The Careers, Survival Functions and Income of Artists

Bille, Trine; Jensen, Søren; Vestergaard, Trine

CREATIVE ENCOUNTERS

Creativity at Work:

The careers, survival functions and income of artists

By Trine Bille, Søren Jensen and Trine Vestergaard*

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Abstract

Many studies on the creative labor market have been done with the purpose to get knowledge on the creative workers employment, working conditions, income etc. (e.g. Alper and Wassall (2006), Throsby (2001), Throsby and Hollister (2003), Heian, Løyland and Mangset (2008), Abbing (2002). Most studies have been based on interviews and this approach has of course its pros and cons. Very few studies are based on true longitudinal data making it possible to study artists income development and survival in the professions (one exception is Coulangeon et al., 2005)
The aim of this study is to analyze, comparatively for different groups of artists, the factors that affect 1) the income of artists, and 2) the probability of an artist exits the artists labor market. The paper compares different groups of artists, by looking at income functions and survival functions concerning risks to exit the labor market, using event history techniques (survival functions and Cox regressions).

Keywords

Longitudal data on creative labour market, Income and survival functions, Risk

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1. Introduction and purpose

Many studies on the creative labor market have been done with the purpose to get knowledge on the creative workers employment, working conditions, income etc. (e.g. Alper and Wassall (2006), Throsby (2001), Throsby and Hollister (2003), Heian, Løyland and Mangset (2008), Abbing (2002). Most studies have been based on interviews and this approach has of course its pros and cons. Very few studies are based on true longitudinal data making it possible to study artists income development and survival in the professions (one exception is Coulangeon et al., 2005)
The aim of this study is to analyze, comparatively for different groups of artists, the factors that affect 1) the income of artists, and 2) the probability of an artist exits the artists labor market. The paper compares different groups of artists, by looking at income functions and survival functions concerning risks to exit the labor market, using event history techniques (survival functions and Cox regressions).
The five groups of artists included in this study are: Sculptures, painters and related artists; Choreographers and dancers; Film, stage and related actors and directors; Composers, musicians and singers; Authors, journalists and other writers.

2. Data

The analysis is based on data in national statistics from Statistics Denmark which exists at the individual level and can be compared between years during the period 1995 - 2007. Here we have access i.e. to information about all the Danes job, industry, income, education, employment status, age and gender over pt 13 years. It is possible in Denmark since for long each person has a central personal registration number (the CPR number). This database offers an exceptional opportunity to carry out a truly longitudinal study of artists careers. In this paper an individual "exits" the labor market when he or she is present in the dataset for a given year, then absent the next year and continues to be absent until the end of the observed period. Of course, a study of temporary drains from jobs, which also constitutes a very common experience in artistic

careers, would be of great interest too.[1] However, the current article only covers the issue of "definitive" exists.

3. Methods

The variation in income of performing artists can to a large degree be explained by an earning function estimated by an econometric model. We have estimated a cross section regression for 2007 using OLS. [2]
Below the variables used in the regressions are listed and explained. [3]

- *Wage* is the dependent variable in the income regressions (Log form) and an explanatory variable in the Cox regressions. In describing the wage we use the variable Slon from Statistics Denmark which describes a person's net income in a given year. Specific the Slon variable equals the sum of the information sheets that the companies send to the tax authorities and their employees.

The independent variables are the following:

- *Year dummy* is a dummy variable describing whether the observation is in 2007 or not.
- *Degree of unemployment* describes the per mille a person was unemployed during the year, where a degree of 1000 represents a person who was unemployed during the whole year and 0 represent full employment.
- *Copenhagen* is describing whether a person works in Copenhagen or Frederiksberg. In the income regressions the variable takes the value 1 if the person works in Copenhagen or Frederiksberg and zero otherwise. In the Cox regressions the variable is interpreted the opposite way meaning the variable takes on the value 0 if a person works in Copenhagen or Frederiksberg and 1 otherwise.
- The variable *Woman* is a dummy variable taking the value 1 if the person is a woman and 0 if the person is a man.

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[1] In these professions recurrent alternation between work and unemployment is the norm rather than exception, causing individual careers to have a particularly unstable, uncertain character. However, the uncertainty characteristics of this kind of work has not so much to do with job loss, which in this case is a rather ambiguous notion; the number and diversity of job experiences is often what enables one to pursue a career and artistic achievement, rather than simply remaining on the job market (Coulangeon et al., 2005).

[2] Besides this, we have estimated two panel regression models taking advantage of the whole dataset during all the years: A first difference panel regression and two way fixed effects models have been estimated by SAS's new procedure Proc panel. These methods estimates individual and time specific parameter estimates and should therefore eliminate the individual endogenous effect. Due to technical problems we have not been able to finish these models for this paper, and therefore it is only the results of the cross section models that are presented in this paper.

[3] For further information on the specific variables see http://www.dst.dk/TilSalg/Forskningsservice.aspx

- *Age* specifies a person's age.
- *E* is short for experience as an artist within the field. In the data we have summed up the years a person had an artistic job and had a positive income, starting in 1995 since we do not have data for the previous years.
- *Experience* describes the overall experience in a job, this type of experience does not specifically relate to being an artist but having experience on the job market in general.
- *Secondary Job* is a dummy variable taking the value 1 if the person has a secondary job besides their main activity (10<sstill<89)
- *Relevant industry* is a dummy variable taking the value 1 if the person works in a relevant industry (please consult the appendix to see the definition of relevant industries).
- *Relevant education* is a dummy taking the value 1 when a person has a relevant education (please consult the appendix to see the definition of relevant educations).

The estimated cross section model looks like this:

3.1 Survival functions

Using event history techniques, survival functions for each of the categories of artists are estimated. The notion of survival function, noted S(t), entails that individuals in a given population are exposed to the risk of an event occurring. The goal is to estimate for each interval t (here one year) and for all participants the probability of not having experienced the event at time t.
In our case, the event in question is "definitive exit from the labor market", i.e. definite removal from the database at the end of 1 of the 12 years of the observed period.
Let T be a positive random variable measuring the time elapsed from the origin up to the studied event, and F(t) its cumulative distribution function:
$F(t) = P(T<t)$
The survival function will be:
$S(t) = P(T>t) = 1 - P(T<t) = 1 - F(t)$
This function may generate a graphical representation which may be understood as a survival curve, representing estimates of the percentage of exposed individuals for whom the event has not yet occurred at the end of each interval.
Using the retrospective data we can identify each individuals year of entry as well as his or her exit year if before 2007. The data available covered the period 1996-2007. However, since individuals entering in 1996 cannot be distinguished

from those already present before that year (no data available before that time), we decided to restrict the analysis to individuals present in 1997 and after. For individuals still present in 2007, it is by definition impossible to determine whether this was the last year they were present. However, in such cases, i.e. if the individual has not experienced the studied event, techniques of event history analysis enable us to use this information based on the following assumption: the individuals involved have been at risk for a duration at least equal to the observed period. We use the term right-censored to describe this type of duration and, since this kind of censoring is resulting from the observation schedule constraints rather than the behavior of a specific subpopulation of observed individuals, the survival function S(t) can still be estimated.

3.2 Semi-parametric analysis using the Cox model

Survival analysis is concerned with studying the time between changes from one state to another – here, exit from the artistic job market – using regression equations in which the dependent variable is the probability (h(t)) for an individual at time t to experience a given event at time t + n.
In 1972 Cox introduced an original model, which can be used to explore (and adjust for) the effects of several variables known to affect survival on the risk of experiencing the event. This model may be written:
$H(z) = H0(t)\exp(bz)$, where
- b represents the estimated effects of the various characteristics introduced as independent variables
- z represents proportionality of effects; this term implies that the characteristics have a multiplicative effect on the risks. We therefore assume that the individual hazard rates are proportional to each other.
- h0(t) is an unknown function of t, called baseline hazard and represents the instantaneous hazard rate (risk) of experiencing the event at time t for the standard individual whose characteristics are all null (z=0).

The general relation has two important characteristics:

1) Is it independent of the form (parametric or non-parametric) of the baseline hazard h0(t). The Cox model does not impose a statistical distribution of the baseline hazard and h0(t) is non-parametric. However, the model also contains a parametric component, exp(zb), which is why Cox's model is called semi-parametric.
2) Second, the proportional effect depends on z, but is constant for all durations t. However, this is no longer true when the covariates are time-dependent.

We aim to estimate:

1. The non-parametric component of the h0(t) model, which can be interpreted as the hazard rate for the standard individual.
2. The parametric component exp(zb), i.e., the value of the b estimators that measure the effect of the various characteristics.

4. Results

In this section the results from the different models and regressions are presented and compared.

4.1 Explaining income

In this paper we want to describe the relationship between wage and different explanatory variables for the five groups of artists. Our main focus is on the role of education in explaining the wage. Our group of interest only includes people at an age of 18 or above and people with positive income when art is the main activity.
It is possible to estimate income functions for a single year (in this case 2007) for the five groups of artists and compare them. These models explain the variation in income between all artists in a single group. Table 1 shows the results.

Table 1. Cross section regressions for the year 2007[4]

Interest group	Sculptures, painters and related artists	Choreographers and dancers	Film, stage and related actors and directors	Composer, musicians and singers	Authors, journalists and other writers
Variable/Model	1.1	1.2	1.3	1.4	1.5
Intercept	10,6286**	13,3579**	11,2956**	11,0347**	10,4174**
	(23,5)	(16,10)	(21,53)	(27,20)	(78,70)
Degree of unemployment	-0,0008**	-0,0010	-0,0005**	-0,0013**	-0,0013**
	(-3,61)	(-1,42)	(-3,29)	(-3,70)	(-10,97)
Copenhagen	0,4099**	-0,0020	0,4671**	0,1863**	0,2032**
	(6,63)	(-0,02)	(9,12)	(6,45)	(16,95)
Woman	0,0849	-0,2002**	-0,1789**	-0,0357	-0,0604**
	(1,36)	(-3,47)	(-2,98)	(-1,09)	(-4,87)
Log (Age)	-1,1083**	-0,7480**	-1,508**	-0,4864**	-0,6656**
	(-7,04)	(-4,04)	(-7,56)	(-2,91)	(-10,1)
Log (E)	0,3998**	0,2368*	0,278**	0,0207	0,1175**
	(9,82)	(2,04)	(4,87)	(0,56)	(9,80)
Log (Experience)	0,5311**	0,1700	0,6693**	0,3634**	0,4919**
	(11,87)	(1,73)	(14,73)	(8,79)	(23,64)
Relevant industry	-0,5834**			0,1137	-0,1306**
	(-3,96)			(1,62)	(-10,03)
Theater industry			-0,006		
			(-0,08)		
Film industry			-0,1111		
			(-1,17)		
Media industry			0,4448**		
			(3,76)		
Relevant education	0,3093*		0,1706**	0,0746*	0,1059**
	(2,39)		(2,64)	(2,40)	(8,15)
N	1384	114	1230	1092	8973
R-square	0,2929	0,5374	0,3495	0,4012	0,4022
Reset test (Chi square)	12,19 (0,0023)	9,90 (0,0071)	14,04 (0,0009)	8,20 (0,0166)	83,09 (<0,0001)

[4] Robust T-statistics are computed in the parentheses.
* Significant at the 5 percent level.
** Significant at the 1 percent level.

Sculptures, painters and related artists
The relevant education dummy variable is positive and significant with an estimate of 0,31 meaning that the wage is 36 percent[5] higher when a person has a relevant education. In general it can be seen from model 1.1 that a high degree of unemployment and working in a relevant industry have a negative impact on wages. Whereas working in Copenhagen affects income positively. Age has a negative impact on wage but both general experience and experience as a sculpturer, painter and related artists have a positive impact. A surprising result of the regression is the fact that being a woman actually increases income, even though not statistically significant, it is the only interest group where this is the case. In all the other interest groups this variable is actually negative.

Choreographers and dancers
For the group of choreographers and dancers it is noteworthy that no one has a relevant education in 2007 which is why we cannot estimate this parameter in the cross section regression. In general it can be seen from the regressions that a high degree of unemployment, working in Copenhagen and being a woman has a negative effect on the wage though only being a woman is significant. Age has a negative impact on wage whereas both general experience and experience as a choreographer and dancers have a positive impact.
In general the group of choreographers and dancers contain very few individuals. Because of this there is little variation, larger standard errors and not many significant variables.

Film, stage and related actors and directors
Many specifications have been tested, but the models seem quite robust. Regarding the relevant education variable it is positive and significant with an estimate of 0,17 which means having a relevant education increase the wage by approximate 18,5 percent.
In general it can be seen from 1.3 that a high degree of unemployment and being a woman has a negative effect on the wage. Whereas working in Copenhagen and in the media industry has a positive effect on wages. Age has a negative impact on wage but both general experience and experience as an actor/director have a positive impact.

Composers, musicians and singers
In general it can be seen from model 1.4 that a high degree of unemployment and being a woman (not significant) has a negative effect on the wage. Whereas working in Copenhagen and in a relevant industry has a positive effect on wages. Age has a negative impact on wage but both general experience and experience as a composer, musician and singer have a positive impact. The

[5] $100*(\exp(\beta)-1)$: Wooldridge: Introductory Econometrics. A modern approach, page 233.

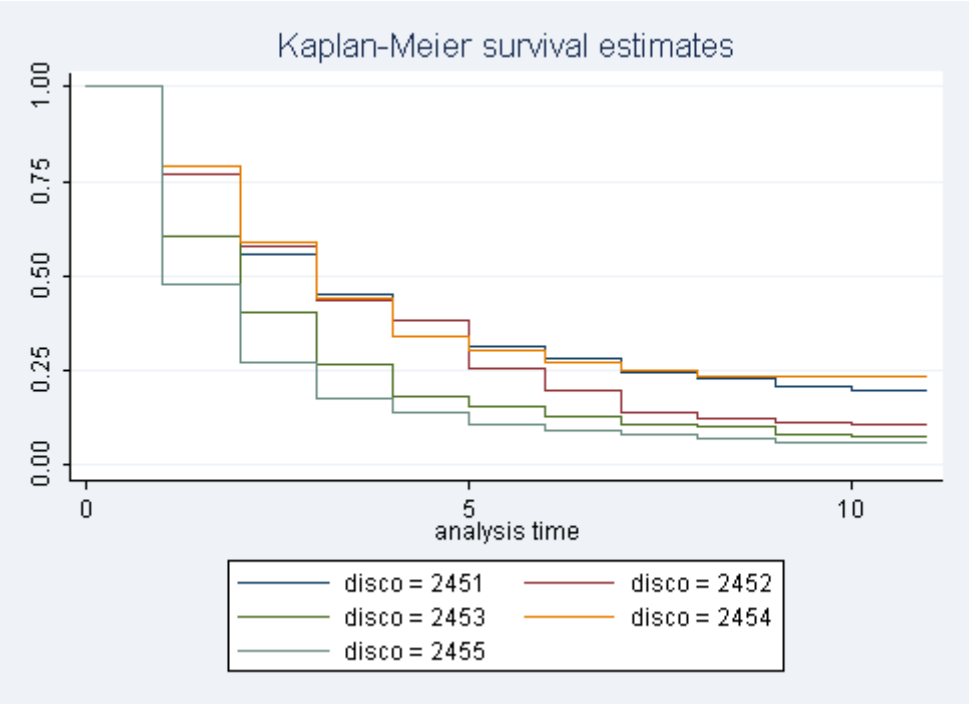
relevant education variable is positive and significant. Having a relevant education increase the wage by approximately 8 percent.

Authors, journalists and other writers
In general it can be seen from the model 1.5 that a high degree of unemployment, being a woman and working in a relevant industry has a negative effect on the wage. Whereas working in Copenhagen has a positive effect on wages. Age has a negative impact on wage but both general experience and experience as an author, journalist or other writer have a positive impact. The relevant education variable is positive and significant. Having a relevant education increase the wage by approximately 11 percent. Individual artistic talent has probably the biggest and most significant effect on artist's income. Since individual talent cannot be captured in a single variable, we must be cautious about interpreting the estimates in the cross section regressions since they might be biased. To eliminate the possibility of a biased estimation we can take advantage of the fact that the data has been collected through 13 years 1995-2007. This will be done in the panel regressions mention in footnote 2.

4.2 Survival functions

A graphical representation of the survival curves for the five groups of artists are shown in figure 1.

Figure1. Graphical representation of the survival curves for five groups of artists.



The figure shows an interesting pattern. "Film, stage and related actors and directors" (disco code 2455) are the group that fastest leave the artist occupation. After 1 year a little more than 50 percent of the artists in this group have left the occupation. After 2 years almost 75 percent has left and after five years only about 10 percent is still in the occupation. After 10 years it is less than 10 percent. The second most vulnerable group is "composers, musicians and singers" (disco code 2453). After 1 year about 40 percent has left the occupation and after 2 years about 60 percent has left. After 5 years about 15 percent is still working in the occupation and after 10 years it is less than 10 percent. For the three other groups of artists, namely "choreographers and dancers" (disco code 2454), "authors, journalists and other writers" (disco code 2451) and "sculptures, painters and related artists" (disco code 2452) the survival curves are more or less equal. After the first year about 25 percent has left the occupation and after two years it is about 40 percent. After five years the curves is decreasing more for "sculptures, painters and related artists" than for the other two groups of artists, which means that only 25 percent of the "sculptures, painters and related artists" are still in the occupation compared to 30 percent for the two other groups. And after 10 years about 25 percent of the "authors, journalists and other writers" and "choreographers dancers" are still in the occupation compared to only about 10 percent of the "sculptures, painters and related artists".

4.2.1 Cox regressions

In this section we wish to describe the relationship between the chance of survival in a particular job function for another year and different explanatory variables for our 5 different groups of artists by using Cox regressions to estimate the hazard n*ot being an artist in the next year*. We look at consecutive job years meaning that the first time at person does not work in the relevant job function he is excluded from the data.
There are several methods that can be used to estimate the effect of different explanatory variables on the survival in a job function. The data is characterized as survival data and this type data have two distinct features: censoring and time-dependent variables which make it inappropriate to use the OLS method. A survival analysis on the other hand applies maximum likelihood (partial likelihood) analysis to allow for censoring and time-dependent variables. There are many different models within the field of survival analysis. In this paper we estimate a Cox regression model which is characterized by being a combination of a proportional hazard model and the maximum partial likelihood method. The advantage of this method is that it can handle repeated events and it is not

necessary to specify the probability distribution which makes the estimates more robust (the estimates are consistent and asymptotically normal).[6]
In table 2 the results of the Cox regressions are shown. In the first horizontal line the parameter estimates are shown, in line 2 the hazard ratios and in line 3 the p-values. The parameter estimates can be interpreted as how a specific variable influence the hazard of not working in a specific job function.

Table 2. Cox regressions

Variable/Interest group	Sculptures, painters and related artists	Choreographers and dancers	Film, stage and related actors and directors	Composer, musicians and singers	Authors, journalists and other writers
Wage	-0,0000**	-0,0000**	-0,0000**	-0,0000**	-0,0000**
	1,0000	1,0000	1,0000	1,0000	1,0000
	[<0,0001]	[<0,0001]	[<0,0001]	[<0,0001]	[<0,0001]
Secondary Job	-0,0805	-0,3831	0,0562	-0,3344**	-0,3016**
	0,923	0,682	1,0580	0,7160	0,7400
	[0,2857]	[0,2288]	[0,5401]	[<0,0001]	[<0,0001]
Degree of unemployment	0,0003*	0,0009	-0,0002*	0,0002*	0,0004**
	1,0000	1,0010	1,0000	1,0000	1,0000
	[0,0121]	[0,0601]	[0,0436]	[0,0428]	[<0,0001]
Not Copenhagen	0,0028	-0,2190	-0,1664*	0,3635**	-0,2022**
	1,0030	0,8030	0,8470	1,4380	0,8170
	[0,9644]	[0,4111]	[0,0331]	[<0,0001]	[<0,0001]
Woman	0,1441**	-0,0030	-0,0771	0,1432**	0,0929**
	1,1550	0,9970	0,9260	1,1540	1,0970
	[0,0034]	[0,9873]	[0,2413]	[0,0006]	[0,0013]
Age	0,0012	0,0059	-0,0092**	-0,0014	0,0154**
	1,0010	1,0060	0,9910	0,9990	1,0160
	[0,5152]	[0,4243]	[0,0001]	[0,3456]	[<0,0001]
Experience	-0,0107**	-0,0161	-0,0054	0,0002	-0,0050**
	0,9890	0,9840	0,9950	1,0000	0,9950
	[0,0008]	[0,1115]	[0,2869]	[0,9407]	[0,0019]
Relevant industry			-0,3265**	1,1970**	0,5138**
			0,7210	3,3100	1,6720
			[0,0032]	[0,0044]	[<0,0001]
Relevant education	-0,2057*		0,4081**	-0,2837**	0,3766**
	0,8140		1,5040	0,7530	1,4570
	[0,0144]		[<0,0001]	[<0,0001]	[<0,0001]

[6] Survival analysis using the SAS System:A practical guide, Paul D. Allison

N	7236	371	3859	5552	17238
Percent censored	32,35	30,73	19,18	11,91	36,32

Sculptures, painters and related artists
It can be seen that the higher the wage the lower is the hazard rate. This means that the higher the wage a person earns the lower is the risk of leaving the job in the sculptures, painters and related artist job function. This pattern is the same for all the other groups of interest which are all both negative and significant, though the effect is quite small due to the fact the value of the wage is measured in DKK (Danish Kroner) and not in percentage.
Having a secondary job affects the hazard ratio negatively though it is not statistically significant. It means that if a person has a secondary job the lower is the risk of leaving the job in the sculptures, painters and related artist job function. The same applies to both experience and having a relevant education since these variables have a negative effect on the hazard ratio (both statistically significant). The hazard is only 81[7] percent of the hazard of a person without a relevant education.
The parameter estimates of the degree of unemployment and being a woman are positive and significant meaning the risk of leaving the artist occupation is higher for these groups. The parameters for not living in Copenhagen and age are also positive but not significant.

Choreographers and dancers
None of the estimates are significant for the group of dancers and choreographers (except for income). The problem is probably that there are too few observations. Therefore we will not comment further on this group.

Film, stage and related actors and directors
In general the estimates of the parameters for actors and directors are quite reverse from the estimates of the other groups.
For this group the parameters estimate of the degree of unemployment is positive and significant. This means that the actors and directors stay in the business longer if they have a higher degree of unemployment.
The parameters Not Copenhagen, age and relevant industry are all negative and significant which means that actors with these risk of leaving the industry are lower for these groups.
The relevant education parameter is positive and significant. Specifically the hazard of a person with a relevant acting education has a hazard of 150 percent of that of a person without a relevant education.

Composer, musicians and singers
As for the other groups (except actors and directors) having a secondary job decreases the hazard ratio. Whereas the parameter estimates of degree of unemployment, Not Copenhagen, and Woman are positive and significant.

[7] For dummy variables B*100, for continuous variable 100(B-1)

Neither age, nor experience are significant whereas the relevant industry parameter is positive and significant. The relevant education parameter estimate is negative and significant. The hazard of leaving the job function for a person with a relevant education is only 75 percent compared to a person without a relevant education.

Authors, journalists and other writers
All the parameter estimates in this group are significant which probably can be dedicated to the very large number of observations. The secondary job, Not Copenhagen and Experience variables are negative whereas Degree of unemployment, Woman, Age, Relevant industry and relevant education estimates are positive. Having an education the hazard is 146 percent of a person without a relevant education.

5. Conclusion and discussion

In this study we have for different groups of artists compared the factors that affect 1) the income of artists, and 2) the probability of an artist exits the artist's labor market. The paper has compared different groups of artists, by looking at income functions and survival functions concerning risks to exit the labor market, using event history techniques (survival functions and Cox regressions).
The analyses show some interesting results.
Concerning the income of artists the results are more or less as expected for all groups of artists (except choreographers and dancers, which is a rather small group). The degree of unemployment has a negative impact on income, working in Copenhagen has a positive impact on income, and being a woman has a negative impact on income (except for sculptures, painters and related artists). Age has a negative impact of income, but experience has a positive impact on income: both experience within the specific art field (this is not true for composers, musicians and singers) and general work experience. What maybe is most surprising is that working within the relevant industry only has a significant impact for sculptures, painters and related artist and authors, journalists and other writers. And here the impact is negative meaning that the artists can earn more outside the expected industries. For film, stage and related actors and directors it is significant that they are earning the most in the media industries compared to the film industry and the theatre industry. Having a relevant education has a positive impact on income.
The survival curve for artists do also show some interesting patterns. "Film, stage and related actors and directors" (disco code 2455) is the group that fastest leave the artist occupation. After 1 year a little more than 50 percent of the artists in this group have left the occupation. After 2 years almost 75 percent has left and after five years only about 10 percent is still in the occupation. The second most vulnerable group is "composers, musicians and singers" (disco

code 2453). For the three other groups of artists, namely "choreographers and dancers" (disco code 2454), "authors, journalists and other writers" (disco code 2451) and "sculptures, painters and related artists" (disco code 2452) the survival curves are more or less equal. After five years the curve is, however, decreasing more for "sculptures, painters and related artists" than for the other two groups of artists.

A previous study (Coulangeon et al., 2005) have observed survival function estimates for all performing artists in France and found that the 2 years following labor market entry show up as the maximum vulnerability period. The exit is, however, not as dramatic as observed in the Danish data. 17.8% of newcomers disappeared in the first year, 8.3% in the second, meaning that 26.1% performing artists exit the labor market in the first 2 years. During the third and following years, the probability of "definitive labor market exit" appears strongly diminished. The evaporation rate between the 3rd and 8th year after labor market entry is almost the same as in the first 2 years.

Coulangeon et al. (2005) has also studied the survival function differences among three categories of performing artists: actors, musicians and dancers. Curve comparison shows that the probability of disappearing in the first 2 years is much lower for musicians than for actors or dancers. They conclude that: "Musicians' lesser vulnerability may be linked to strictness of selection before entry on the job market. This is particularly clear for highbrow music performers, but, to a lesser degree, it also applies to lowbrow music performers, in accordance with their much more informal modalities. This observation goes against the positive valuation of being self-taught that is so strong in artist's life mythology." And further: "On the contrary, actors' greater vulnerability during the first two critical years may be interpreted as a sign of relative weakness of entry barriers to labor market. This easier job access may even reverse the standard chronological order of employment following upon training. This trend was reinforced with the rise of the audiovisual sector. Indeed, this sector allows spotting the inexperienced debutant actors, who will later consolidate their professional competence in the theatre sector."

"Moreover, in the 3rd year the survival curves for musicians and actors converge, which seems compatible with the idea that part of the selection process occurs, for actors, after labor market entry, contrasting with musicians' prior selection."

In this paper we have taken the explanation a step further and analyzed the relationship between the chance of survival in a particular job function for another year and different explanatory variables for our 5 different groups of artists by using Cox regressions to estimate the hazard n*ot being an artist in the next year*.

For all groups of artists (except film, stage and related actors and directors) the results are more or less as expected. For all groups of artists it can be seen that the higher the wage the lower is the hazard rate. This means that the higher the wage a person earns the lower is the risk of leaving the job. Being a woman increases the risk of leaving the profession for "sculptures, painters and related

artists", "composers, musicians and singers" and "authors, journalists and other writers". But it has no significant effect on "film, stage and related actors and directors" as well as on "choreographers and dancers". This result is in accordance with Coulangeon et al., 2005) who for actors found an absence of significant difference in the survival functions for men and women. This suggests that there is no specific form of professional discrimination against women in the acting profession, with regard to the risk of exiting the job market.

The results concerning working in a "relevant industry" are also interesting. For "film, stage and related actors and directors" working in a relevant industry means that the risk of leaving the profession is lower[8], while for "composers, musicians and singers" as well as "authors, journalists and other writers" the risk of leaving the profession is higher if they work in a "relevant industry". This may seem surprising, but consulting the definition of the "relevant industries" is may not be that surprising. For "film, stage and related actors and directors" the relevant industries are theatres, film production, radio and TV: The core creative industries. For "composers, musicians and singers" as well as "authors, journalists and other writers" the relevant industries are, however, more support functions for the core creative activities than really the core industry for creative production.[9] For musicians the relevant industries are defined as record companies and music agencies. And for authors the relevant industries are mainly publishing.

The experience within the art fields also has significant impact on the artist's risk of leaving the profession. For painters and writers a longer experience means lower risk of leaving the profession, while this is not true within the performing arts (for actors, musicians and dancers). Having a "name" as a painter or writer may be more important for the future career than within the performing arts, where many artists have very short careers.

Having a secondary job seems to be important for musicians and authors to stay in the industry. For these groups a secondary job may be important to make a living.

Finally, we want to mention the impact of a relevant education. For painters, musicians and writers a relevant education seems to be significant for a lower risk to leave the education. For actors the reverse effect seems to be true: Having a relevant education may lead to a higher risk to leave the occupation. This may lead to the conclusion that individual talent is more important in this occupation than a formal education. For journalists and musicians concrete

[8] It is interesting to note that Coulangeon et al. (2005) for actors found a perceived specialization effect that establishes a sharp opposition between audiovisual specialized professionals (film and television) and live stage actors: risk of exiting the job market increases for the first group while decreasing for the second. Therefore it seems that careers in the audiovisual sector, particularly film industry, are touched by greater uncertainty and volatility than in the live performance sector.

[9] This is due to the limitation of relevant categories in the data from Statistics Denmark.

skills may be more important and following that a formal education may also be more important to be able to stay in the profession.
In the further research and development of this paper we will develop the statistic analysis further. Especially we will develop the panel regression models taking advantage of the whole dataset during all the years. These methods estimates individual and time specific parameter estimates and should therefore eliminate the individual endogenous effect like talent, which must be considered to be the most important factor explaining artists careers and income, but which is very difficult - if possible at all - to measure.

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Appendix

Relevant educations and industries used in regressions

Creative job (disco code)		Relevant education		Relevant industry	
2452	Sculptures, painters and related artists	5811	Painting, basic education	52.48.35	Art shops and galleries
		5812	Sculpture, basic education.		
		5814	Wall and room art, basic education		
		5821	Painting, master's degree		
		5822	Sculpture, master's degree		
		5823	Wall and room art, master's degree		
		5825	Media art		
		9176	Academy of fine arts, una.		
2454	Choreographers and dancers	5856	Dancer		
2455	Film, stage and related actors and directors	5801	Basic education film, photographer	92.11.00	Motion picture and video production (*group = film industry*)
		5802	Basic education film, sound technician	92.31.10	Live theatrical presentations,
				92.20.00	
				92	Televis es (*g = M dustry*)

		5806	Basic education film production	92.20.20	Radio activities (*group = Media industry*)
		5807	Cartoon director		
		5816	TV producer		
		5817	TV instructor		
		9167	Other educations regarding fil,		
		5846	Basic education theatre technician, light		
		5847	Basic education theatre technician, sound		
		5848	Basic education theatre technician, scene		
		5849	Theater director		
		5850	Scenography		
		5852	Stage management		
		5855	Actor		
2453	Composers, musicians and singers	5602	Classical music (2 years)	22.14.00	Publishing of sound recordings
		5603	Classical music (3years)	74.84.90	Music agency and other services
		5611	Soloist class		
		5615	Composer class		
		5618	Conductor class (3 years)		
		5619	Conductor class (4 years)		
		5620	Opera academy		
		5895	Music profile		
		5901	Director, singing and composer, diplom.		
		5902	Singing director		
		5904	Preliminary organ examination		
		5909	Music theory composition		
		5918	Soloist, ensemb,rytm.dipl.		
		5919	Rhythmical soloist class		
		5921	Rhythmical music and singing		

		5922	Music, singing,rytm.dipl.		
		5923	Sound director		
		5925	Choir, ensemb-hø/node,dipl.		
		5995	Traditional music		
		5996	Early music		
		6586	Music, bachelor		
		6587	Music, cand.phil.		
		6786	Music, master's degree.		
		6787	Music, cand.mag.		
		7873	Music, mag.art.		
		9171	Soloist/composer./director		
		9172	Music conservatory, una.		
2451	Authors, journalists and other writers	5735	Journalist	22.11.10	Publishing of books, brochures, etc. with own printing office
		5736	Picture journalist	22.11.20	Publishing of books, brochures, etc. without own printing office
		6147	Journalism (RUC), master's degree	22.12.10	Publishing of newspapers with own printing office
		6665	Journalism, bachelor	22.12.20	Publishing of newspapers without own printing office
		9144	Correspondent	22.13.10	Publishing of journals and periodicals except district and advertising papers with own printing office
				22.13.20	Publishing of journals and periodicals except district and advertising papers without own printing office
				22.13.30	Publishing of district and advertising papers with own printing office

		22.13.40	Publishing of district and advertising papers without own printing office
		22.15.00	Other publishing