

Inequality in Higher Education and the Labour Market

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1. Introduction

Understanding the link between socioeconomic status and access to higher education (HE) is an important challenge for understanding how governments can better promote social mobility. Inequality in higher education participation, coupled with a positive significant wage return to HE, has clear implications for income inequality and lower future rates of social mobility. For example, the Scandinavian countries have more equal access to higher education which, together with smaller wage differentials due to higher education in the labour market, results in a relatively equal society. On the other hand, in countries such as the UK and the US, access to higher education is highly determined by individuals' background. This, coupled with bigger wage returns to degrees will naturally result in income inequality and will hinder social mobility. Put simply, inequality in one generation begets inequality in the next.

In this essay, we discuss the role of higher education in social mobility in a number of developed countries. We begin by examining socio-economic differences in access to HE, finding evidence of substantial gaps in access to HE across all countries. But we also find a large degree of cross-country variation, with the relationship between parental income and HE participation particularly strong in the US and UK, whilst countries such as Sweden and Canada are more equal in this regard. We then go on to show that in many countries where access to HE is relatively unequal, so wage returns to degrees are high, having severe implications for social mobility in these countries.

Whilst this evidence suggests that improving access to HE can be an important way to improve the intergenerational mobility, there is much evidence that socio-economic gaps do not simply disappear once young people have entered university. Recent evidence from the UK and US shows that even among the select group of people who enter university, those from poorer backgrounds are significantly less likely to enter a high status university, less likely to complete their degrees and less likely to achieve a highly classified degree than their richer counterparts – all of which contributes to increased income inequality. Moreover, a more nuanced picture emerges when gender is taken into account; evidence from the US suggests that much of the inequality in HE access and success rates is driven by females from better-off backgrounds.

Our findings therefore suggest that while policies which aim to equalize access to HE can improve the life chances of the poor, intervention is needed throughout the entire education life-course to fully address these inequalities and the resultant immobility in society.

2. Higher education systems have generated inequality

Figure 1 presents socioeconomic differences in higher education inequality for 15 North American and European countries (taken from Jerrim and Macmillan, 2014). HE inequality is defined as the difference in the probability of obtaining a bachelor's degree between young people from the highest and lowest parental education groups, based upon data in 2012 from the OECD's Programme For the International Assessment of Adult Competencies (PIAAC). As the chart illustrates, in all countries those from highly educated backgrounds are far more likely to participate in HE than those from poorly educated backgrounds, though the extent of the inequality is highly variable. The Scandinavian economies such as Denmark and Sweden, enjoy relatively equal access to higher education. For example, young people in Sweden from the lowest educated households are only 24 percentage points less likely to graduate with a bachelor's degree. Canada also performs well in this regard, with a gap of just 28 percentage points. This compares with the US, where the gap is as high as 46 percentage points, and the UK, with a 43 percentage point gap.

Of course, it is widely known that the Scandinavian economies are traditionally more egalitarian in terms of tax collection, access to social benefits and in the labour market (Agell and Lommerud, 1993). This egalitarianism also extends to their higher education system. The Swedish government have long promoted access to higher education among those from underprivileged backgrounds (Eurydice, 1999). Perhaps uniquely, age and work experience are considered at least partially interchangeable with academic credentials when it comes to HE

entry requirements (Johnstone, 1986). Hence young people from disadvantaged backgrounds – who typically have poorer prior academic attainment than their richer counterparts – may be less likely to be excluded from HE in the Swedish system. The ‘flatter’ nature of the HE system may also promote access among disadvantaged students in Sweden; no distinction is made between university and non-university education, and the majority of universities offer distance learning, minimizing the risk that students are encumbered by their personal circumstances. Finally, and perhaps unsurprisingly, higher education is free and generous grants and loans are offered (Gse.buffalo.edu, 2016).

By contrast, the higher education systems of the US and UK are more hierarchical in nature. Access is based on academic merit, in the form of A-level or equivalent scores in the UK (UCAS, 2016) and SAT and GPA scores in the US (The College Board, 2016). In addition, HE systems typically have a number of tiers, with high status, highly competitive universities (Oxford, Cambridge, Harvard, MIT) at the top of the hierarchy and accessible only to those with the best academic credentials, and a wide range of less selective universities and colleges – including 2 year and community colleges in the US, and colleges of further education in the UK – making up the remainder. In addition, both these societies impose considerable financial costs on their HE attendees (fees are currently among the highest in the world at £9,000 per year in the UK, whilst there is considerably more variation in the US, with costs particularly high for private universities (Jerrim, 2013)), though with key differences in how fees are collected, and living costs are financed.

The higher education system in France may also contribute to its relatively poor standing in terms of equality of access, despite its citizens enjoying free university tuition. In France, like the US and UK, there is an explicit hierarchy, with the prestigious "Grande Ecoles", accessible only by the most highly educated young people at the top of the tree. Universities, meanwhile are open to everyone, and offer degrees and moderately selective short vocational courses (Brevet de Technicien Supérieur, ‘BTS’, and Diplôme Universitaire de Technologie, ‘DUT’). Attendance at the Grande Ecoles leads to the most favorable occupations, therefore wage inequality is the inevitable result (Duru-Bellat, Kieffer, and Reimer, 2008).

Germany - mid table in terms of equality of access – also offers its population free tuition, but, by contrast, does not have elite institutions. Those who qualify for HE can choose between university of applied sciences or a technical school, and the latter is made highly attractive by a training salary and a high probability of being offered a job upon graduation.

The result is high HE attendance rate among the entire population, and labour market outcomes that are closer together (Duru-Bellat, Kieffer, and Reimer, 2008).

By contrast, rather than introducing non-university forms of tertiary education (such as technical schools), Italy has retained a university-based organization of tertiary education (Bratti, Checchi and de Blasio, 2008). This perhaps partly explains its position in Table 1 as the most unequal country in terms of access to HE.

This evidence indicates that the organization of higher education systems have played an important role in generating educational inequalities. It is also notable that in some countries HE inequality is actually on the increase. Evidence from the US, (Bailey and Dynarski, 2011), reveals alarming increases in inequality in access to HE. Numbers from Bailey and Dynarski (2011) are reproduced in Figure 2 which shows differences in college entry of young people from the highest and lowest quartiles of parental income in the US - and how it has changed over time, between young people born in 1961-1964 (so attending college in the 1980s) versus those born some 20 years later in 1979-1982 (and hence eligible for college around the year 2000). The authors find that whilst college entry increased dramatically for young people from all backgrounds, the increase was more pronounced among the most advantaged. Participation rose from 19 to 29% among young people from the bottom income group, but between 58 to 80% for the top income quartile. Thus, the gap between rich and poor has actually widened: previously separated by 39 percentage points (58 versus 19 percent), the distance between rich and poor stood at 51 percentage points for the cohort aged 23 in 2000.

Research from the UK tells a comparable, but slightly less damning story. Analysis by Blanden and Machin (2013) reveals that the period of mass HE expansion in the UK during the 1980s and 1990s benefitted richer cohorts far more than those from poorer backgrounds. Indeed the inequality measure (participation of those age 23 from the highest versus poorest quintile of household income) doubled between 1981 and 1993. However this surge in inequality appears to have leveled off in more recent years (for those of university going age in 2005), but at 34 percentage points nevertheless remains cause for concern, particularly since this analysis pre-dates the 2012 increase in tuition fees from £3,300 to £9,000 per year. At face value this analysis would indicate that governments focused on widening access to HE will have some success in improving inequality and social mobility.

However, it is also important to note that inequalities do not end once students enter the door of HE. Figure 3, again for the US, now shows the proportion of students completing college. Completion rates have stayed stubbornly low among those from the poorest quartile, rising from 5% for the 1960s cohort, to just 9% of the 1980s cohort (although admittedly this

is a near doubling of the completion rate). The comparable rise in completion for those from the most advantaged backgrounds is from 36% to 54%. Hence there is now a 45 percentage point gap in college completion among rich and poor students. UK analysis (Crawford, 2014) also reveals worrying gaps in completion and degree success; among the select group of students that entered university between 2004-05 and 2009-10, more advantaged students were 5.3 percentage points more likely to graduate, and 3.7 percentage points more likely to obtain a good degree (a first class honours or upper second degree). In Italy non-completion rates are among the worst in the OECD (evidence suggests that by the 1990s only 30% of enrolled students completed their degrees in Italy), and whilst the expansion of the 1990s was found to have enhanced equality of enrollment, it did not increase students' chances of actually obtaining a degree (Bratti, Checchi and de Blasio, 2008).

It is also notable that a more nuanced picture emerges when gender is taken into account, though the evidence is rather more limited; evidence from the US (Bailey and Dynarksi, 2011) indicates that whilst for men, inequality in educational attainment has increased slightly since the early 1980s, among women, inequality has risen sharply, driven by increases in the education of the daughters of high-income parents. In the UK, males are slightly more likely to drop out of college than females (Crawford, 2014).

3. Transmission of HE inequalities into the labour market

Of course, these differences in degree entry and degree performance have a direct impact on the earnings of individuals from rich and poor backgrounds by virtue of the significant wage returns to holding a degree (Card, 1999). Figure 4 shows the wage returns to higher education by country, measured as the difference in earnings between individuals holding a university degree relative to high school education or below (for the same fifteen countries considered above and again taken from Jerrim and MacMillan, 2015). In all countries, those with degrees on average earn more than those without, but again there are stark differences in graduates' wage premia across countries. The U.S. has one of the highest wage returns, where university graduates earn around double that of high school graduates. Returns are also high in Germany and the UK. By contrast, Sweden, Norway and Denmark exhibit far smaller wage differentials among HE participants and non-participants, (Sweden's wage differential is just 38 percent - indeed the Scandinavian countries are all in the lower half of the table).

In Figure 5 we illustrate the link between these wage returns to tertiary education and HE inequality. As can be seen, for the most part (excepting Italy which is something of an outlier) those countries with high inequality in degree participation also have higher returns to

HE – particularly the UK and the U.S. By contrast, those countries where participation is less sensitive to socio-economic background – Sweden, Denmark, Finland – have lower degrees of wage inequality. Thus, the figure highlights the link between an individual's future earnings and their background, a link that is not surprising, since young people's likeliness to participate in higher education is a function of their own human capital and their parental income, and young people's labour market outcomes are determined in part by their higher education attainment. The strength of this link, of course, varies across country, with evidence seeming to suggest that higher education systems can matter for this link, and in turn for social mobility.

However, not all graduates fare equally on the job market, and there is increasing evidence of inequality in wage returns among graduates as more graduates are produced, and more enter the job market. Figure 6 illustrates inequality in returns to HE (as measured by the 75:25 – the wage earned by graduates at the 75th percentile compared to the earnings of workers at the 25th percentile). In the UK and the US, the ratios are amongst the highest – suggesting a high degree of wage inequality even amongst graduates. There are reports of a “long tail” of graduate earnings – whilst many graduates fare very well in the labour market, increasing numbers are languishing on low salaries (CIPD, 2015). Evidence from the UK (Lindley & McIntosh, 2015) shows that this is in part driven by the increase in the variance of ability amongst graduates (as universities expand), and the widening variety of jobs performed by graduates. Again this is suggestive that the structure of the HE system again seems to play an important role in social mobility.

4. Conclusions

In this essay, we discuss inequality in higher education and its implications for social mobility, studying evidence from several OECD countries. There is evidence of substantial socio-economic gaps in higher education participation across all the countries we examine, though the gap varies substantially, being relatively narrow in Scandinavian countries and Canada, and relatively wide (and becoming wider through time) in the US and UK. We then go on to show that these inequalities are transmitted into the labour market. In general, those countries in which participation is sensitive to socio-economic status also have high labour market returns. Putting this together implies increasing rates of immobility in society.

Of course, much research in developed countries highlights the importance of school attainment in closing the higher education participation: young people from disadvantaged backgrounds invariably lack the qualifications needed to access university (Chowdry et al, 2013). Hence governments are now focusing on improving school performance among low

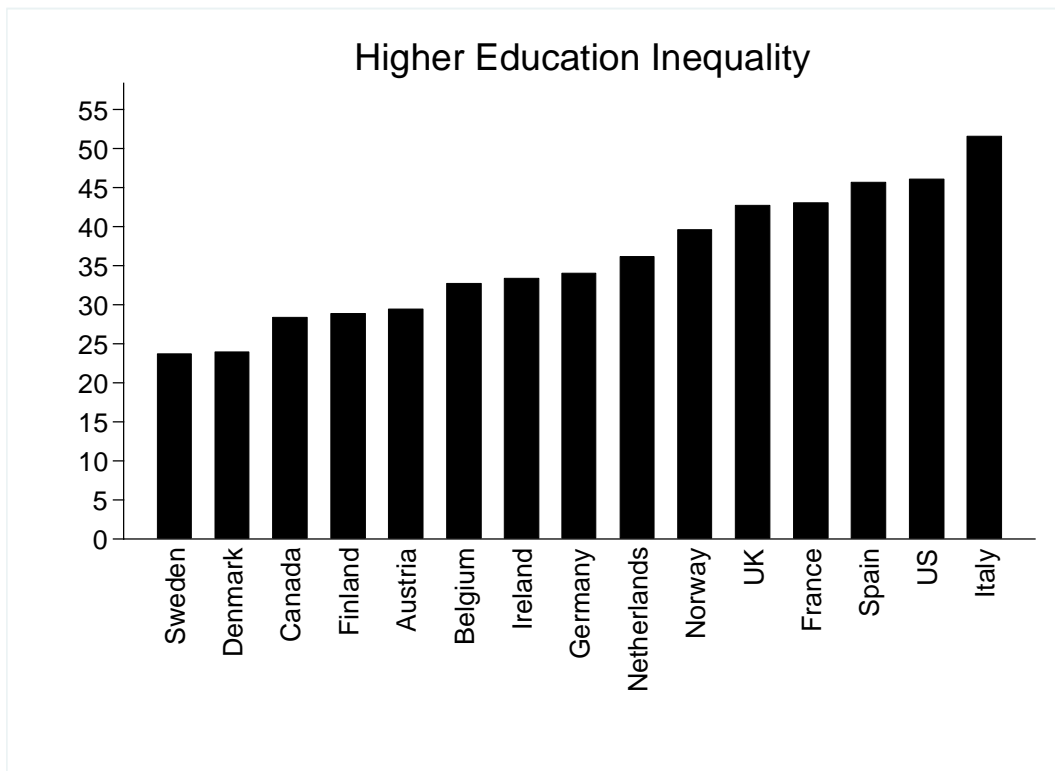
socio-economic groups as a means to close the HE participation gap. But education has not been the great leveler that it has sometimes been claimed to be. In fact, the evidence we examine suggests that socio-economic gaps do not simply disappear at the door of university. Rather, socioeconomic gaps persist even among those that have entered university: students those from poorer backgrounds are less likely to complete their degrees and less likely to achieve the highest degree class than their richer counterparts – again contributing to income inequality. Moreover, even among graduates, there still exists a degree of inequality in earnings. Thus, governments concerned about social mobility should take action throughout the student life-course to ensure not just equality of opportunity, but also to facilitate conditions where equality of outcomes for those from different socio-economic backgrounds can be a realistic policy goal. If so, rather than exacerbating educational inequalities, higher education could act in the way that proponents of it being an institution that can level the playing field would suggest.

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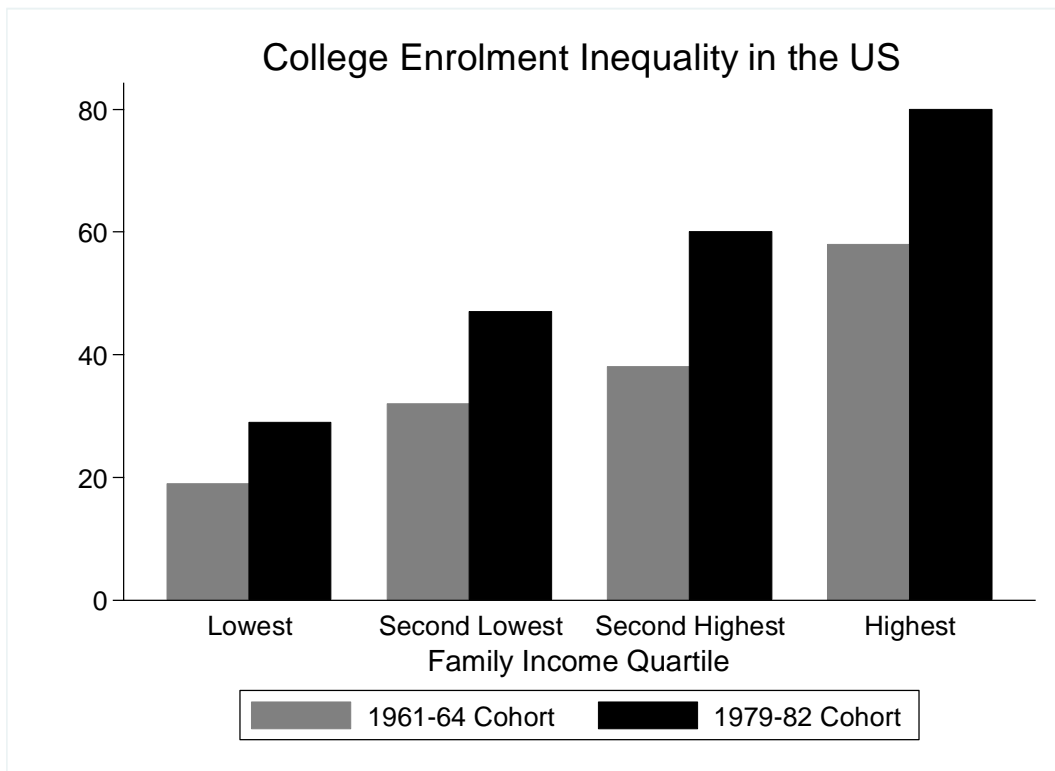
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Figure 1:
Higher Education Inequality By Country, Programme For the International Assessment of Adult Competencies Data, 2012



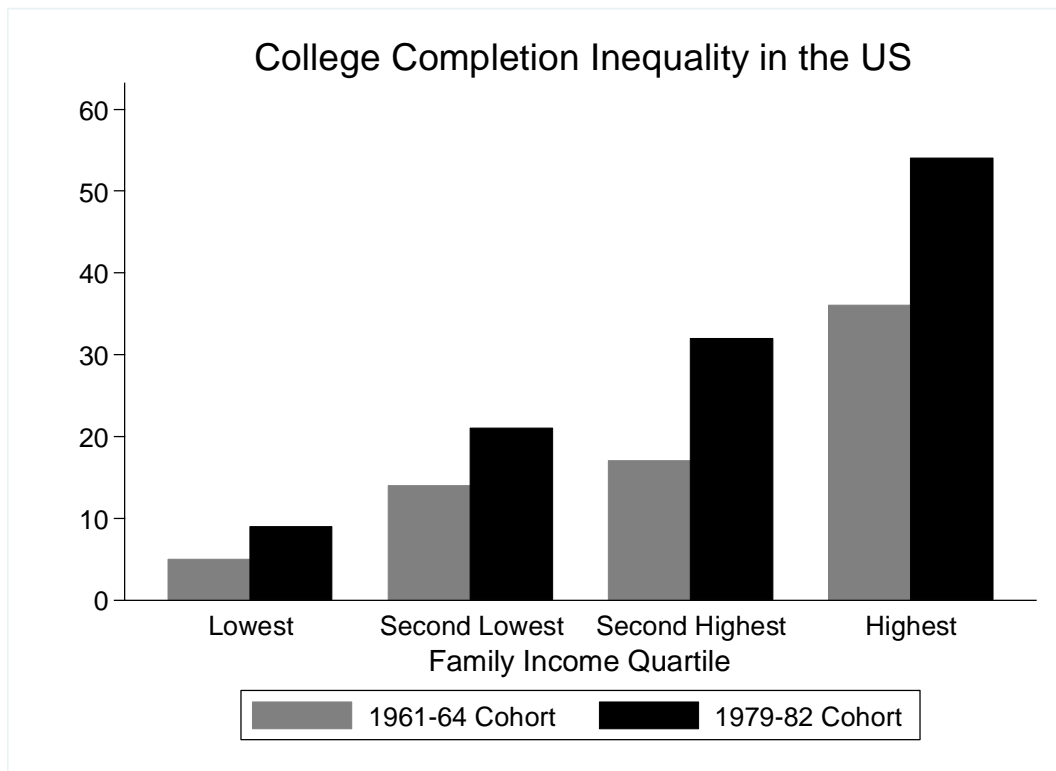
Notes: Source is Jerrim and Macmillan (2015).

Figure 2:
Changing College Enrolment By Family Income, United States,
1961-1964 and 1979-1982 Birth Cohorts



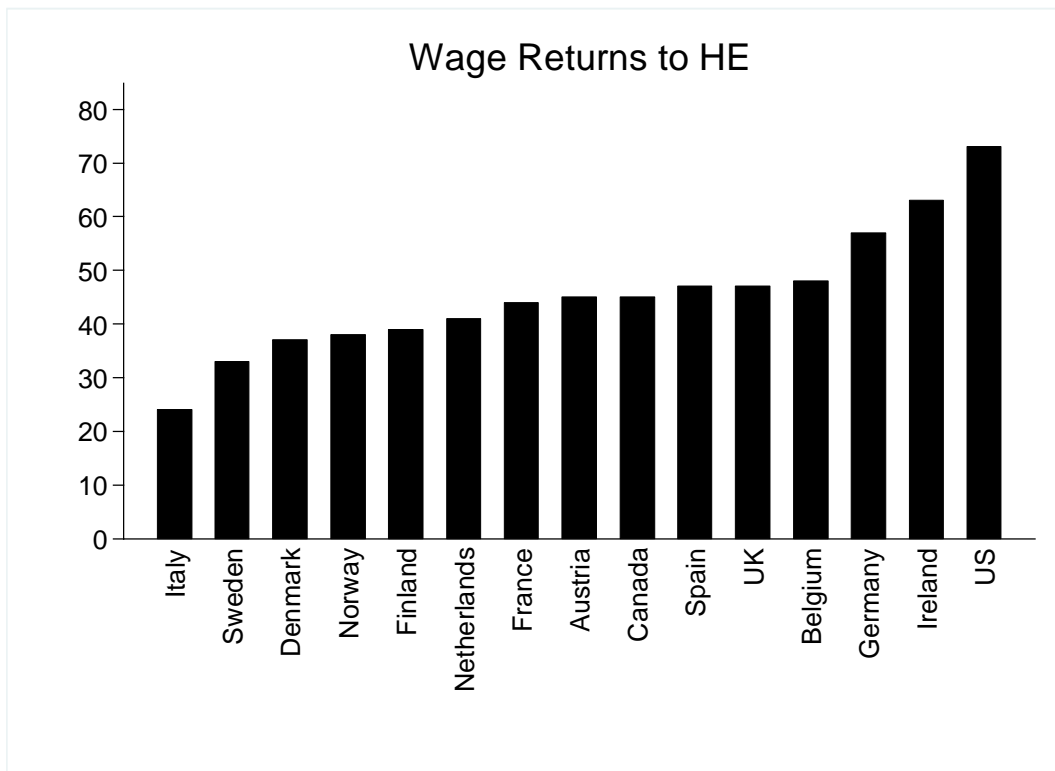
Notes: Source is Bailey and Dynarski (2011).

Figure 3:
Changes in College Completion by Family Income, United States



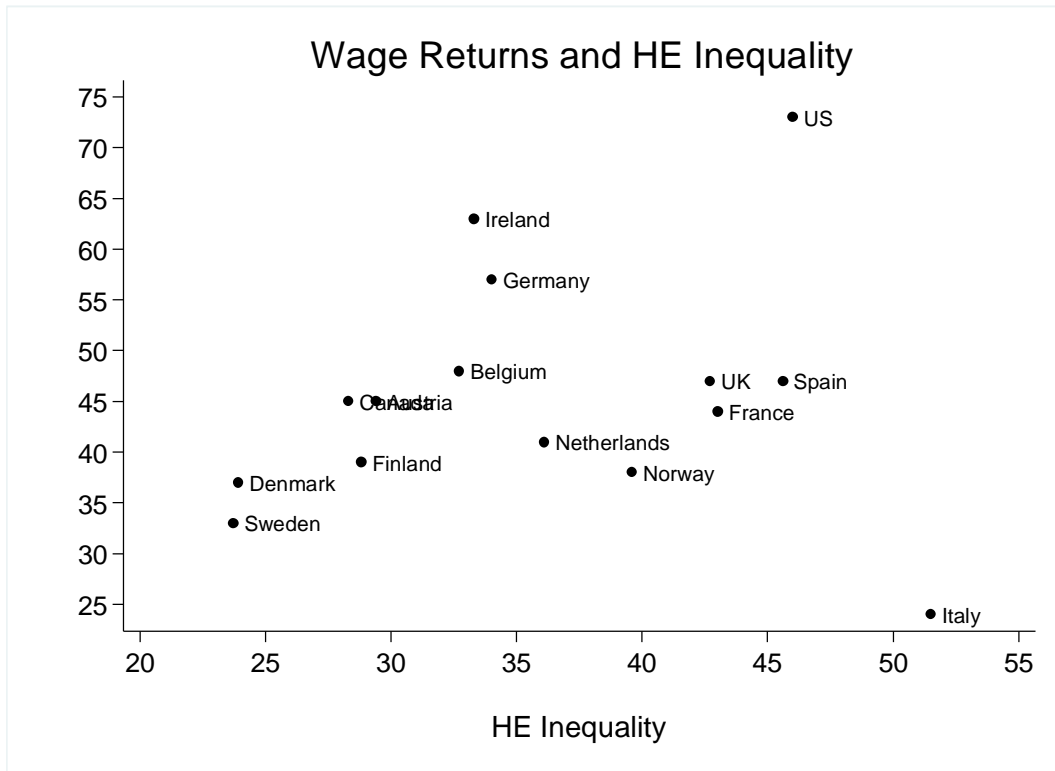
Notes: Source is Bailey and Dynarski (2011).

Figure 4:
Wage Returns to HE By Country, Programme For the International Assessment of Adult Competencies Data, 2012



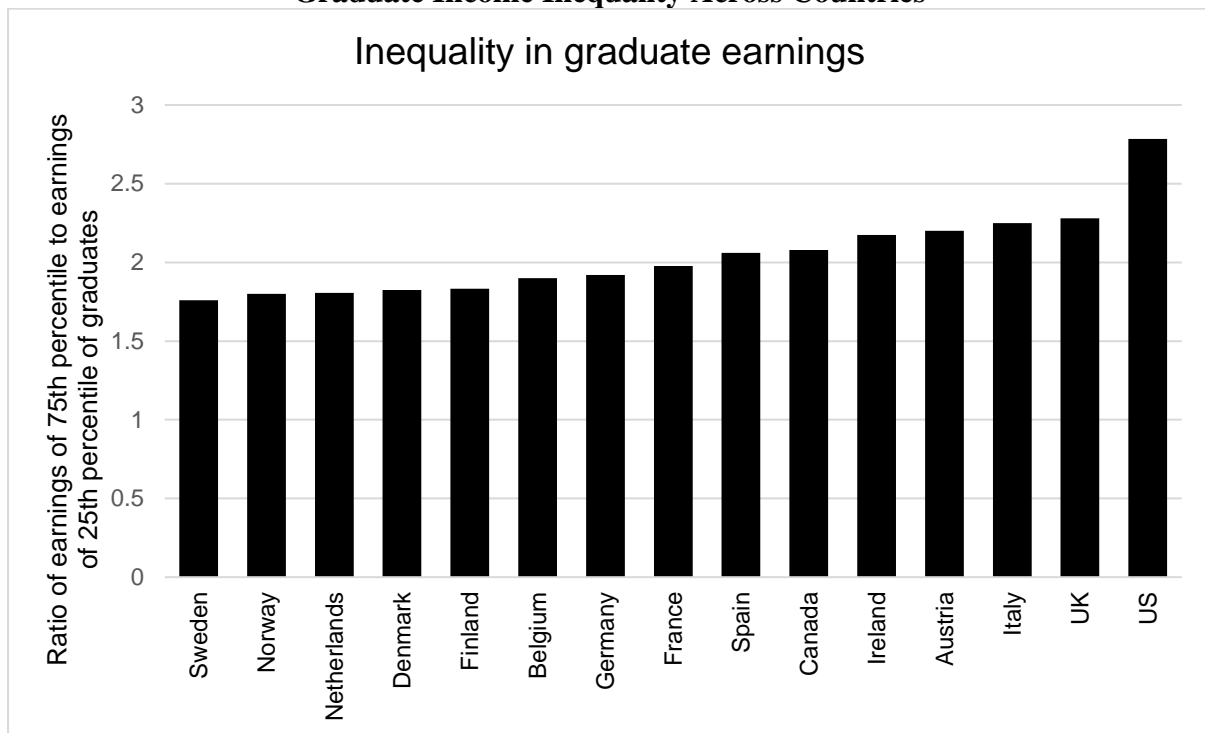
Notes: Source is Jerrim and Macmillan (2015).

Figure 5: Wage Returns to HE and HE Inequality Across Countries



Notes: Source is Jerrim and Macmillan (2015). The correlation between the wage return to HE and HE inequality is 0.48 if the outlier country (Italy) is excluded).

Figure 6:
Graduate Income Inequality Across Countries



Notes: Source is PIAAC Survey of Adult Skills
Data refer to male university graduates only