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## **Formal adult education and labour market inequalities in Finland**

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### **Abstract**

Labour market returns to qualifications gained through formal adult education are important both from the individual and societal point of view. This article examines the long-term labour market returns to new qualifications obtained by mature graduates in Finland. Using full-population register data, we are able to analyse upgrades to different education levels separately as well as returns to qualifications that are at the same or even lower level as the one held before returning to education. We examine two labour market outcomes: stable employment and average annual income. The results of our multivariate regression models indicate that there are clear positive returns new qualifications and that there is an educational gradient in these returns. Interestingly, individuals who have upgraded to the relatively recently established polytechnic Master's degrees have seen the greatest benefit in terms of both employment probabilities and income growth.

Keywords: employment, formal adult education, income trajectories, labour market returns to education

### **Introduction**

This article examines labour market returns to new qualifications gained by mature students in Finland. Previous research on educational upgrades by adults in Finland has found positive rates of return, particularly for individuals who upgrade to higher-level tertiary education (Kruhse-Lehtonen 2007; Kilpi-Jakonen et al. 2014b). We extend this analysis to a more recent time period and include qualifications at a more detailed level as well as qualifications that are at the same or a lower level as the one held previously. We also analyse individuals who enrolled in education but did not complete a new qualification during the following 15 years.

Our analysis takes a longitudinal view of rates of return, examining returns up to 15 years after adults re-enrolled in education. For formal adult education, i.e. adult education obtained in the same or similar educational institutions as the education obtained by younger individuals along the standard educational career, a long follow-up is essential (Kilpi-Jakonen & Stenberg 2014). This is primarily because formal qualifications often take several years to complete but also because employers may be less likely to reward more general skills acquisition of their current employees as compared to the more directly job-related skills acquisition that employer-

sponsored non-formal training tends to provide (Triventi & Barone 2014). The short term returns may even be negative due to time taken off for studies.

We next present the institutional context for this study before reviewing the theoretical background for our expectations regarding labour market returns of formal adult education and previous empirical results. After this we present the full-population register data that we use for our analyses and the quantitative methods used in the analysis. We then turn to the descriptive and multivariate results and conclude with a discussion of our findings.

### **The institutional context**

The Finnish education system has tended to be relatively open for individuals to change their educational careers and to return to education at a mature age. There are two major branching points in the system. After a 9-years-long uniform compulsory education, the majority of students continue to secondary-level education at the age of 16 by choosing either a vocational or an academic educational track. Completing a qualification at the secondary level takes approximately three years. Although both types of secondary-level qualifications give eligibility to tertiary-level education, continuing to further education is notably more common among students with an academic qualification. After the secondary level, students may continue studies in polytechnic institutions (also known as universities of applied sciences) or universities. The former were established during the early to mid-1990s on the basis of former vocational institutes (which used to grant shorter lowest-level tertiary degrees) and they confer primarily lower tertiary-level (Bachelor's) degrees which are more practice-oriented compared to degrees at the same level awarded at universities. Though the majority of higher tertiary-level (Master's) degrees are awarded at universities, since the mid-2000s it has also been possible to obtain these degrees from a polytechnic institution. The latter are targeted for individuals already in the labour market, as at least three years' work experience is required before enrolment.

Since the 1960s, the proportion of tertiary-level educated in the population has risen steadily in Finland. Out of Finns aged 15 or over, 28 per cent had completed a tertiary-level degree in 2010, the educational level of women being higher than that of men. In contrast, 33 per cent had no post-compulsory education. As younger cohorts are clearly more educated than the older, over 90 per cent of those finishing their compulsory education in the 2000s continued to further education. (Statistics Finland 2011.)

Adult education has been an important feature of Finnish society for over a century. Adult learners make up a substantial proportion of students at both secondary and tertiary levels these days. Approximately a quarter of new students in vocational secondary institutions, in polytechnics and in universities were aged 25 and above in 2002 (Ministry of Education 2004). In absolute numbers, vocational studies at the secondary level were the most popular (ibid.).

In most cases, there are no tuition fees for education leading to a qualification since this type of education is publicly funded. Moreover, full-time students are given a monthly study grant and a housing supplement, and the possibility of withdrawing government-guaranteed student loans also exists. The Finnish Education Fund provides funding for further education for employees who have been working for at least 8 years (previously 5 years). Their grant is higher than the regular government study grant but is only available for a maximum of 18 months. Recent policy changes may make it more difficult for mature students to enter higher education in the future. A certain proportion of places must be reserved for so-called first-time students, i.e. those who have not studied at the tertiary level previously. The most recent changes mean that when choosing students a greater emphasis will be placed on grades obtained at the end of academic secondary education. This may also be to the detriment of mature students, though at the same time it has been proclaimed that alternative routes will be kept open.

### **Theoretical and empirical background**

The literature on returns to education tends to rely on three theoretical perspectives: human capital, screening/signaling and credentialism. All of these expect educational participation to lead to increased labour market chances but for somewhat different reasons. Within the human capital perspective, education directly increases individuals' productivity through providing job-related skills, and this is then rewarded on the labour market as increased employment prospects and higher wages (e.g., Mincer 1958, Becker 1962). In addition to giving specific job-related skills, education may also increase more general competences that may also be rewarded on the labour market (Thurow 1975).

The screening/signaling and credentialist approaches do not place much emphasis on what is actually learned through participation in education but rather on the ways in which participation in learning and qualifications are used on the labour market. The signaling approach highlights how individuals may use participation in education to show potential employers their motivation and natural abilities (Spence 1973). The credentialist argument states that the screening that takes place based on educational certificates (Arrow 1973) does not (fully) reflect actual skills learned or required, but as the education level of the population has increased, higher qualifications are required for access to higher-status positions (Collins 1979).

A study on returns to education in Finland shows that those with higher educational credentials do not only have higher income but they also have steeper income development throughout their career (Koerselman & Uusitalo 2014). A lower level of education increases the risk of unemployment, and men tend to have higher risk than women at all levels of education except for the highest (Statistics Finland 2013). Returns to education in Finland showed contradictory trends during the 1990s and 2000s. On the one hand, educational differentials in wages were

reduced, but at the same time, unemployment differentials grew and then remained stable (Kalenius 2014; Kyyrä 2001; Prix 2013).

The general consensus in the literature is, therefore, that higher levels of education are associated with greater labour market returns. However, the extent to which this reflects innate ability differences between individuals rather than what they have learned in educational institutions continues to be debated. When it comes to adult learning, one of the big questions relates to selection into adult learning. The general tendency for more highly skilled individuals to select themselves into education is often argued to also apply to adult learners (e.g., Blanden et al. 2012; Elman and O’Rand 2004). When it comes to time-consuming formal adult education, it is unclear though whether it makes sense for the already more highly-skilled individuals to return to education since they are likely to be on profitable labour market careers. In contrast, for individuals with lower skills, adult education may make more sense. In addition, adult education may be particularly tempting for individuals whose labour market attainment has fallen behind their equally educated peers, suggesting that there may actually be some negative selection into formal adult education. (Kilpi-Jakonen et al. 2014a.) Previous Finnish results suggest that individuals with medium levels of education, some unemployment experiences and lower incomes are more likely to return to formal adult education than those with lower or higher levels of education, no unemployment experiences and higher incomes (Kilpi-Jakonen et al. 2014b).

The literature on returns to formal adult education is divided into studies that compare mature graduates to their younger counterparts, those that compare mature graduates to their contemporaries who have not undertaken formal adult education, and those that look at mature graduates over time and thus compare their situation before and after enrolment. When comparing mature graduates to their younger counterparts, the conclusion is often that they are disadvantaged in terms of labour market advancement (e.g., Egerton & Parry 2001; Elman and O’Rand 2004). This has also been found for Finland (Kilpi-Jakonen et al. 2014b). Comparing adult learners to their contemporaries tends to show positive outcomes of adult learning, particularly when the comparison is made to others with the level of education before an adult educational upgrade (Blossfeld et al. 2014; Kilpi-Jakonen et al. 2012) and often even when taking into account prior labour market trajectories (Blanden et al. 2012 for women but non-significant results for men; Hällsten 2012; Jacobson et al. 2005; Kilpi-Jakonen & Stenberg 2014; Stenberg 2010). However, when examining enrolment only, rather than completed qualifications, the association between formal adult education and labour market attainment can also be negative, at least in the short run (Triventi & Barone 2014). A previous Finnish study examining the labour market outcomes of individuals before and after mature graduation shows improvements in labour market outcomes, particularly if the new qualifications were at the tertiary level (Kilpi-Jakonen et al. 2014b).

Our analyses in this article focus on comparing mature graduates to their contemporaries. However, by controlling for their labour market attainment before returning to adult education, we are also able to analyse how their labour market attainment evolves in comparison to the situation before enrolment, taking into account selection into education, which can be either positive or negative. We take a long view of returns, examining the situation approximately 15 years after individuals have returned to adult education. This allows for a substantial amount of time for the completion of new qualifications and for the true labour market effects to appear. We examine men and women separately, since their returns to education tend not to be equal.

## **Data, variables and methods**

### *Data*

The data used in this study comes from a unique longitudinal register dataset accessed through Statistics Finland and drawn from administrative registers. Annual individual-level information from sources including educational registers, employment registers, and tax registers are combined by using personal identification numbers. These data comprise the total population living in Finland between 1987 and 2015.

We focus on individuals born between 1951–1976. The youngest of these cohorts were aged 25 in 2001 (the first year in which we analyse enrolment in adult education) and the oldest of these cohorts were aged 50 in 2001 and 64 in 2015, when we end our follow-up. We exclude individuals with a foreign background (typically individuals whose both parents were born abroad and within these cohorts who were usually themselves also born abroad) due to the fact that immigrants' initial level of education is likely to be missing from the Finnish registers. For a variety of reasons, their pay-off from adult learning may well differ from the Finnish-born and it is beyond the scope of this article to take these properly into account.

### *Dependent variables*

We analyse two labour market related outcomes: stable employment and total income. We define employment based on the number of months employed per year. We use a cut-off of seven months or more as our definition of being employed and use an average from three years (2013–15). More specifically, individuals who have seven or more months of employment in two of those three years are defined as being in stable employment. Defined in this way, 71 per cent of the Finnish population in our selected cohorts were in stable employment.

For total income we use the total individual taxable income. This covers income from employment, self-employment and capital as well as many state benefits. Again, we use a three-year average from 2013–15 and log-transform this, as is often done due to the right skew in the

income distribution. Because state benefits in Finland are taxable and our income measure is an average from three years, hardly anyone is excluded by having zero income.

### *Independent and control variables*

To define adult learners, we select individuals who enrolled in education in 2001 or 2002 and were not enrolled in education in the years 1999 or 2000. Thus, these individuals had a clear break in their educational careers before returning to education. Information on educational enrolment is obtained from registers of registered students. We drop individuals who begin adult education in 2003 or later (N=311,618, they are nevertheless included in the first descriptive analyses in Table 1) and define all other individuals as not being adult learners even though it should be noted that some of them are also adult learners but an earlier stage. In total, 3.8 per cent of individuals in our selected cohorts started as adult learners in the years 2001–02 and a further 18.0 per cent went on to being adult learners between 2003–15.

We separate between individuals who did not graduate at all, those whose level of education remained the same (i.e. they graduated but their new qualification was at the same or lower level as the one they held previously) and those who obtained an educational upgrade. We further break down these upgraders based on the qualifications that they achieve by the year 2015. We have grouped all secondary level qualifications together as well as the lowest-level tertiary qualifications, which are extremely rare these days. We have also grouped together Bachelor-level degrees at polytechnics and universities. However, due to the fact that it constitutes a qualification of substantive interest, we have kept polytechnic Master's degrees separate from university Master's degrees even though they are a rather small group. At the postgraduate level, licenciate degrees have been grouped together with doctorates. The licenciate degree is an intermediary degree between a Master's and a doctorate and relatively few people complete it these days.

Within adult learners, the largest group is composed of individuals who did not obtain a new qualification during this time frame (40.2 per cent, calculations based on Table 1). The two second largest groups are those who obtained a new qualification that was at the same or lower level as the one they held in 2000 (27.0 per cent, most of them individuals with a vocational secondary qualification obtaining another one) and those who upgraded their education to a Bachelor degree (either at a University or a Polytechnic, mostly the latter, total 14.8 per cent).

In addition to adult learning, we also control for the education level individuals held in 2000. This is included in the models in eight categories: basic (compulsory) education, vocational secondary education, academic secondary education, lowest-level tertiary education, polytechnic lower tertiary (Bachelor) degree, university lower tertiary (Bachelor) degree, higher tertiary (Master's) degree, and Licenciate/Doctorate.

As demographic control variables, we include year of birth and partnership status in 2000 divided into married, cohabiting and single. In order to detect cohort/age differences in the effects of adult learning, we perform additional analyses where we divide the population into three cohorts: those born in the 1950s (1951–1959), those born in the 1960s, and those born in the 1970s (1970–76).

In order to model selection into adult learning, we control for the average number of months employed in 1997–2000 and the average total taxable income of an individual in 1995–2000, using its natural logarithm. Employment months are only available in the data from 1997 onwards, hence the shorter measurement period.

### *Methods*

We employ logistic regression models to analyse stable employment and present the estimates as average marginal effects in order to ensure comparability of coefficients across models and to improve interpretability. We employ ordinary linear regression models to analyse income.

Despite using full population data we nevertheless display standard errors and/or confidence intervals with our estimates. This is the general practice even when there is no sampling error as such when using full population data – nor should there be measurement error when using register data. However, we can still think of the choice of certain observation years and certain cohorts as a sample (albeit not a completely random one) and thus displaying uncertainty estimates is warranted even when the point estimates themselves are precise for the chosen cohorts and years.

## **Results**

### *Descriptive results*

Table 1 displays the probability of obtaining different types of adult learning by 2015 based on level of education in 2000. We can see that individuals with vocational secondary education or lowest-level tertiary qualifications are the most likely to return to adult education, though starting specifically in 2001/02 is also relatively frequent among individuals with an academic secondary education. On the other hand, the propensity to return to adult education tends to fall as we move up the educational ladder. Most adult learners with a secondary qualification obtain (another) vocational qualification and in absolute numbers (not shown) the largest group of adult learners are individuals with a vocational secondary qualification who obtained a new qualification at the same level. Among individuals with the lowest level tertiary qualification the largest group –

after those who did not gain a qualification during the period at all – are those who obtain a bachelor’s degree from a polytechnic.

TABLE 1 APPROXIMATELY HERE

We then turn to the income trajectories of adult learners both before and after returning to education. Figure 1 displays the income trajectories from 1990–2015 of individuals born 1960–65, divided between adult learners and non-adult learners and according to level of education in 2000. From here on, all analyses exclude individuals who started adult education after 2002. Among tertiary educated men, the pre-adult education income trajectories are lower for adult learners than for those who do not return to education, whereas they even tend to be higher for adult learners with basic or secondary education than non-adult learners with the same level of education. However, income stagnation in the few years preceding enrolment is evident for adult learners at the basic and secondary levels suggesting that labour market difficulties may be motivating some adult learners to return to education. Income trajectories of all adult learners improve post-enrolment. The income levels of adult learners at the tertiary level catch up with those of non-adult-learners around the year 2010 but do not overtake them during the follow-up. The results are relatively similar for women, with the main exception being that individuals who start with tertiary education and enrol in adult education tend to catch up with non-adult-learners already slightly before enrolment, although their income trajectories stall slightly around the time of enrolment, and they then overtake non-adult-learners approximately ten years after enrolment.

FIGURE 1 APPROXIMATELY HERE

### *Multivariate results*

We begin by analysing the chances of being in stable employment. Figure 2 (and Table 2) displays the results for adult learning from three models where the reference group is individuals who did not return to education (in 2001–02 or later). In the first model, only adult learning and education level in 2000 have been included. In the second model, the demographic control variables of year of birth and relationship status in 2000 have been added. The third model adds employment months in 1997–2000 and income in 1995–2000.

Among both men and women, the increase in employment probabilities that adult learning brings tends to follow an inverted U-shape, although the differences between different levels of upgrade tend to be relatively slight when all other relevant controls are introduced. There is a net gain (i.e. results from Model 3) of just over 1 percentage point for men and almost 6 percentage points for women for obtaining a qualification that is at the same or lower level as the one held in 2000, this increases to approximately 12 percentage points for women obtaining a polytechnic Master’s degree and 10 percentage points for men obtaining that same degree and then starts to

decrease for university Master's, licenciate and doctoral degrees, with these last only giving a net gain of approximately 2 percentage points (which, if we treat our population as a random sample, would not be considered statistically significant). For women, the net gain from Bachelor degrees is also smaller than from secondary level degrees. Individuals who returned to education but did not complete a qualification show lower employment probabilities than those who did not return at all to education.

FIGURE 2 APPROXIMATELY HERE

TABLE 2 APPROXIMATELY HERE

In most cases, the estimates from Model 3, which controls for prior employment and income, are relatively similar to those from Model 2, indicating that there is relatively little labour market selection into adult learning. In some cases, the estimates are smaller, most notably for polytechnic Master's degrees, indicating that labour market selection is positive. In other words these individuals were already relatively high achievers on the labour market. When comparing men and women, the main difference is that women benefit more than men particularly from secondary education and gaining a qualification at the same or lower level as the one held previously.

We can also put the results into more perspective by comparing them to the effects of level of education held in 2000 (Table 2). Qualifications at the secondary level held in 2000 tend to give 6–10 percentage points higher stable employment chances compared to the basic level; the estimate for men gaining a secondary qualification as an adult learner is lower than this but for women it is comparable. For Bachelor degrees, the comparison is complicated by the fact that individuals obtaining these tend to come from a variety of educational backgrounds but in general the difference between the secondary level qualifications and Bachelor level qualifications held in 2000 is 3–12 percentage points; the results of adult upgraders to this level, which are 4–6 percentage points, are therefore towards the lower end of the spectrum. University Master's degree graduates as adult learners tend to come predominantly from a lowest-level tertiary background. The difference between these two education levels held in 2000 is approximately 6 percentage points; for adult learners the gain is slightly lower at 3–4 percentage points. Finally for the licenciate and doctoral degrees, even though the effects for adult learners are rather small, they are actually larger than the difference between these degrees and Master's degrees, which is the educational background of most upgraders at this level, when looking at individuals who held these levels of education already in 2000.

Moving on to income, Figure 3 (and Table 3) displays results from similar models where again the reference group are individuals who did not return to education in 2001–02 or later. As the dependent variable is the natural logarithm of (average) income, the results can be interpreted as percentages. In many respects the results are rather similar to those from the analyses of stable

employment. The educational gradient is once again U-shaped: income gains are largest for individuals obtaining polytechnic Master's degrees, at 22–27 percent (Model 3) and for upgrades they are smallest at the very top, for licenciates and PhDs. Gains from new qualifications that are not upgrades are negligible for men but seven percent for women and individuals who returned to education but did not complete a qualification tend to have 6–7 percent lower income gains than those who did not return to education at all. Contrasting results that take into account previous labour market performance (Model 3) with those that don't (Model 2) shows a somewhat clearer picture of positive labour market selection in comparison to the employment models, once again most notably for polytechnic Master's degrees. Comparing the results of men and women, women tend to gain more from almost all types of new qualifications.

FIGURE 3 APPROXIMATELY HERE

TABLE 3 APPROXIMATELY HERE

Contrasting the adult education results to those of education level held in 2000 (Table 3), adult education at the secondary level is substantially more beneficial than vocational secondary held in 2000 for women and the two are relatively similar for men. With regard to Bachelor level qualifications, the range is rather large due to the heterogeneity of possible educational pathways. Nevertheless, the difference between a polytechnic Bachelor's degree in comparison with any of the lower qualifications in 2000 is more beneficial than obtaining a lower tertiary qualification as an adult, albeit for women the difference between academic secondary and lowest-level tertiary qualifications with polytechnic degrees is relatively close to the gain from an upgrade. University Bachelor's degrees, on the other hand, tend to show relatively small benefits in comparison with holding an academic secondary qualification in 2000, thus making adult upgrades more beneficial. For men, university Master's degrees and higher tend to be more beneficial when already held in 2000 in comparison with those obtained later, whereas for women adult upgrades at these higher university levels tend to compare relatively favourably to qualifications held earlier.

Figure 4 shows the results of the income models broken down by cohort. Overall, the results are not radically different between the cohorts. However, there is a tendency for the older cohorts to gain more from most new qualifications than younger cohorts. This is particularly the case when the qualification is at the same or lower level as the one held previously, at the lower tertiary level and for university Master's degrees.

FIGURE 4 APPROXIMATELY HERE

## **Discussion and conclusion**

We have examined the long-term labour market rewards of returning to formal adult education in Finland. In addition to educational upgrades, we have analysed qualifications that are at the same or at a lower level as the one held previously, and adults who enrolled in education but did not complete a new qualification during the following 15 years. Our results show that it pays off to attain a new qualification at an older age. All new qualifications are associated with some increase in employment probabilities and income although at the very top and the bottom of the educational distribution (and individuals gaining a qualification at the same level or below the one held in 2000) these increases are relatively small, in particular for men. At the same time it should also be noted that returning to education but failing to complete a new qualification is actually associated with wage losses in comparison with not returning at all.

Interestingly, the labour market returns to polytechnic Master's degrees tend to be among the highest. These qualifications are still rather new; they were established in the mid-2000s. Previous research of their labour market rewards has tended to focus on the perceptions of employers and individuals who have obtained these qualifications, and their conclusion has been that these qualifications are not as highly valued as university Master's degrees (Isopahkala-Bouret 2011; Ojala 2017). However, our analysis indicates that, taking into account education level held previously, and to some extent also previous labour market performance, polytechnic Master's degrees lead to better labour market outcomes than university Master's degrees for mature graduates.

Overall, women seem to gain more from adult learning than do men. However, it should be noted that these gains are within gender (and taking into account other controls). A similar pattern has also been found in the UK (Blanden et al. 2012) and at the tertiary level in Sweden (Hällsten 2012), though not the secondary level (Stenberg 2010). One possible explanation could be differentiation in educational fields, as they are highly gender-segregated in Finland. Although fields typical for women tend to have lower returns among younger graduates (e.g., Prix 2009), they also tend to have relatively good employment opportunities in the public sector. Women may also already work in the same sector and require a new formal qualification in order to progress, thus making their educational upgrades more often part of relatively stable career path in comparison to men. There may also be motivational differences between men and women, and for women adult learning may be related to returning to the labour market after a break for child bearing.

Age or cohort related differences are rather small. Despite notable changes in the labour market due to changing industrial structures and technologies, adult education seems to be equally beneficial for younger and older cohorts. Where differences exist, they tend to be in favour of the older cohorts, though again it should be noted that this refers to comparisons within cohorts. In many cases, adult upgrades are not quite as favourable as the benefits of gaining the same qualifications at an earlier age. Nevertheless, the gains are substantial and this probably stems

from the societally accepted norm of promoting lifelong learning and not attaining education at younger ages only.

Returning to the theoretical perspectives outlined above, our results suggest that adult education is associated with real increases in human capital since positive employment and income gains are visible even after controlling for employment and income levels several years prior to adult education enrolment. However, selectivity in terms of motivation and unobserved skills may also play a role, and we cannot completely rule out the possibility that these gains reflect credentialism (Arrow 1973; Collins 1979). In other words, it may be that it is these qualifications (or credentials) as such rather than necessarily the skills behind them which show up as positive returns. Indeed, the differences between men and women may reflect exactly these processes: women working in the public sector may require the credentials to progress – and possibly also the finding that not completing a qualification is not associated with any positive returns despite the fact that at least some of these individuals will have gained a substantial proportion of the same new skills as those who completed full qualifications.

Here it is also interesting to reflect on previous results, which show negative associations between enrolment in formal adult education and labour market attainment (Triventi & Barone 2014). In the long run it thus also seems to be the case that mere enrolment is associated with negative outcomes relative to non-enrolment – and in particular relative to completed qualifications. It is beyond the scope of this article to determine the cause for this, but part of it may be due to circumstances which cause both non-graduation and low labour market participation, such as illness. However, given that a rather large proportion of adult learners don't complete their qualification, this is unlikely to be the whole story.

Overall, we can conclude that in the Finnish institutional context, formal adult education improves labour market chances when it leads to an educational upgrade. There is also a benefit from obtaining new qualifications even at a lower or similar level but this benefit is relatively small and mostly evident among women. A society where both the labour market and the educational system are relatively open and where inequalities are comparatively small, allows for important second chances for individuals who have started to fall behind their contemporaries in terms of labour market attainment.

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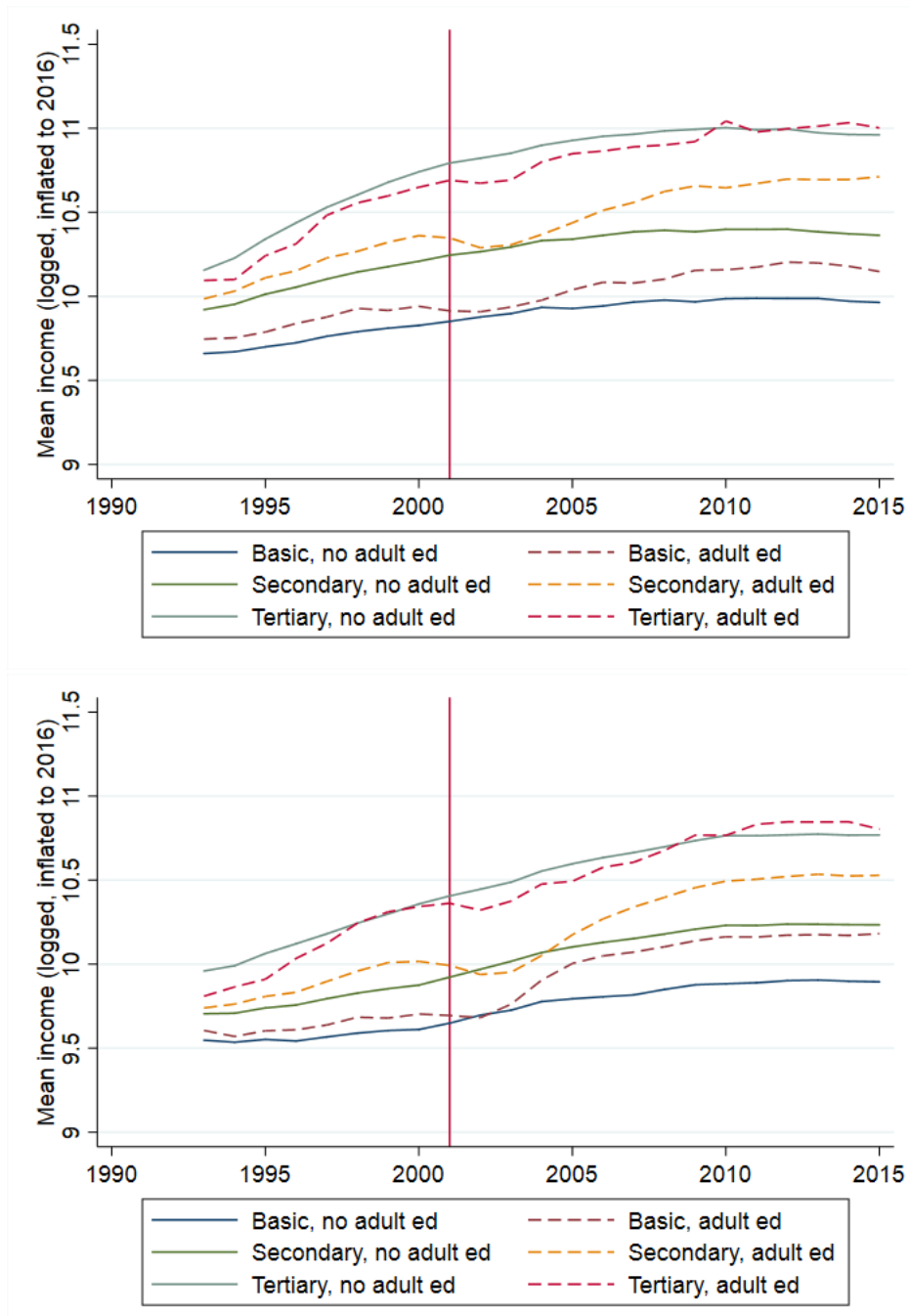
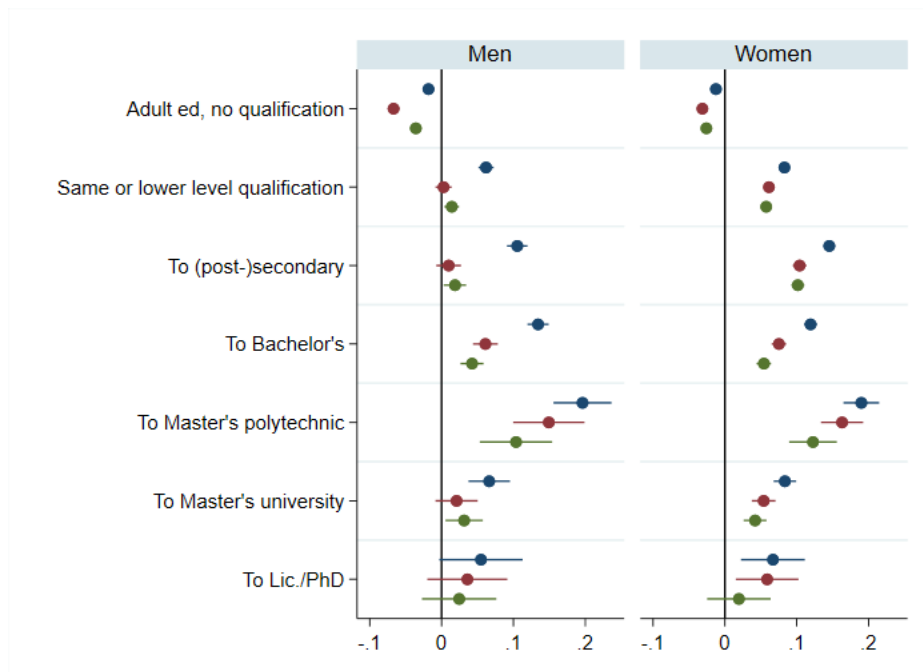
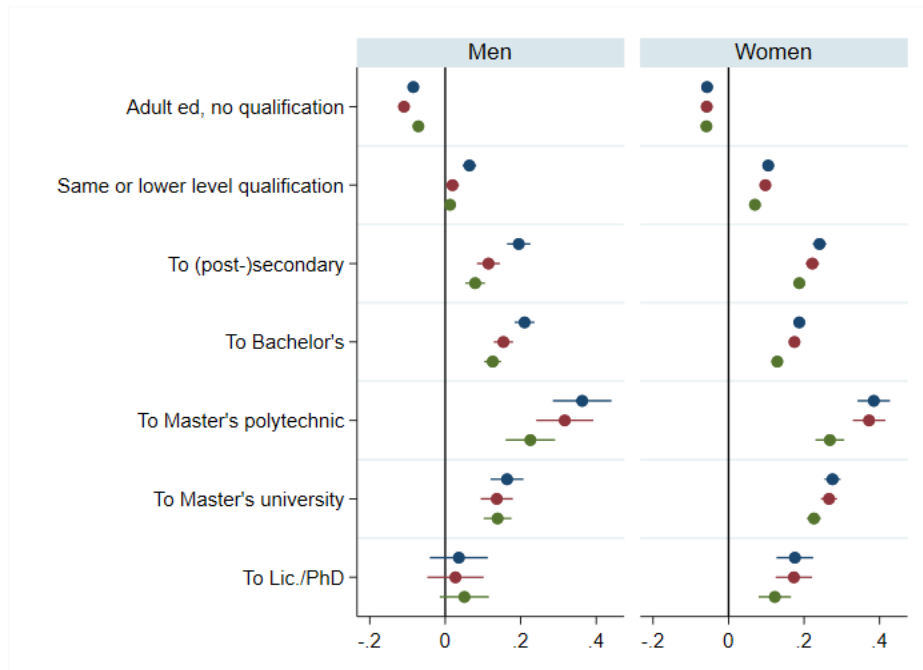


Figure 1. Income (logged) trajectories 1990–2015, cohort born 1960–65, according to level of education in 2000 and adult education enrolment in 2001–2, men (upper panel) and women (lower panel).



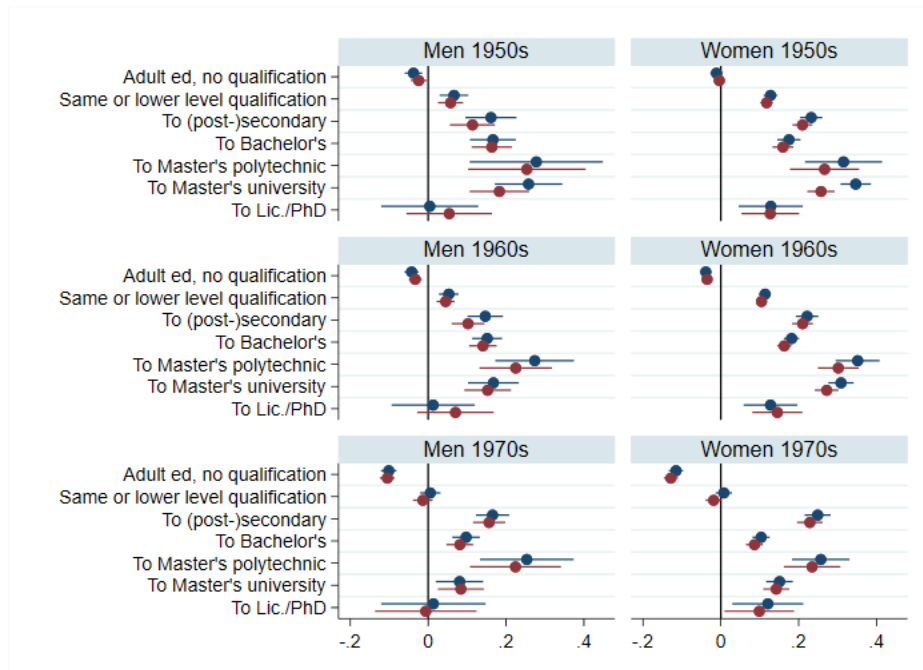
*Note: Models from top to bottom for each education category: 1) controlling for education level in 2000, 2) + controlling for year of birth and relationship status in 2000, 3) + controlling for employment and income in 1995/7–2000. 95% confidence intervals around coefficients.*

Figure 2. Difference in probability of stable employment between adult learners (by qualification obtained) and individuals who did not return to education.



*Note: Models from top to bottom for each education category: 1) controlling for education level in 2000, 2) + controlling for year of birth and relationship status in 2000, 3) + controlling for employment and income in 1995/7–2000. 95% confidence intervals around coefficients.*

Figure 3. Difference in average log income between adult learners (by qualification obtained) and individuals who did not return to education.



*Note: Models from top to bottom for each education category: 1) controlling for education level in 2000, 2) + controlling for year of birth and relationship status in 2000, 3) + controlling for employment and income in 1995/7–2000. 95% confidence intervals around coefficients.*

Figure 4. Difference in average log income between adult learners (by qualification obtained) and individuals who did not return to education by birth cohort.