early marriage and childbirth, we use this analysis as suggestive of an obvious alternative mechanism through which women choose to turn away from the labour market.

Table 6 presents the percentage of women who marry or have children early (by age 23) in all three cohorts by the workless experience of the father and head of household. As mentioned in Section 4, single parenthood is hard to deduce from the reported data which only gives dates of marriage and births but not non-marital cohabitating relationships. Such co-habiting is far more common and stable in the UK than the US (see Kiernan et. al., 2011) and has been increasing over time (see Figure 4 for the UK). We therefore report the best available information, which is the extent that cohort members have children early and out of wedlock by the workless experience of the parent.

In the BCS there is little difference between the marriage experiences of those with workless parents compared to employed parents but in the earlier NCDS and NSLY cohorts there is a suggestion that daughters with workless fathers were more likely to marry early. In all three cohorts there is strong evidence of daughters with workless fathers choosing to have children earlier than daughters with employed fathers. In the NLSY and NCDS there is around a 20 percentage point gap in those having children by 23 by parental work status. This increases to 28 percentage points in the BCS cohort. The evidence suggests that for the BCS cohorts around half of this difference is from daughters who are not married. In the NCDS there is no incidence of this and in the NSLY it is modest but more present when we include single mothers in our head of household measure. Crawford et. al. (2011) document that 'As many as 45% of all live births occurred outside marriage in 2008… Of these, it is estimated that the majority are to cohabiting parents'. As Figure 6 illustrates, most of the large increase in non-marital births that occurred in the UK since 1980 came from cohabiting partnerships rather than lone parenthood.

Table 7 shows the effect of controlling for early marriage and early childbirth on the intergenerational correlation. The first column details the unconditional intergenerational relationships from the top panel of Table 3 with column 2 adding a control for early marriage, column 3 for early childbirth and column 4 controls for both. Early marriage makes no difference to the magnitude of the intergenerational correlations, which is perhaps unsurprising as early marriage does not necessarily impact labour market participation. Early

[11] $w_i^{child} = \alpha + \beta w_i^{parent} + \boldsymbol{X}_i\gamma + \mu mar_i^{child} + \rho cld_i^{child} + e_{i4}$

childbirth does make a more marked difference, halving the intergenerational correlation. The results suggest that motherhood is a common alternative to the labour market for women, although as we saw in Table 6 this is more common with a partner, either married or cohabiting.

There is some suggestive evidence therefore of an alternative route for daughters becoming discouraged workers, with those from workless parents more likely to make legitimate lifestyle choices to turn away from the labour market. This again does not necessarily indicate an intergenerational welfare dependency story as the majority of those daughters turning away from the labour market are partnered, either in marriage or co-habiting arrangements. This is therefore not indicative of welfare-seeking behaviour as partnered (married or co-habiting) mothers are not entitled to benefits in the US and are only entitled to welfare in the UK if the partner (married or co-habiting) is also workless.

6. Conclusions

This paper presents the first international comparison of intergenerational worklessness. This analysis is therefore the first to provide some sense of scale of the size of the issue of intergenerational worklessness in a comparative setting. By choosing to compare two countries with very different welfare systems, it is also the first to ask about the possible role of intergenerational welfare dependency in this transmission. We argue that given the more restrictive access to welfare in the US, if intergenerational welfare dependency were the main driver of this transmission we would expect to see higher associations in the more generous UK system. We consider two alternative hypotheses: if cultural attitudes and lower participation costs were the prominent driver of the intergenerational correlation through the 'learning effect' we would not expect to see any variation in the correlation by labour market conditions. In addition, if a higher reservation wage due to a lower distaste for welfare, the 'conformity effect', which could lead to more dependency in worse local labour markets were driving the intergenerational correlation then we would expect to find a greater correlation in the UK where this effect has more scope.

The extent of intergenerational worklessness is found to be similar in the US and UK. For males, this intergenerational correlation varies considerably by the local labour market that the young men are exposed to in both countries to a very similar degree, disappearing in tight labour markets. The consistency in the intergenerational correlations, both unconditional and conditional, and patterns of variation across local labour markets suggests that access to

welfare and intergenerational welfare dependency cannot be the main driver of intergenerational worklessness. The fact that the intergenerational correlations vary across local labour markets and are stronger when considering workless outcomes compared to unemployed outcomes in the second generation suggests that there may therefore be scope for a behavioural response to growing up in a workless family that increases the likelihood of an individual becoming a 'discouraged worker'. Wilson's work on inner-city Chicago ghettos emphasises the structural constraints that these individuals face but supports the notion that these structural barriers can lead to a behavioural response from individuals. The role of informal networks in job search and the importance of these in weak labour markets is one potential alternative explanation.

For daughters, the intergenerational correlations are also very similar in both the UK and the US when considering father-daughter and head of household-daughter pairs and after conditioning on a range of family background characteristics. The similar findings across the two welfare systems, although not as clear cut as for men, also suggest that this relationship is not driven by welfare dependency. In contrast to males, we find that for women the intergenerational correlation is not sensitive to local labour market conditions and while stronger than the male correlation for measures of worklessness, the relationship is weaker for unemployment measures. These findings therefore suggest that women from workless fathers may turn away from the labour market to a greater degree than males from workless fathers. We explicitly consider the role of early marriage and early motherhood in this process and find that while early motherhood is a strong driver, this is most common found for women in relationships, either married or cohabiting. Young women with workless parents appear to legitimately seek an alternative life style, often motherhood in a partnered relationship, rather than working.

Table 1: Descriptive statistics from the NLSY, NCDS and BCS intergenerational work history data

1st generation measures	**Father**	**HOH**
NLSY 79 (born 1962-1966)		
% workless all year when child aged 15/16 (1978/9)	6.7	9.6
NCDS 58 (born 1958)		
% workless when child aged 11 and 16 (1971, 1976)	3.4	4.7
BCS 70 (born 1970)		
% workless when child aged 11 and 16 (1971, 1976)	6.1	8.6
2nd generation measures	**Son**	**Daughter**
NLSY 79 (born 1962-1966)		
av. % time spent workless from 16-29	14.7	24.7
av. % time spent unemployed from 16-29	5.9	4.1
NCDS 58 (born 1958)		
av. % time spent workless from 16-29	5.5	22.8
av. % time spent unemployed from 16-29	4.2	3.0
BCS 70 (born 1970)		
av. % time spent workless from 16-29	5.4	14.1
av. % time spent unemployed from 16-29	4.0	1.9

Table 2: Percentage of time that sons spent workless from 16-29 in the NLSY, NCDS and BCS by their highest educational attainment by age 24

	NLSY		**NCDS**	**BCS**
High school dropout	29.2	No qualifications	10.7	6.7
High school graduate	10.3	GCSEs	4.2	3.9
Associates	10.1	A-levels	3.2	2.4
Bachelors or above	7.9	Degree or above	3.6	2.1

Table 3: Intergenerational worklessness correlations for longer-window 1st generation measures and varying measures of worklessness in the 2nd generation for the NLSY, NCDS and BCS

Panel A: 2nd generation - Proportion of time spent workless 16-29

2nd generation proportion time spent **workless** from 16-29	**Father-son**	**HOH-son**	**Father-Daughter**	**HOH-Daughter**
NLSY 79 (born 1962-1966)	0.1088	0.1193	0.1320	0.1706
workless all year when child15/16	[.019]***	[.015]***	[.027]***	[.022]***
N	*2305*	*2693*	*2145*	*2545*
NCDS 58 (born 1958)	0.0760	0.0651	0.1729	0.1352
workless when child aged 11&16	[.020]***	[.017]***	[.031]***	[.024]***
N	*4649*	*4808*	*4571*	*4760*
BCS 70 (born 1970)	0.1298	0.1209	0.1764	0.1612
workless when child aged 10&16	[.019]***	[.015]***	[.020]***	[.017]***
N	*4646*	*4930*	*4940*	*5283*
Differences				
NCDS 58 - NLSY79	-0.0328	-0.0542	0.0409	-0.0354
Z score	-1.19	-2.39**	0.99	-1.09
BCS 70 - NLSY79	0.0210	0.0016	0.0444	-0.0094
Z score	0.78	0.08	1.32	-0.34
BCS 70 - NCDS 58	0.0538	0.0558	0.0035	0.0260
Z score	1.95*	2.46**	0.09	0.88

Panel B: 2nd generation - Proportion of time spent unemployed 16-29

2nd generation proportion time spent **unemployed** from 16-29	**Father-son**	**HOH-son**	**Father-Daughter**	**HOH-Daughter**
NLSY 79 (born 1962-1966)	0.0411	0.0512	0.0215	0.0226
workless all year when child15/16	[.008]***	[.007]***	[.006]***	[.005]***
N	*2305*	*2693*	*2145*	*2545*
NCDS 58 (born 1958)	0.0495	0.0441	0.0165	0.0139
workless when child aged 11&16	[.014]***	[.013]***	[.007]***	[.007]***
N	*4649*	*4808*	*4571*	*4760*
BCS 70 (born 1970)	0.0951	0.0869	0.0183	0.0223
workless when child aged 10&16	[.016]***	[.012]***	[.005]***	[.006]***
N	*4646*	*4930*	*4940*	*5283*
Differences				
NCDS 58 - NLSY79	0.0084	-0.0071	-0.0050	-0.0087
Z score	0.52	-0.48	-0.54	-1.01
BCS 70 - NLSY79	0.0540	0.0357	-0.0032	-0.0003
Z score	3.35***	2.42**	-0.35	-0.03
BCS 70 - NCDS 58	0.0456	0.0428	0.0018	0.0084
Z score	2.14**	2.42**	0.21	0.91

Robust standard errors in parenthesis. * 90% confidence, ** 95% confidence, *** 99% confidence. Year of birth controls are included in the NLSY. Z scores significant at 1% level >|2.58|, 5% level >|1.96|, 10% level >|1.65|.

Table 4: Intergenerational worklessness correlations, controlling for family background characteristics, for longer-window 1st generation measures and worklessness in the 2nd generation for the NLSY, NCDS and BCS

2nd generation proportion time spent **workless** from 16-29	**Father-son**	**HOH-son**	**Father-Daughter**	**HOH-Daughter**
NLSY 79 (born 1962-1966)	0.0652	0.0646	0.0884	0.0988
	[.027]***	[.020]***	[.031]***	[.025]***
N	*2305*	*2693*	*2145*	*2545*
NCDS 58 (born 1958)	0.0547	0.0456	0.1250	0.0946
	[.020]***	[.017]***	[.030]***	[.025]***
N	*4649*	*4808*	*4571*	*4760*
BCS 70 (born 1970)	0.1038	0.0906	0.1065	0.0888
	[.020]***	[.016]***	[.020]***	[.017]***
N	*4646*	*4930*	*4940*	*5283*
Differences				
NCDS 58 -> NLSY79	-0.0105	-0.0190	0.0366	-0.0042
Z score	-0.31	-0.72	0.85	-0.12
NLSY79 -> BCS 70	0.0386	0.0260	0.0181	-0.0100
Z score	1.15	1.02	0.49	-0.33
NCDS 58 -> BCS 70	0.0491	0.045	-0.0185	-0.0058
Z score	1.74*	1.76*	-0.50	-0.19

Robust standard errors in parenthesis. * 90% confidence, ** 95% confidence, *** 99% confidence. Year of birth controls are included in the NLSY. Z scores significant at 1% level >|2.58|, 5% level >|1.96|, 10% level >|1.65|.

Table 5: Intergenerational worklessness correlations for the NLSY and BCS controlling for various local labour market conditions in the 2nd generation (son)

Panel A: NLSY 79	Observed workless all year at 15/16	
Model type	Intergenerational correlation ($\hat{\beta}$)	Interaction ($\hat{\theta}$)
Full model *(N=2305)*	0.1088 [.019]***	
Restricted NLSY sample	0.1260 [.028]***	
Within MSA (δ_r)	0.1009 [.025]***	
Controlling for MSA level unemployment (u_{irt})	0.1265 [.028]***	
Interaction model	0.1243 [.027]***	0.0110 [.007]
N	1232	

Panel B: BCS	Observed workless at 10/16	
Model type	Intergenerational correlation ($\hat{\beta}$)	Interaction ($\hat{\theta}$)
Full model *(N=4646)*	0.1298 [.019]***	
Restricted BCS sample	0.1123 [.020]***	
Within county (δ_r)	0.1074 [.020]***	
Controlling for county level unemployment (u_{irt})	0.1087 [.020]***	
Interaction model	0.0974 [.018]***	0.0131 [.005]***
N	3672	

All coefficients from separate models with the exception of the final row/model. Robust or clustered standard errors at the region level for the third model and the individual level for models 4 and 5 * 90% confidence, ** 95% confidence, *** 99% confidence. Age controls included to remove any life-cycle bias as focus on person-time observations.

Table 6: Percentage of daughters who experience early marriage and early childbirth by the 1st generation's workless status

	Father			**HOH**		
	Early marriage	Early childbirth	Early child, not married	Early marriage	Early childbirth	Early child, not married
NLSY 79						
Parent Workless	60.71	51.51	12.43	53.64	55.36	20.73
Parent Employed	49.91	32.41	7.06	49.55	33.28	7.92
NCDS 58						
Parent Workless	69.23	50.96	1.92	67.55	49.01	1.99
Parent Employed	58.04	29.71	3.21	58.23	29.77	3.19
BCS 70						
Parent Workless	25.40	61.50	30.23	25.38	59.00	32.07
Parent Employed	25.92	33.71	16.29	25.75	34.51	16.76

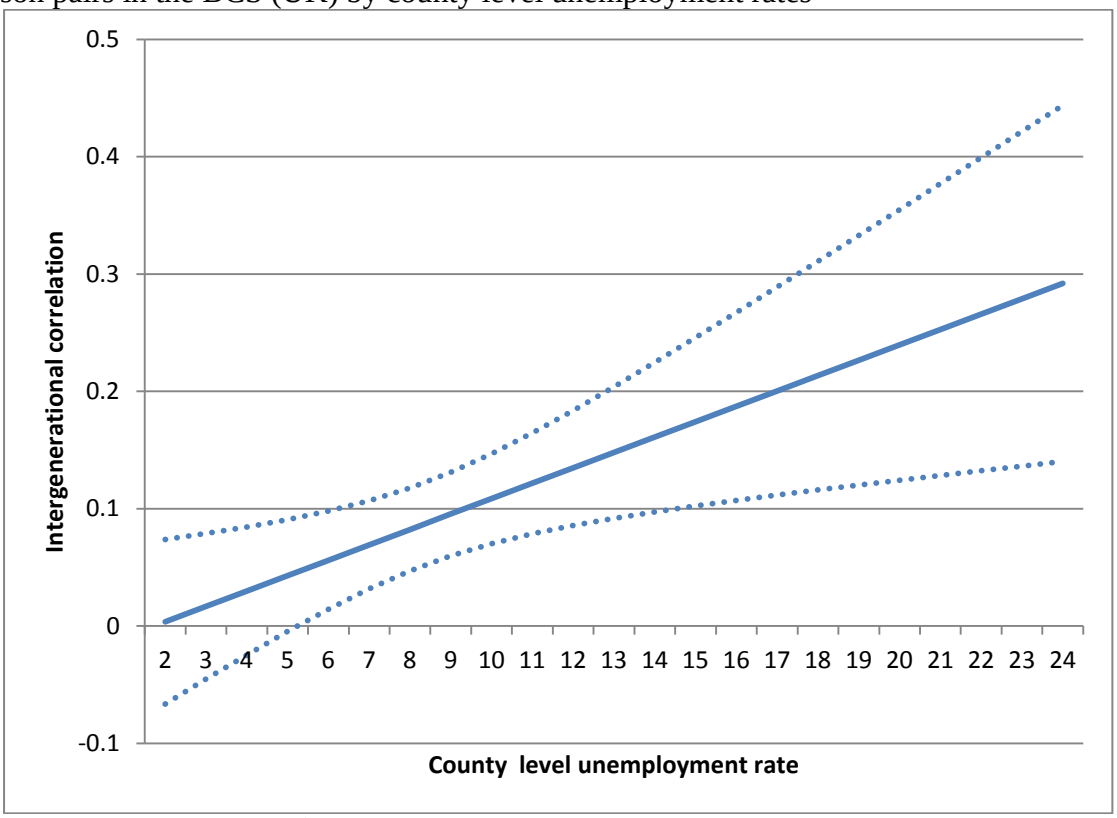
Early defined as age 23 or before. Cohabitation and partnership histories not available so it is unclear whether the not married cohort members have partners or not.

Table 7: Intergenerational worklessness correlations controlling for early marriage and childbirth for the NLSY, NCDS and BCS

2nd generation proportion time spent **workless** from 16-29	**Father-Daughter**			
NLSY 79 (born 1962-1966)	0.1320	0.1213	0.0923	0.0923
workless all year when child15/16	[.027]***	[.026]***	[.023]***	[.023]***
NCDS 58 (born 1958)	0.1729	0.1534	0.1037	0.1027
workless when child aged 11&16	[.031]***	[.028]***	[.022]***	[.022]***
BCS 70 (born 1970)	0.1764	0.1763	0.0868	0.0871
workless when child aged 10&16	[.020]***	[.020]***	[.016]***	[.016]***
No controls	x			
Early marriage		x		x
Early childbirth			x	x
2nd generation proportion time spent **workless** from 16-29	**HOH-Daughter**			
NLSY 79 (born 1962-1966)	0.1706	0.1661	0.1231	0.1238
workless all year when child15/16	[.022]***	[.022]***	[.020]***	[.020]***
NCDS 58 (born 1958)	0.1352	0.1188	0.0731	0.0727
workless when child aged 11&16	[.024]***	[.023]***	[.018]***	[.018]***
BCS 70 (born 1970)	0.1612	0.1608	0.0805	0.0801
workless when child aged 10&16	[.017]***	[.017]***	[.014]***	[.014]***
No controls	x			
Early marriage		x		x
Early childbirth			x	x

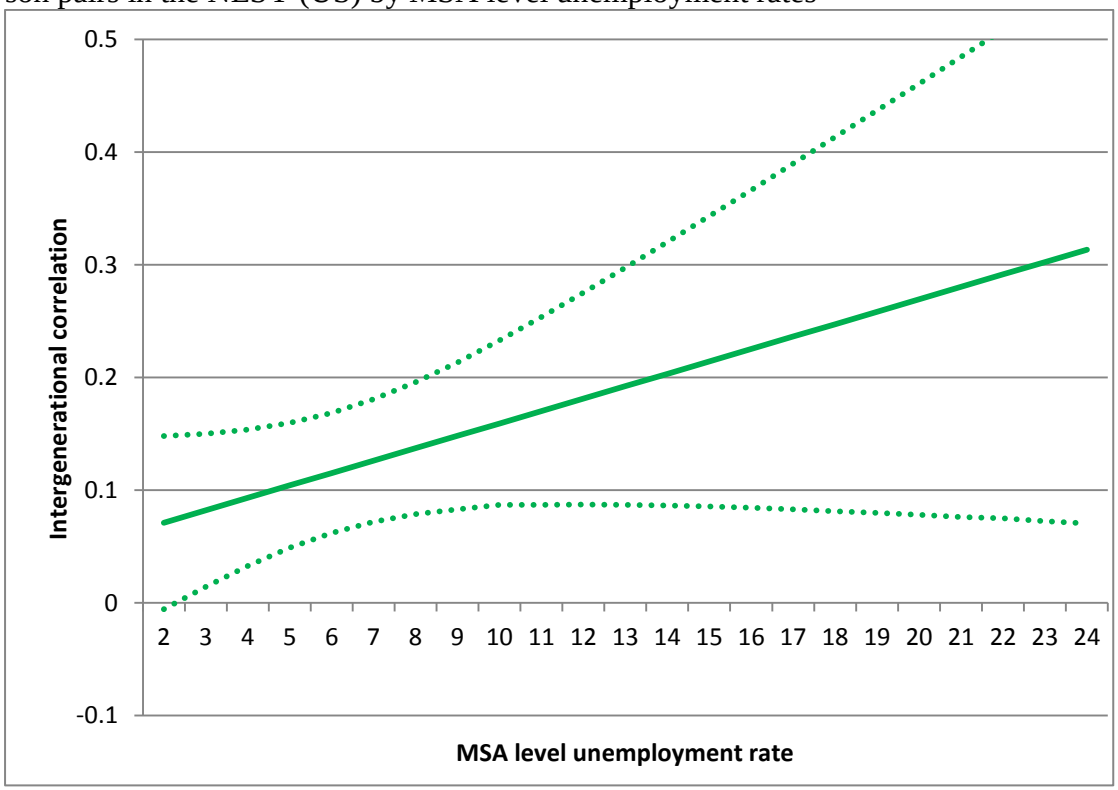
Sample sizes, NLSY - N = 2145, NCDS – N = 4571, BCS – N = 4940 for father-daughter pairs. Sample sizes, NLSY - N = 2545, NCDS – N = 4760, BCS – N = 5283 for head of household-daughter pairs. Robust standard errors in parenthesis. * 90% confidence, ** 95% confidence, *** 99% confidence. Year of birth controls are included in the NLSY

Figure 1: Variation in the intergenerational correlation in labour market outcomes of father-son pairs in the BCS (UK) by county level unemployment rates



Dotted lines represent the 95% confidence intervals

Figure 2: Variation in the intergenerational correlation in labour market outcomes of father-son pairs in the NLSY (US) by MSA level unemployment rates



Dotted lines represent the 95% confidence intervals

Figure 3: Z scores from testing the difference between the US and UK intergenerational worklessness correlations by local labour market unemployment rates

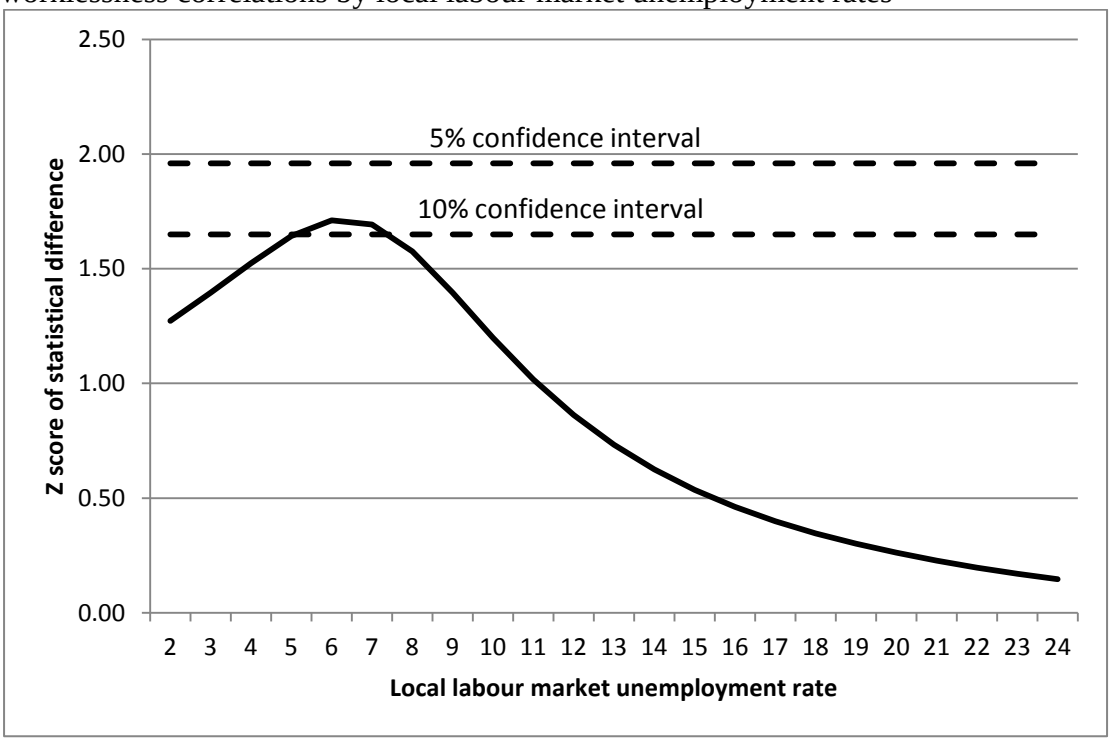
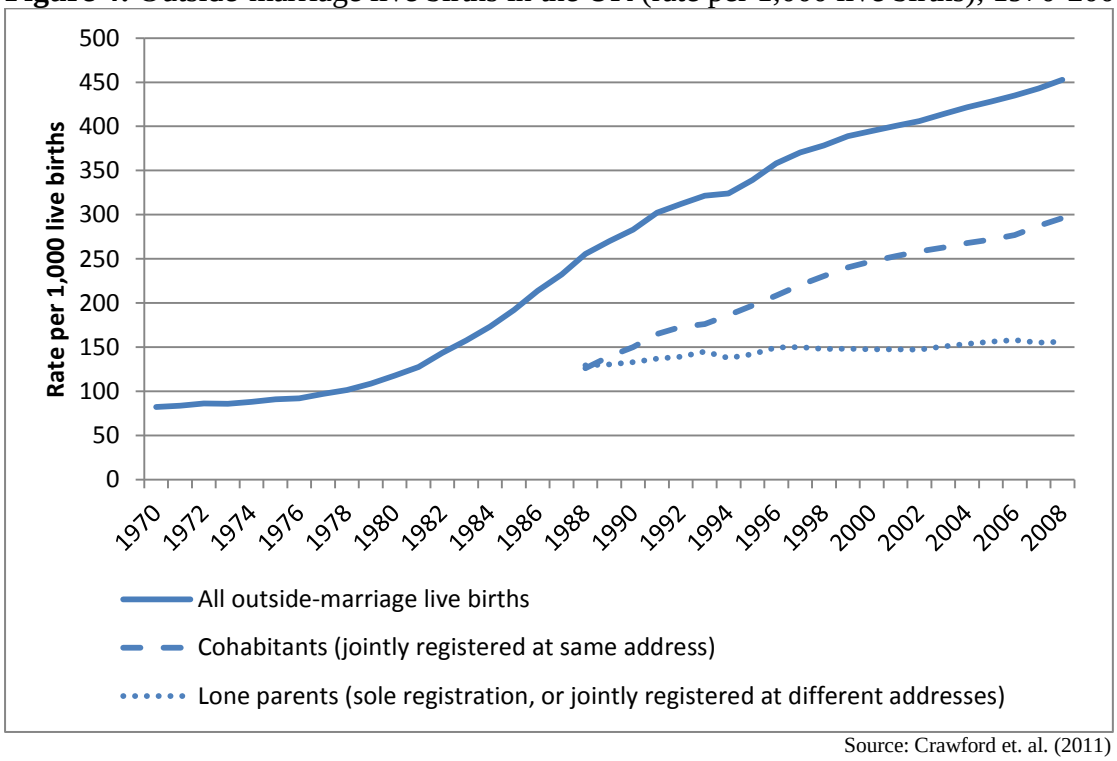


Figure 4: Outside-marriage live births in the UK (rate per 1,000 live births), 1970-2008



Source: Crawford et. al. (2011) Figure 1.1