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Transitions of creatives ? empirical evidence on occupation and industry specific human capital

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Paper submission for the DRUID Academy 2015, Aalborg

Transitions of creatives – empirical evidence on occupation and industry specific human capital

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Abstract

The degree of transferability of skills and knowledge from an creative occupation in the creative industries to the wider economy is a great point of discussion within research in the arts and cultural and creative industries. By applying human capital theory on the labor market for creatives, this paper investigates the relationship between creative occupation and industry human capital and hourly wage after transitioning to a non-creative occupation and/or industry. Further, it is investigated how the distance of the transition mediates the relationship between creative occupation and industry specific human capital and hourly wage. By making use of a matched employer-employee dataset from the Denmark from 1994 to 2007, wage equation are estimated. The results suggest that a transition from a creative occupation to a non-creative occupation results in an increase in the hourly wage. On the contrary, a transition from a creative industry to a non-creative industry is associated with a decrease in the hourly wage. These results are however completely mediated by the distance of the transition, meaning that the distance of the transition completely explains the effect on the hourly wage. The results have implication for the understanding of whether creative human capital is transferable to the wider economy.

Keywords:

Human capital; cultural and creative industries; knowledge transferability; wage equation; moderation effect.

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1. Introduction

The degree of transferability of skills and knowledge from an creative occupation in the creative industries to the wider economy is a great point of discussion within research in the arts and cultural and creative industries.

Different studies have focused on artists as multiple jobholders and investigated these individuals' non-creative jobs (Throsby and Zednik, 2011; Bille, 2012). Studies outside of cultural economics have focused on human capital theory to explain transferability of skills and knowledge between occupation and industries (Shaw, 1984; Neal, 1995; Parent, 2006; Kambourov and Manovskii, 2009; Sullivan, 2010).

This paper contributes to this stream of literature by applying human capital theory to creative employees and and the creative industries. More specifically, this paper investigates the degree to which creatives are able to transfer knowledge and skills when transferring from a creative occupation in the creative industries to employment in the wider economy. In line with human capital theory, this paper uses hourly wage in the new employment as a measure of the degree of transferability of skills and knowledge. Further, this paper investigates the significance of the distance of the transfer as a mediator of transferability of knowledge and skills. That is, this paper answers the following questions:

- What is the relationship between creative occupation and industry specific human capital and hourly wage?
- How does distance mediate this relationship?

The paper offers insights into the degree of transferability of creative occupational and industry specific human capital to the wider economy. Indirectly this is a measure of what the creative economy can contribute to outside the cultural and creative industries.

I propose that creatives' occupational and industry specific human capital is transferable, to some degree, to the wider economy. By including distance as the mediating variable between occupational and industry specific human capital and hourly wage, the results suggest that the distance of the transfer completely explain the hourly wage in the new employment.

By using a unique matched employer-employee dataset from Danish register data I am able to determine the occupational and industry specific human capital of individuals including the transfer of employment of these individuals. I make use of data from the Integrated database for labour market research (IDA) from 1993 to 2008. I restrict my sample to only include individuals who entered a creative occupation in a creative industry between 1993 and 2000 and observe the occupation and/or industry transition of these individuals between 2001 and 2007. I make use of wage equation in order to investigate the effect of creative occupational and industry specific human capital from a previous employment on the hourly wage in the new employment.

The remainder of the paper is as follows: The second chapter put forward the theoretical framework. The third chapter discusses the application of human capital theory on the labor market for creatives. The fourth chapter explains the data and method used in this paper. The fifth chapter put forward the results of the econometric models. The sixth chapter concludes the paper.

2. Theoretical framework

This paper applies the theory of human capital while considering its implementation in the field of cultural and creative industries.

Human capital theory state that people can invest in themselves by means of education, training and experience and thereby build up a stock of knowledge and skills that is used to increase their productivity and therefore earn higher income. Schultz (1961) was the one who created an interest in human capital theory as we know it today.

Human capital theory was further developed by Becker (1975;1993) who introduced the distinction between general and firm specific skills, where general skills are transferable between employers but firm specific skills are not. Mincer (1958) defined the now standard human capital earnings function. In the earnings function firm-specific skills are measured by job tenure and predicted to result in a positive relationship with wages, *ceteris paribus*. General skills are proxied by labor market experience.

Rosen (1987) defined human capital as "...the stock of skills and productive knowledge embodied in people. The yield or return on human capital investment lies in enhancing a person's skills and earning power and in increasing the efficiency of economic decision-making both within and without the market economy".

Human capital theory was further developed and refined by introducing firm, occupation and industry specific human capital.

Shaw (1984) was the first to propose a model where human capital is skill specific. Shaw (1984) was one of the first to state that occupation specific skills are important determinants of earnings. Shaw (1984) states that the intensity of investment in general

human capital varies by occupation and a proportion of the occupational skills are transferable with occupational change.

More recently the notion of human capital to be either general or firm specific have been challenged by Neal (1995) and Parent (2006) by introducing industry specific skills. Kambourov and Manovskii (2009) and Sullivan (2010) study the effect of a four-way classification of labor market experience on earnings, including general experience, firm, occupational and industry tenure.

Schönberg and Gathmann (2010) further specifies the knowledge obtained and apply a task-specific human capital to measure the transferability of labor market skills. This paper applies Schönberg and Gathmann's (2010) definition of wage as the sum of skills, productivity and the match.

The degree of transferability of firm, occupation and industry specific human capital from one occupation to the next has also been the focus of different studies. It is unlikely that all of an individual's occupational human capital is transferred to the next occupation. Hence, a proxy measure of the transferability and skills intensity is needed. Following Shaw (1984) the measure of transferability is based on labor mobility between occupations. The idea is that the probability of changing occupation increases with transferability of skills. Hence, the greater the transferability of skills, the greater the incentive to change will be (Shaw, 1984).

The distance is calculated as the inverse of the number of individuals moving from industry k to j and j to k between year $t-1$ and t , relative to the total number of individuals in industry k and j . Hence, a measure of distance between industries is calculated, where a small distance is equal to closer occupations and thus the greater the transferability.

3. Human capital theory and the cultural and creative industries

The empirical setting of this article is the cultural and creative industries and focus on creative occupations. In this article a creative occupation is defined as: Visual artists, dancers, actors and directors, musicians, photographers, writers, architects and craftsmen and designers. A creative industry is defined includes: Independent artists, visual arts, theatre, music, film, publishing, radio and television, architecture, design, advertising and photography.

The labor market of the cultural and creative industries differ from the ordinary labor market in various ways. Hence, it is necessary to consider issues arising from applying human capital theory on the labor market of the cultural and creative industries.

In this article a creative job is defined by belonging to either visual artists (visual artists, photographers, writers), performing artists (dancers, actors, directors, musicians etc.) or designers and architects (designers, architects and craftsmen). A creative industry is defined by independent artists, visual arts, theatre, music, film, publishing, radio and television, architecture, design, advertising and photography. These groups of occupation and industries are however quite heterogenous when it comes to the conditions of the labor markets, ways of working, earnings etc.. By defining three groups of creative occupations the heterogeneity of the different kinds of artists is captured.

Another issue concerning artists' earnings data is the bias that multiple job-holding creates (Towse, 2006). The data applied in this article includes data on the employment where an individual had the highest earnings from in a given year and hence, does not include other employment. However, I control for whether the given employment is part-time or full-time.

Another issue concerns the dependent variable, hourly wage. Towse (2006) argues that because the distribution of artists' earnings is more skewed than in other occupations, the estimates of mean earnings are not as reliable. I meet this issue by deleting observations with extremely high and low values of hourly wage. Hence, I only include observations with an hourly wage higher than 1 Danish Kroner and lower than 5,000 Danish Kroner.

The last issue concerns the high rate of self-employment within the cultural and creative industries. As mentioned earlier, the data applied in this article is registered for individuals employed by someone. Hence, it does not include self-employment. This naturally creates a bias towards certain types of artists and creatives that tend to be employed by someone and not self-employed. It is impossible to completely control for this issue, however I do control for the different groups of artists and creatives.

Towse (2006) states that standard human capital might not be applicable to the labor market of artists, one of the reasons being that on-the-job training is more important than education. Throsby (2006) applies measures of human capital to the arts and creative industries. This article does not apply standard human capital theory but includes more fine-grained measures as occupation and industry specific human capital.

4. Data and Method

The data used in this paper is a unique set of register data from Denmark. The actual data consists of a combination of employer-employee register data from Statistics Denmark (IDA), containing a panel structure as well. With this data I track individuals' career movements, labor market movements, their characteristics and the firms they are affiliated with.

The article draws on data from 1994 until 2007. However, the data from 1993 until 2000 is used as a foundation for prior labor market activities, while the years 2001 until 2007 are used to investigate hazards of transition out of a creative occupation and/or creative industry given individual and contextual characteristics. That is, the initial sample consist of individuals moving into employment in a creative occupation and creative industry in each of the year 1994 until 2000. The total number of wage employees moving into employment with a creative occupation, working in a cultural and creative industry is 8,380 (1994-2000). Individuals with one of the following occupations (including a number of sub-job functions) are defined as having a creative occupation: Visual artists, dancers, actors and directors, musicians, photographers, writers, architects and craftsmen and designers. Individuals employed in one of the following industries are defined as employed in a creative industry: independent artists, visual arts, theatre, music, film, publishing, radio and television, architecture, design, advertising and photography.

The total number of transitions out of employment in a creative occupation and cultural and creative industry amounts to 111 occupation transitions, 274 industry transitions and 183 occupation and industry transitions by 2007.

Variables

Dependent variable

The dependent variable is the ***hourly wage*** in the new employment. The variable is corrected to November 2007 Danish Kroner². Values of hourly wage higher than 5,000 Danish Kroner and lower than 1 Danish Kroner are excluded from the sample.

² <http://www.dst.dk/da/Statistik/emner/forbrugerpriser/forbrugerprisindeks.aspx>

Independent variable

The independent variable ***transition*** measures whether an individual transitions occupation and/or industry during the 7 years of hazard of transition (2001-2007). All individuals are employed in a creative occupation within the cultural and creative industries in time t . The variable ***transition*** takes on the value 0 if no transition occurs, 1 if an individual transitions to a non-creative occupation, 2 if an individual transitions to a non-creative industry and 3 if an individual transitions to a non-creative occupation and industry. The occupation transition is based on 4-digit ISCO codes and the industry transition is based on 6-digit NACE codes. The variable is constructed so that a transition to a non-creative occupation does exclude the possibility that the individual also transitions to a non-creative industry. All transitions are restricted to also include firm transition. The transition is measured between Novembers of each year.

The distance measure based on occupation transitions, *occupation distance*, is based on occupational transitions (2-digit ISCO codes) between 1991 and 1992. The variable is calculated as the inverse of the number of individuals transitioning from occupation k to j and j to k between year $t-1$ and t , relative to the total number of individuals in occupation k and j . Hence, a high number of individuals transitioning between occupation k and j is equal to a small occupation distance between the two occupations. An example of two occupations with a low distance could be an actor transferring to operating a sewing machine. On the other hand, an example of a long distance could be a designer transferring to control of production programs.

The distance measure based on industry transitions, *industry distance*, is based on industry transitions (2-digit NACE codes) between 1992 and 1993. The variable is also

calculated as the inverse of the number of individuals transitioning from industry k to j and j to k between year t-1 and t, relative to the total number of individuals in industry k and j. Hence, a high number of individuals transitioning between industry k and j is equal to a small industry distance between the two industries. An example of two industries with a low distance between them could be architecture and public service. On the other hand, an example of a long distance could be transferring from employment at a university to manufacturing.

Controls

The hourly wage in the employment prior to the transition, *lagged hourly wage*, is included as a control variable. Furthermore, I control for the average hourly wage in the industry the individual transition to, *mean industry hourly wage*.

Prior employment experience is included as a controlled and is measured in number of years of experience prior to the transition, *experience*. The squared term of experience, *experience squared*, is also included, accounting for a potential non-linear effect of labor market experience on the dependent variable.

In addition, the highest level of education of the individual on a scale from 0 to 9 is controlled for, *education level*. Further a control for whether the individual has an artistic or creative education or not is included, *creative education*. An artistic or creative education is defined as being within: photography, film, graphical design, journalism, theatre (actor, director or scenographer), dance, music, visual arts, design or architecture.

The variable *part-time* is included, controlling for whether the current employment of the individual is a part-time position or not.

The variable *artist group* controls for each of the three main groups of artists and creatives occupations in the individual's prior employment. The variable is based on 4-digit ISCO codes and is equal to 0 if the individual is a visual artist, 1 if the individual is a performing artist and 2 if the individual is a designer or architect.

Furthermore, different socio-economic variables are included such as *age* of the individual, whether the individual is married or not (*married*) taking on the value 1 if the individual is married. The number of children is controlled for (*children*) and the gender of the individual which is equal to 1 if the individual is a man and 0 otherwise (*gender*). Fourth, a binary variable is included to control for whether the person lives in the capital area or not (*capital*), taking on the value 1 if the individual lives in the capital area.

Lastly, the variable *year* is equal to the year of the transition and thus controls for time varying effects.

Method

The model used to estimate the effect of occupation and/or industry transition on hourly wage is a standard wage equation.

The analysis of the association between occupation and/or industry transition on hourly wage poses various empirical challenges. Given potential problems of self-selection, the inverse Mills ratio is included in the estimation. When estimating the wage equation model the variable of interest, ***transition***, is only observed for individuals that actually do transition. Different variables might influence the decision of an individual to transition which is unobserved in the data as the wage equation only includes those that do transition. Hence, the estimates are potentially biased by unobserved elements that determines whether an individual transitions or not.

A multinomial regression model is estimated and the inverse Mills ratios calculated in order to remove potential bias. The variable transition can take on the value 0 if an individual do not transition out of a creative occupation or industry, 1 if an individual transitions from creative to a non-creative occupation, 2 if an individual transitions from creative to non-creative industry and 3 if an individual transitions from a creative occupation and industry to a non-creative occupation and industry. At time t all individuals are employed in a creative occupation and creative industry.

The independent variables included in the multinomial regression model are *duration* measuring the time to transition (varying from 1 to 7 years), *lagged relative hourly wage* measuring the hourly wage of an individual relative to all employees in the same level of position (1, 2 or 3) at time $t-1$, *education level* measuring the highest obtained level of education of an individual (varying from 0 to 9), *creative education* which takes on the value 1 if an individual has a degree in an artistic or creative education, *gender* taking on the value 1 if the individual is a man and 0 otherwise, *age* measuring the age of an individual in years and *artist group* which takes on the value 0 if the individual belongs to visual artists, 1 if the individual belongs to performing artists and 2 if the individual belongs to designers and architects in time $t-1$.

5. Results

Descriptive statistics

Table 1 shows the number of transitions in the period 2001-2007 for each of the possibilities no transition, occupation transition, industry transition and occupation and industry transition.

INSERT TABLE 1 ABOUT HERE

The table shows that the far majority of creative individuals do no transition into non-creative occupations or non-creative industries. Of the individuals that transition, most transitions are from a creative industry to a non-creative industry, keeping a creative occupation. This finding is not surprising as it is easier to transition industry than occupation.

Figure 1 shows the share of transition in each period of time after transitioning to a creative occupation and creative industry.

INSERT FIGURE 1 ABOUT HERE

The figure shows that more than 50 percent of transitions of industry and occupation and industry happens after the first of employment in the creative occupation and industry. After the first year the rate of transition falls to about 20 percent of the total number of individuals employed in a creative occupation and industry. The rate of transition decreases steadily after the second year of employment.

Table 2 shows the descriptive statistics for the variables used in the econometric models.

INSERT TABLE 2 ABOUT HERE

The table shows that the mean log hourly wage is equal to 4.87 with a maximum log hourly wage of 7.29. The distance based on the occupation measure varies from 0 to 0.007. The log lagged hourly wage is equal to 4.94, which is higher than the log hourly wage. However, the maximum log lagged hourly wage is equal to 6.78, which is lower than the log hourly wage.

32 percent of the individuals have a creative education and 35 percent are married. 60 percent of the sample are men and 18 percent work part-time.

Table 3 shows the correlation of the variables used in the econometric models.

INSERT TABLE 3 ABOUT HERE

The table shows that occupational transfer is positively and significantly correlated with log hourly wage, while industry transfer is negatively and significantly correlated with log hourly wage. Occupation and industry transfer is not correlated with log hourly wage. Distance (based on occupation measure) is positively and significantly correlated with log hourly wage. Further, having children is positively and significantly correlated with log hourly wage.

Estimation results

Table 4 shows the results of the OLS estimation of log hourly wage. Model 1 includes all control variables. Model 2 includes the explanatory variable occupation transition and the control variables. Model 3 includes the explanatory variable industry transition and the control variables. Model 4 includes the explanatory variables occupation transition and occupation and industry transition.

INSERT TABLE 4 ABOUT HERE

The results of model 1 shows that the log mean industry hourly wage has a positive effect on the log hourly wage, which is logical. If the mean industry wage is high, so is the hourly

wage. Further it shows that having a creative education has a negative effect on the log hourly wage. Having children has a positive effect on the log hourly wage. Lastly, having a part-time employment has a negative effect on the log hourly wage and being a creative of artist group 1 (performing artists) has a negative effect of the log hourly wage.

Transitioning from a creative to a non-creative occupation has a positive effect on the log hourly wage *ceteris paribus*. Conversely, transitioning from employment in a creative industry to employment in a non-creative industry negatively affects the hourly wage. The results of the explanatory variables suggests that an individual is compensated for having experience in a creative occupation, however not from a creative industry. This might be a result of the ease of transitioning industry (for example transitioning from being a designer in a furniture company to being a designer in a pharmaceutical company). Whereas transitioning from a creative occupation to a non-creative occupation might require more of a change and hence this is compensated for through a higher hourly wage.

Table 5 shows the results of the OLS estimation of log hourly wage including the two distance measures. Model 1 to 3 includes the distance measure based on occupation and model 4 to 6 includes the distance measure based on industry.

INSERT TABLE 5 ABOUT HERE

The models shows that when including the mediator variable distance based on occupation, all of the explanatory variables become insignificant. Hence, all variation in the log hourly wage that before was explained by the transitions is now solely explained by the distance individuals transition. This a called a complete mediation. The distance measure based on

occupation is positively and significantly associated with log hourly wage, whereas the distance measure based on industry does not have a significant association with log hourly wage.

In order to explain the mediation of distance on log hourly wage further, a model is estimated using distance as the dependent variable and including all of the same explanatory and controlling variables. The results of these estimations are shown in table 6.

INSERT TABLE 6 ABOUT HERE

The table shows that occupation transition is positively and significantly associated with distance. This means that when an individual's transitions occupation he or she is more likely to move far. This result nicely correlated with the result that an individual is positively compensated through a higher wage when transitioning occupation.

When including the explanatory variable of industry transition, the results show a negative and significant effect on distance. This means that when an individual transitions industry he or she is less likely to transition far. This result also corresponds to the previous findings on the effect on hourly wage.

6. Discussion and Conclusion

The results of this study provide support for the claim that creative occupation specific human capital is transferable to occupations in the wider economy. On the contrary, this is not the case with industry specific human capital. The mechanism is complete mediated by the

distance of the transition that the creative individuals take, meaning that the effect of on the hourly wage from a transition is completely explained by the distance.

The findings have some limitations. Firstly, it is not possible to rule out the possibility that the results are biased due to potential omitted variables. Secondly, the data does not include self-employed individuals which a common employment status of creatives. Thirdly, the data only includes one employment per individual. Hence, individuals with multiple job-holdings are not observed. The two latter limitations might bias the empirical analysis.

This article is closely related to the recent research in cultural economics. Focus on the transferability of knowledge from the cultural and creative industries to the wider economy. This study shows that knowledge of creative individuals is indeed being transferred to the wider economy when these individuals transition out of the cultural and creative occupations and industries. The degree of transferability is, however, greatly modified by the distance of the transition.

This article also contributes to the methodology used in labor economics by introducing a rigorous method of estimating wage equations and moderation effects.

The findings of this paper have implication for policy makers within labor market policy and arts policy who should acknowledge that the individuals employed in the cultural and creative industries indeed have a possibility to contribute to the wider economy.

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8. Tables and figures

Table 1. Number of transitions, 2001-2007

No transition	3,012
Occupation transition	111
Industry transition	274
Occupation and industry transition	183

Figure 1: Number of transitions in each year, 2001-2007

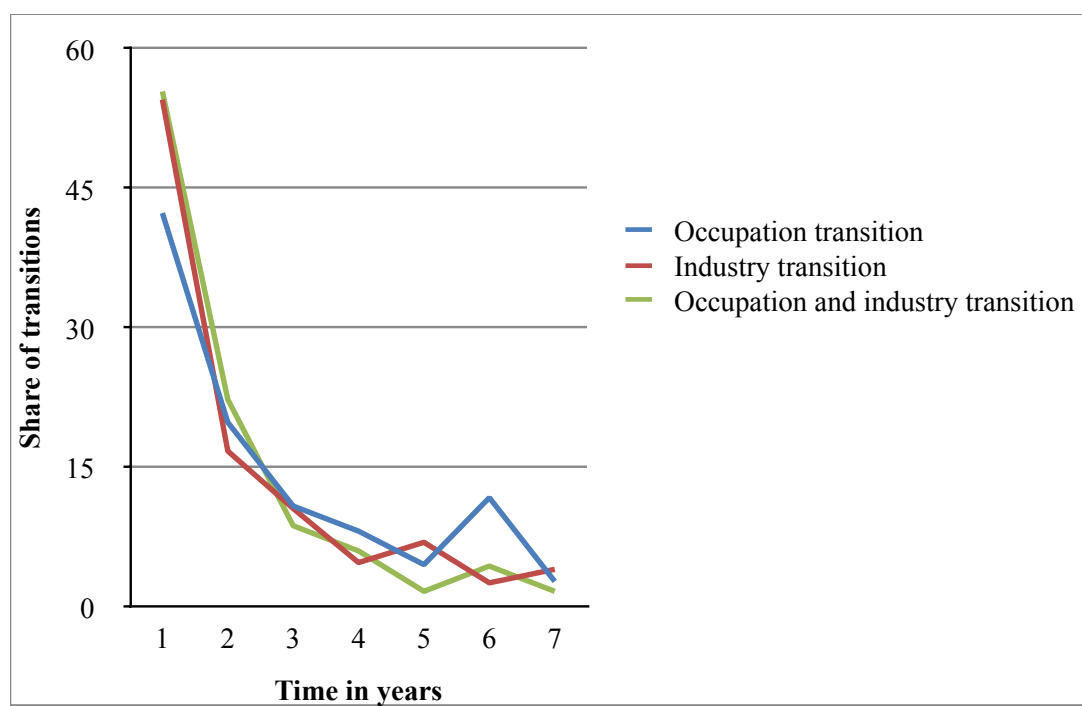


Table 2: Descriptive statistics

	Mean	S.D.	Min	Max
Log hourly wage	4.87	0.80	-0.19	7.29
Occupation transfer	0.52	0.50	0	1
Industry transfer	0.80	0.40	0	1
Occupation and industry transfer	0.32	0.47	0	1
Distance (occupation)	0.00	0.00	0.00	0.007
Log lagged hourly wage	4.94	0.60	1.53	6.78
Log mean industry wage	5.00	0.18	4.49	5.45
Experience	7.86	5.20	0.21	22
Creative education	0.32	0.47	0	1
Mills 1	2.21	0.19	1.21	2.70
Mills 2	1.80	0.29	1.06	2.63
Mills 3	1.96	0.32	1.27	2.93
Highest education level	5.55	2.21	0	9
Age	3.47	9.16	18	69
Married	0.35	0.48	0	1
Children	0.57	0.92	0	4
Capital	0.44	0.50	0	1
Gender	0.60	0.50	0	1
Part-time	0.18	0.38	0	1
Artist group	0.72	0.87	0	2
Year	2000	2.42	1995	2007

Table 3: Correlation of variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(1) Log hourly wage	-																				
(2) Occupation transfer	0.19**	-																			
(3) Industry transfer	-0.15*	-0.12	-																		
(4) Occupation and industry transfer	-0.09	0.19**	0.95***	-																	
(5) Distance (occupation)	0.20**	0.09	-0.02	0.01	-																
(6) Log lagged hourly wage	0.30**	0.30	-0.13*	-0.12	0.10	-															
(7) Log mean industry wage	0.29	0.03	-0.29***	-0.27***	0.12*	0.18*	-														
(8) Experience	0.30	-0.01	-0.12	-0.12	0.10	0.35	0.15*	-													
(9) Creative education	-0.11	-0.01	-0.04	-0.04	-0.10	-0.06	0.14*	-0.16*	-												
(10) Mills 1	-0.07	-0.06	0.05	0.03	0.08	-0.23**	-0.08	0.06	-0.03	-											
(11) Mills 2	0.06	-0.10	-0.17**	-0.20**	0.00	0.23**	0.12	0.33	-0.08	0.44	-										
(12) Mills 3	0.05	-0.09	-0.18**	-0.20***	0.02	0.13*	0.15*	0.25**	-0.08	0.57	0.09	-									
(13) Highest education level	0.03	0.03	0.12*	0.13*	0.24***	0.10	0.10	-0.09	0.26***	0.40	-0.22**	-0.17*	-								
(14) Age	0.35	0.04	-0.12*	-0.11	0.19*	0.35	0.15*	0.07	-0.3	-0.08	0.02	0.10	0.13*	-							
(15) Married	0.32	0.06	-0.08	-0.06	0.16*	0.30	0.09	0.44	-0.14*	-0.09	0.06	0.04	0.05	0.48	-						
(16) Children	0.25***	0.10	-0.02	0.01	0.09	0.29	0.06	0.26	-0.06	-0.05	0.21**	0.15*	0.01	0.22**	0.55	-					
(17) Capital	-0.01	-0.07	-0.02	-0.04	0.04	-0.09	0.06	-0.23**	-0.01	-0.11	-0.08	-0.03	-0.10	-0.14*	-0.20**	-0.17**	-				
(18) Gender	0.07	-0.11	0.01	-0.03	0.00	0.13	0.05	0.15*	-0.07	0.03	0.25***	0.12	-0.05	0.12*	0.15*	0.10	-0.06	-			
(19) Part-time	-0.39	0.00	0.18**	0.17*	-0.18*	-0.26***	-0.22**	-0.38	0.19*	0.07	-0.17*	-0.16*	0.12	-0.35	-0.23**	-0.15*	-0.09	0.00	-		
(20) Artist group	0.12	0.07	0.09	0.11	0.06	0.09	-0.01	0.10	-0.2	-0.07	-0.19*	-0.34	0.13*	0.14*	0.18*	0.10	-0.16*	-0.03	-0.12	-	
(21) Year	0.12	0.03	-0.10	-0.09	0.03	0.05	0.16*	0.24***	0.00	0.03	0.48	0.52	-0.06	0.09	-0.00	0.05	0.03	-0.08	-0.17	-0.08	-

Table 4: OLS model of log hourly wage

Dependent variable: log hourly wage

	Direct effect			
	(1)	(2)	(3)	(4)
Occupation transition		0.138**		0.175**
		[0.063]		[0.071]
Industry transition			-0.129**	
			[0.060]	
Occupation + industry transition				-0.058
				[0.068]
Distance (based on industry)				
Log lagged hourly wage	0.028	0.031	0.030	0.032
	[0.082]	[0.082]	[0.082]	[0.082]
Log mean industry hourly wage	0.542***	0.503***	0.481***	0.481***
	[0.182]	[0.185]	[0.185]	[0.185]
Experience	0.034	0.039	0.034	0.038
	[0.032]	[0.032]	[0.032]	[0.033]
Experience sq	-0.000	-0.000	-0.000	-0.000
	[0.001]	[0.001]	[0.001]	[0.001]
Creative education	-0.164**	-0.150*	-0.165**	-0.152*
	[0.077]	[0.078]	[0.077]	[0.078]
Mills 1	-1.274	-1.255	-1.180	-1.215
	[0.910]	[0.920]	[0.914]	[0.927]
Mills 2	-0.621	-0.715	-0.572	-0.678
	[1.102]	[1.113]	[1.112]	[1.123]
Mills 3	0.830	0.912	0.749	0.862
	[1.173]	[1.188]	[1.185]	[1.200]
Education level	0.074	0.075	0.072	0.074
	[0.048]	[0.048]	[0.047]	[0.048]
Age	-0.006	-0.007	-0.005	-0.006
	[0.018]	[0.018]	[0.018]	[0.018]
Married	0.049	0.047	0.045	0.045
	[0.069]	[0.068]	[0.068]	[0.068]
Children	0.074**	0.067*	0.074**	0.068**
	[0.034]	[0.034]	[0.034]	[0.034]
Capital	0.027	0.032	0.028	0.032
	[0.073]	[0.073]	[0.073]	[0.073]
Gender	0.149	0.152	0.145	0.150
	[0.122]	[0.123]	[0.122]	[0.124]
Part-time	-0.416***	-0.408***	-0.407***	-0.405***
	[0.140]	[0.140]	[0.139]	[0.139]
Artist group 1	-0.223*	-0.220*	-0.224*	-0.221*
	[0.132]	[0.131]	[0.131]	[0.131]
Artist group 2	0.068	0.077	0.064	0.074
	[0.162]	[0.163]	[0.162]	[0.164]
Constant	3.958*	3.998*	4.202**	4.044*
	[2.079]	[2.098]	[2.062]	[2.084]
Year dummies	yes	yes	yes	yes
Observations	567	567	567	567
R-squared	0.25	0.26	0.25	0.26

Note: Robust standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001

Table 5: OLS models on log hourly wage including the mediator variable *distance*

Dependent variable: log hourly wage

	Mediated effect I			Mediated effect II		
	(5)	(6)	(7)	(8)	(9)	(10)
Occupation transition	0.762 [0.748]		0.771 [0.748]	0.128 [0.082]		0.042 [0.143]
Industry transition		-0.052 [0.082]			0.015 [0.135]	
Occupation + industry transition			-0.015 [0.081]			0.096 [0.140]
Distance (based on occupation)	25.026* [13.865]	28.611** [13.840]	25.006* [13.904]			
Distance (based on industry)				9.415 [19.168]	9.240 [19.173]	10.389 [19.247]
Log lagged hourly wage	0.118 [0.098]	0.118 [0.100]	0.118 [0.098]	0.052 [0.122]	0.042 [0.121]	0.052 [0.123]
Log mean industry hourly wage	0.789*** [0.278]	0.766*** [0.289]	0.775*** [0.285]	0.354 [0.221]	0.381* [0.220]	0.370* [0.221]
Experience	0.015 [0.045]	0.016 [0.045]	0.014 [0.045]	0.026 [0.039]	0.021 [0.039]	0.025 [0.039]
Experience sq	0.000 [0.001]	0.000 [0.001]	0.000 [0.001]	0.000 [0.001]	0.001 [0.001]	0.000 [0.001]
Creative education	0.003 [0.113]	-0.013 [0.113]	0.000 [0.114]	-0.156 [0.096]	-0.167* [0.096]	-0.152 [0.097]
Mills 1	-0.601 [0.931]	-0.614 [0.953]	-0.590 [0.946]	-1.349 [1.307]	-1.369 [1.286]	-1.368 [1.316]
Mills 2	-1.018 [1.356]	-1.091 [1.374]	-1.010 [1.373]	-0.640 [1.416]	-0.565 [1.393]	-0.658 [1.422]
Mills 3	0.998 [1.391]	0.973 [1.420]	0.984 [1.418]	0.624 [1.566]	0.545 [1.537]	0.645 [1.574]
Education level	0.021 [0.053]	0.022 [0.053]	0.021 [0.053]	0.081 [0.069]	0.080 [0.068]	0.081 [0.070]
Age	-0.006 [0.021]	-0.005 [0.021]	-0.006 [0.021]	-0.003 [0.023]	-0.002 [0.023]	-0.003 [0.023]
Married	0.111 [0.096]	0.108 [0.093]	0.110 [0.095]	0.038 [0.089]	0.029 [0.091]	0.033 [0.091]
Children	0.074** [0.036]	0.089** [0.040]	0.074** [0.036]	0.061 [0.047]	0.074 [0.047]	0.063 [0.048]
Capital	0.048 [0.105]	0.028 [0.100]	0.048 [0.106]	0.044 [0.093]	0.037 [0.093]	0.041 [0.093]
Gender	0.133 [0.147]	0.122 [0.147]	0.133 [0.147]	0.162 [0.158]	0.163 [0.157]	0.163 [0.159]
Part-time	-0.452** [0.195]	-0.436** [0.197]	-0.451** [0.195]	-0.440*** [0.163]	-0.442*** [0.164]	-0.444*** [0.164]
Artist group 1	0.135 [0.153]	0.116 [0.152]	0.135 [0.153]	-0.402** [0.168]	-0.409** [0.169]	-0.409** [0.169]
Artist group 2	0.230 [0.201]	0.235 [0.204]	0.229 [0.202]	0.027 [0.220]	0.019 [0.216]	0.026 [0.221]
Constant	0.308 [2.652]	1.403 [2.557]	0.369 [2.634]	5.115* [2.987]	5.173* [2.945]	5.090* [2.997]
Year dummies	yes	yes	yes	yes	yes	yes
Observations	264	264	264	417	417	417
R-squared	0.34	0.32	0.34	0.25	0.24	0.25

Note: Robust standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001

Table 6: OLS model on distance

Dependent variable: Distance	Distance based on occupation				Distance based on industry			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Occupation transition		0.118*** [0.034]		0.118*** [0.039]		-0.007 [0.020]	
Industry transition			-0.006 [0.033]				-0.088*** [0.032]	
Occupation + industry transition				-0.001 [0.034]				-0.098*** [0.034]
Duration	0.014 [0.009]	0.014 [0.009]	0.013 [0.009]	0.014 [0.009]	-0.012* [0.007]	-0.013* [0.007]	-0.012* [0.007]	-0.013** [0.007]
Log lagged hourly wage	-0.013 [0.024]	-0.013 [0.024]	-0.013 [0.024]	-0.013 [0.024]	-0.003 [0.021]	-0.004 [0.021]	-0.004 [0.021]	-0.004 [0.021]
Log mean industry hourly wage	0.055 [0.083]	0.049 [0.083]	0.050 [0.089]	0.049 [0.089]	-0.152*** [0.058]	-0.151*** [0.058]	-0.167*** [0.058]	-0.166*** [0.058]
Experience	-0.012 [0.011]	-0.012 [0.011]	-0.012 [0.011]	-0.012 [0.011]	0.005 [0.008]	0.005 [0.008]	0.006 [0.008]	0.006 [0.008]
Experience sq	0.000 [0.001]	0.000 [0.001]	0.000 [0.001]	0.000 [0.001]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]
Creative education	-0.072** [0.030]	-0.071** [0.030]	-0.073** [0.031]	-0.071** [0.031]	0.007 [0.020]	0.006 [0.020]	0.004 [0.020]	0.002 [0.020]
Education level	0.029*** [0.007]	0.029*** [0.007]	0.029*** [0.007]	0.029*** [0.007]	0.000 [0.004]	0.000 [0.004]	0.001 [0.004]	0.001 [0.004]
Age	0.002 [0.002]	0.002 [0.002]	0.002 [0.002]	0.002 [0.002]	-0.001 [0.001]	-0.001 [0.002]	-0.001 [0.001]	-0.001 [0.002]
Married	0.033 [0.041]	0.034 [0.041]	0.033 [0.042]	0.034 [0.042]	0.028 [0.023]	0.028 [0.024]	0.032 [0.023]	0.032 [0.023]
Children	0.005 [0.017]	0.003 [0.017]	0.006 [0.017]	0.003 [0.017]	0.003 [0.012]	0.004 [0.013]	0.000 [0.013]	0.001 [0.013]
Capital	0.036 [0.029]	0.039 [0.029]	0.036 [0.029]	0.039 [0.029]	0.026 [0.020]	0.026 [0.020]	0.028 [0.020]	0.028 [0.020]
Gender	-0.000 [0.031]	0.005 [0.031]	0.000 [0.031]	0.005 [0.031]	-0.025 [0.020]	-0.024 [0.020]	-0.023 [0.020]	-0.022 [0.020]
Part-time	-0.091** [0.036]	-0.092** [0.036]	-0.090** [0.036]	-0.092** [0.036]	0.013 [0.026]	0.012 [0.026]	0.016 [0.026]	0.017 [0.026]
Artist group 1	0.036 [0.036]	0.033 [0.036]	0.036 [0.036]	0.033 [0.036]	0.145*** [0.023]	0.145*** [0.023]	0.148*** [0.023]	0.150*** [0.023]
Artist group 2	0.008 [0.035]	0.007 [0.035]	0.008 [0.035]	0.007 [0.036]	0.030 [0.026]	0.031 [0.026]	0.034 [0.026]	0.035 [0.026]
Constant	-0.165 [0.441]	-0.249 [0.441]	-0.135 [0.481]	-0.247 [0.474]	1.171*** [0.306]	1.171*** [0.307]	1.319*** [0.316]	1.238*** [0.310]
Observations	264	264	264	264	420	420	420	420
R-squared	0.16	0.16	0.16	0.16	0.12	0.12	0.12	0.12

Note: Robust standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001