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# Income inequality and the labour market in Britain and the US

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ABSTRACT

We study household income inequality in both Great Britain and the United States and the interplay between labour market earnings and the tax system. While both Britain and the US have witnessed secular increases in 90/10 male earnings inequality over the last three decades, this measure of inequality in net family income has declined in Britain while it has risen in the US. To better understand these comparisons, we examine the interaction between labour market earnings in the family, assortative mating, the tax and welfare-benefit system and household income inequality. We find that both countries have witnessed sizeable changes in employment which have primarily occurred on the extensive margin in the US and on the intensive margin in Britain. Increases in the generosity of the welfare system in Britain played a key role in equalizing net income growth across the wage distribution, whereas the relatively weak safety net available to non-workers in the US mean this growing group has seen particularly adverse developments in their net incomes.


## 1. Introduction

Over recent decades, substantial changes in the distribution of incomes in both Great Britain (GB) and the United States (US) have placed increased pressure on government budgets.[1] Declining employment and stagnant wages – each of which have affected both countries, to different extents and at different times – translate into reduced tax collections, while increased eligibility for and generosity of social insurance, means-tested transfer payments and work-based credits result in greater expenditures. The latter trend has been reinforced by the interplay between the labour market and the family, with increased inequality in family earnings and in assortative mating.

The aim of this paper is to describe the relationship between inequality in labour earnings and the evolution of family income inequality. Tony Atkinson was the world leader in driving forward the study of economic inequality and its development over time, see Atkinson (1970, 1982, 1993, 1997, 2005). Many aspects of the work we present here take the lead from Tony's inspirational research in this field - in particular, the role of the tax and benefit system in mitigating earnings inequality and the interaction between the labour market and household income inequality, for example Atkinson (1992, 2000) and Atkinson (2006).

Changes in wage inequality have been at the centre of much empirical research in labour economics. This includes large bodies of work aiming to identify causal channels (e.g. Bound and Johnson (1992); Katz and Murphy (1992); Card and DiNardo (2002); Bowlus and Robin (2004); Lemieux (2006); Autor et al. (2008); Blundell et al. (2016a, 2016b)) and to describe in some detail the key dimensions of change (e.g. Juhn et al. (1993); Katz and Autor (1999); Gosling et al. (2000); Piketty and Saez (2003); Burkhauser et al. (2012); Machin (2015); Guvenen et al. (2017)). However, there has been little systematic cross-country comparative work, and much less attention to the interaction between the tax and transfer system and family earnings in the evolution of household inequality.

Family income inequality differs from wage inequality for a number of reasons. Family labour income depends also on hours of work and on how hours and wages covary between spouses, meaning the interplay between the intensive margin and jointness of the labour supply decisions, which may be heavily influenced by assortative mating in the marriage market (Blundell et al., 2016a, 2016b). In addition, the tax and transfer system can be a very important bridge between family labour income and living standards, through taxes, work-contingent credits and social assistance transfers. Tax and transfer systems are typically quite nonlinear, especially at low-incomes, and this can lead to very different inferences about levels of household income inequality; and major reforms to these systems can and do have large effects on the income distribution.

We examine the labour market and tax and transfer system in its relationship with household income inequality in Britain and the US spanning the 36 years from 1979 to 2015. The approach we take is descriptive, but informed by structural changes in potentially-selective labour force participation, hours of work, assortative mating and income

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[1] We refer to Great Britain (Britain) throughout, instead of the more colloquial United Kingdom, because our data does not contain information on Northern Ireland.

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insurance provided by the tax and transfer system across the wage distribution. We develop an approach to study how the intensive margin of labour supply, family structure and the tax and transfer system have interacted over time to affect the link between wages and net family incomes right across the male and female wage distributions.

To set the scene we begin by documenting and contrasting trends in male earnings and net (after-tax and transfer) income in each country. We then systematically trace out the path from individual labour market outcomes through to net family incomes, unpacking the underlying components of income inequality in the following sequence: Employment → Wages → Earnings → Family Structure → Family Market Income → Welfare → Gross Income → Taxes and Work-Based Tax Credits → Net Income. We explicitly consider the link between employment and wages with a median selection approach to bound wages in an effort to address selection into, and out of, the labour force, which has likely changed very differentially between the two countries over time (Johnson et al., 2000; Chandra, 2003; Blundell et al., 2007).

In terms of the labour market, taking a relatively long-term view and considering trends since 1979, the basic background facts are that real wages have grown far less in the US than in Britain – and in fact have not grown at all at the median except for college graduates – while employment trends have looked relatively similar. However, over the past two decades, and especially since the Great Recession, employment has been more robust in Britain while wages have been more robust in the US.

Britain has seen a large increase in male earnings inequality, not just during the much-documented 1980s inequality boom, but also since then. The increase over the past two decades was driven by a broadly secular decline in the hours of work of men at lower wage percentiles: inequality in male hourly wages between the 5th and 95th percentile changed little. The hours of work story has been the opposite among British women, among whom increases at the bottom of the wage distribution have reduced earnings inequality. This has not been enough, however, to stop family earnings inequality from rising. In the US, secular trends in hours worked (among workers) have been less pronounced, albeit with considerable cyclical variation around that, but male hourly wage inequality has increased. Meanwhile, employment among less-skilled men in the US fell over the sample period, and since 2000 has even fallen among higher-educated, and remarkably for women of all skill levels after a secular increase in the prior three decades. Using a bounding approach to account for the potential effect of selective entrances and exits from the labour market, we show that – especially since the Great Recession – wage trends among lower-educated groups may be more similar between the two countries than the raw data focused only on workers imply. Nevertheless, the basic qualitative comparisons between the countries prove robust to this bounding exercise.

Even though there were sharp declines in hours of work among men in Britain, and some increase in assortative mating, the British welfare state has stabilized the economic inequality of tax units across the most of the net income distribution over the past two decades. For example, we show that 90/10 net income inequality fell slightly in Britain from 1994 to 2015 even though male earnings inequality increased. In comparison, we show that in the US 90/10 net income inequality rose sharply, suggesting that the US tax and welfare system is less successful at counteracting changes in the labour and marriage markets. The greater stabilization in Britain did come at a considerable fiscal cost, in particular due to large increases in the generosity of tax credits in the late 1990s and early 2000s which led to these credits trebling as a share of GDP from 0.5% in 1997 to 1.5% in 2004.[2]

The paper proceeds as follows. Section 2 gives a brief overview of the key policy context in both Britain and the US. Section 3 discusses the data we use in the paper, including how we harmonize the measurement of key variables across countries to the extent possible. Section 4 sets out the context of overall changes in net family income inequality in both countries, and how this relates to male earnings inequality. We then unpack the links between these. Section 5 begins with the labour market, including how it interacts with the marriage market, while Section 6 examines the impact of the tax and transfer system. Section 7 then brings these together by systematically tracing the links from wages right through to net family incomes. Section 8 concludes.

## 2. The policy context

During the period considered in this paper there have been a number of key policy changes in both countries that are relevant for our analysis. In Britain there were significant cuts to income taxes during the 1980s, especially for higher earners. The top marginal income tax rate fell from 60% to 40% in 1988, and the basic rate of income tax fell in stages through the decade from 30% to 25%. Since 1994, which – for data reasons – we focus on for much of the analysis, the basic rate of income tax has fallen further in a number of incremental steps to 20%, and since 2011 the zero-rate band has been expanded rapidly. However, fiscal drag and some discretionary policy changes have pulled many more individuals into the higher tax bracket: the number paying the marginal rate of at least 40% has more than doubled since 1994.[3] The net result is that the income tax system has become more progressive in recent years (with the opposite having happened in the 1980s).

Since the late 1990s much of the key policy change in Britain has been on the transfer side. The Labour governments of 1997 to 2010 presided over large increases in the generosity of social assistance and tax credits, in large part as a means of pursuing ambitious quantitative child poverty targets for 2010 and 2020 (Joyce and Sibieta, 2013). The term 'tax credits' in Britain is in fact used to describe two very different forms of support: a genuinely work-contingent transfer[4], currently named Working Tax Credit (WTC), and an additional means-tested element specifically for families with children (Child Tax Credit, CTC) which is available – since 2003 – to low-income families irrespective of work status. The out-of-work safety net was also made significantly more generous for families with children under Labour. Since 2011, however, a broad-based set of cuts to means-tested working-age transfers have been implemented as part of post-recession fiscal consolidation measures. These are clearly evident in the analysis we present later up to 2015, but they continued after that and are set to continue for several more years.

Another important policy change in Britain was the introduction of the National Minimum Wage in 1999. It was subsequently increased in several stages, and by 2015 (the end of our period of analysis) it covered around 4% of employees. It is, however, now being extended much further and is set to cover around 12% of employees by 2020 (Cribb et al., 2017).

Like Britain, the economic landscape of the United States over the past several decades has been characterized by massive changes to tax and welfare policy. The Economic Recovery Tax Act of 1981 and the Tax Reform Act of 1986 jointly broadened the tax base and reduced the number of federal income tax brackets from 16 to four, with the marginal tax rate on the highest income earners dropping from 70% to 28% by 1989 (Auerbach and Slemrod, 1997; Burman et al., 1998; Kniesner and Ziliak, 2002). The subsequent tax changes over the ensuing two decades eventually led to a return to seven marginal tax

[2] See Department for Work and Pensions benefit expenditure tables: https://www.gov.uk/government/collections/benefit-expenditure-tables.

[3] See Table 2.1 of HMRC Statistics (https://www.gov.uk/government/statistics/number-of-individual-income-taxpayers-by-marginal-rate-gender-and-age).

[4] Eligibility for work-contingent transfers in GB operates via "hours rules": minimum numbers of hours that must be worked by the family in order to qualify (minima which vary by family type). Transfer entitlement is then tapered away once family income exceeds a certain level.