The Time Allocation and Earnings of Artists

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This article presents the results of an investigation into the time allocation and earnings of artists. Artists are unique because they spend substantial amounts of time both at art work and at nonart work while earning the majority of their income from the latter. In order to empirically examine this allocation of time between art and nonart work, we estimate a four-equation system. We find that artists respond to price signals in the directions predicted by economic theory.

Introduction

In this article we use data from the 1989 Information on Artists survey conducted by the Research Center for Arts and Culture[1] to examine the time allocation and earnings of artists. Artists are interesting as possible mavericks in the labor market. Presumably because of the psychic rewards their art work provides, they devote about half their working hours to art while accepting much lower monetary returns from it than from their nonart work. The artists in our database make only $5.66 an hour from art work but $17.38 from their other jobs while spending 25.6 hours per week working at art and 25.4 hours per week at their nonart jobs. Moreover, 49 percent of them say that their art earnings do not even cover their art-related costs, and 79 percent say they have to hold another job to support their art. Throsby (1994b) proposes two versions of a work-preference model for artists. In the strong version, the driven artist's principal objective is to maximize the time he or she spends at art. He or she therefore takes advantage of increased returns to nonart work to spend more time at art work. In the weak version, the artist, while receiving

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[1] For a more detailed description of this survey, see the *Information on Artists Report Series* (Research Center for Arts and Culture, 1990).

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utility from doing art, responds on the margin to changes in art and nonart income, substituting out of art work and into nonart work as the returns to nonart work increase. Our analysis allows us to test between these two versions of Throsby's model.

We also test the predictions made by human capital theory about the relationship between income and education. This theory suggests that the more educated artists, particularly those with a formal art education, would receive higher hourly earnings due to their greater human capital. However, it could be argued that art talent cannot be taught and that the better artists and hence those with higher art incomes would be those artists with greater innate talent irrespective of training.

We find clear evidence that artists respond to economic incentives in the allocation of their time between art and nonart work, although these responses are inelastic. Increasing returns to nonart work lead the artists in our sample to lower art hours. We also find that education explains little about art income but does explain some of the variation in nonart income. The latter finding leads us to speculate on why the artists in our sample are so highly educated. Forty-three percent of them have graduate degrees; an additional 41 percent have college degrees. In all, 69 percent of the artists report having a formal degree in the arts.

Ours is the first study to use the Information on Artists survey to test these hypotheses for all artists.[2] However, a number of other studies have investigated the labor supply and/or earnings of artists, including those by Filer (1986), Wassall and Alper (1984, 1992a), Throsby (1992, 1994b, 1996), and Towse (1992). The findings in these and other analyses are summarized in Wassall and Alper (1992b), Throsby (1994a), and Towse (1996). Although these studies employ various databases from several countries and for different time periods, the picture of artists' working lives that emerges from them is strikingly consistent with what we find. Most artists are unable to support themselves solely from doing art but have to devote substantial time to other work. In holding multiple jobs, they typically work longer than average work weeks and have total incomes below those earned by others with similar experience and levels of education. The results of these studies also agree with our finding that years of arts education are not an important determinant of art income.

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In order to see if artists' allocation of time between art and nonart activities is responsive to returns, a four-equation system of equations was

[2] Previously, we have used the Information on Artists survey to examine the earnings and attitudes of visual artists in New York (Montgomery and Robinson, 1993).

specified and estimated. The four dependent variables were log of hourly art income, log of hourly nonart income, log of weekly art hours, and log of weekly nonart hours. Hourly art income was specified to be a function of human capital, personal characteristics, and field of specialization. The human capital variables in the model are art experience, art experience squared, dummy variables for having a graduate degree or a college degree (omitted category less than college), and a dummy variable for whether the degree was a formal degree in the arts. We define art experience to be the difference between the artist's age and the age at which he or she reports becoming an artist. The personal characteristics variables are years in the current location, weeks traveling per year on art, and dummy variables for white, male, union status, and exposure to hazardous materials. We include field dummies for dance, film/video/television/radio, writing, crafts, photography, music, theater, and other fields [the omitted category being visual arts (sculpture and painting)]. While human capital theory would predict that income would increase with education and experience, it is unclear whether these results will hold in the arts. The dummy variable for working with hazardous materials was included to see if artists receive a compensating differential for this risk. We expect white artists and male artists to earn more. We also expect that the longer one has been in the current location, the higher income will be. Finally, union artists should receive higher hourly income.

Hourly nonart income also was specified to be a function of human capital, two of the personal characteristics variables (male dummy and white dummy), and the field dummies. We use age and age squared rather than art experience in this equation and include the college degree, graduate degree, and formal art degree variables. Here we expect human capital to positively affect income. We include formal art degree to test whether degrees in art have lower effects on nonart earnings than do nonart degrees. The effects of the personal characteristics should be the same as for art income.

Art hours were specified as a function of hourly art and nonart income, formal art degree dummy, personal characteristics (male, white, married, union status, number of dependents, and a dummy indicating whether one's partner provides insurance for the respondent), and field dummies. Of primary interest are the coefficients on art income and nonart income. If artists do respond to economic incentives, we would expect hourly art income to positively affect art hours and hourly nonart income to reduce art hours. On the other hand, if artists maximize art hours, we would expect hourly nonart income to increase art hours. We also expect that artists with a formal degree in the arts will work more art hours. This may

be so because the more artistic human capital the artist has, the more committed he or she is to art work. Alternatively, as Throsby (1994a) has suggested, it may be that in the performing arts the number of engagements and thus hours of work obtainable depend on an artist's acquired human capital. Finally, we include the variables on marital status, dependents, and whether the partner provides insurance as a measure of family conditions. Artists whose spouses are major earners in the family could spend more time at art. On the other hand, artists who are family heads may be less willing to allocate substantial time to their art. We include two variables to control for these effects: marital status and whether the partner provides insurance. Because we see the insurance coverage variable as a proxy for spouse's income, we expect artists whose partners help with health insurance to work more intensely at art. However, it is unclear what the additional effects of marriage would be. Finally, we expect the presence of dependents to lower art hours.

In the fourth and last equation, nonart hours were specified as a function of hourly art and nonart income, personal characteristics (white, male, married, number of dependents, and a dummy indicating whether ones partner provides insurance for the respondent), and field dummies. Again of crucial importance are the hourly income variables. We expect that increases in hourly art income will lower nonart hours. The effect of hourly nonart income will depend on whether artists seek to maximize art hours or instead respond to economic incentives. We also expect that artists who have insurance provided by a partner will have a lower supply of nonart time and that artists with dependents will work more nonart hours.

Data and Results

The Information on Artists survey contains information on 4010 artists from 10 regional centers in the United States. The artists come from all fields, including visual arts, dance, film, music, theater, writing, crafts, and photography. The survey obtained information on 1988 income and hours worked in both artistic and nonartistic jobs. The artists were identified primarily through organizations to which they belonged. In some of the arts, to obtain such membership involves certification by others. In many cases, however, it requires only self-identification as an artist. As is the case for many specialized surveys of this type, the attempt was made to contact as large as possible a body of respondents, and so the survey, while representative of U.S. artists, is not a random sample. Hence care should be taken in interpreting the results.

Our sample includes all the artists in the survey who are not retired or unemployed (2770), earn income in art (2270), earn income at a nonart job (1723), and have valid observations for all the variables in the regressions (1218). We limit our sample to artists holding both art and nonart jobs because we are interested primarily in the choices these artists make between their art and nonart work.[3]

In order to compute hourly art (nonart) income, we divided annual total art (nonart) income by the number of art (nonart) hours worked per year. The survey collected data on total income and art income. Therefore, we defined nonart income to be the difference between total and art income. While total income includes more than just earnings, we believe our variable to be a good proxy for these.

Table 1 reports the means for all the variables. Table 2 reports the results of the full-information maximum-likelihood estimation of the income equations, whereas Table 3 reports the hours results. Table 2 indicates that artists have a fairly typical quadratic relationship between income and experience. On the other hand, none of the educational variables has a significant effect on art income. In fact, the estimated coefficient for having a college degree is negative, though insignificant. In contrast, in their nonart jobs, college-educated artists earn 37 percent more than those without a college education, and those with a graduate degree earn 56 percent more. Those artists whose formal degree is in the arts earn no less than artists with nonart degrees. These nonart returns to education are quite consistent with returns to education for all workers. Although education is not important for arts income, art experience is significant. Both Filer (1990) and Wassall and Alper (1984) report similar results for experience, which Filer attributes to the relative importance in the arts of on-the-job learning.

Membership in an arts union raises hourly art income by 55 percent, working with hazardous materials increases it by 15 percent, and each week traveled raises it by 3 percent. Years in the current location, however, has no significant effect on art income. We find no gender or race differentials in art income, but a substantial differential in nonart income. Both the art and the nonart incomes of visual artists, who comprise 37 percent of our sample, are lower than those in every other field, except for the nonart earnings of those in film/video/television/radio. Table 3 shows

[3] In our sample, 19.1 percent of the artists earn all their income from their artwork and were not included in our study. To determine if this omission affected our results, we reestimated all the models using predicted hourly nonart income for these artists (since they earned all their income from art, we could not directly observe their nonart income). These results were quite similar to the results reported in this article and are available from the authors.

TABLE 1

VARIABLE MEANS

	Mean	Standard error
Annual art income	7428.90	18368.92
Annual nonart income	17590.53	34488.38
Weekly art hours	25.61	15.47
Weekly nonart hours	25.36	13.73
Hourly art income	5.66	11.67
Hourly nonart income	17.38	62.69
Dependent variables		
Log of hourly art income	0.84	1.38
Log of hourly nonart income	2.17	1.50
Log of art hours per week	3.03	0.71
Log of nonart hours per week	3.04	0.71
Independent variables		
Male	0.44	0.50
White	0.89	0.31
Dependents	1.83	1.17
Partners insurance	0.14	0.35
Married	0.41	0.49
College degree	0.41	0.49
Graduate degree	0.43	0.50
Formal art degree	0.69	0.46
Age	36.94	8.72
$Age^2/100$	14.41	7.24
Art experience	22.04	10.17
Art $experience^2/100$	5.89	5.52
Years in current work location	8.42	5.43
Weeks traveling	3.71	6.64
Hazardous materials	0.53	0.50
Arts union	0.32	0.47
Fields		
Dance	0.04	0.21
Film/video/television/radio	0.09	0.28
Crafts	0.04	0.19
Photography	0.06	0.24
Music	0.09	0.28
Theater	0.14	0.35
Writing	0.07	0.26
Other	0.10	0.30
N	1218	

TABLE 2

FULL-INFORMATION MAXIMUM-LIKELIHOOD ESTIMATES OF INCOME EQUATIONS

	Log of hourly art income		Log of hourly nonart income	
Variable	Coefficient	*t* Statistic	Coefficient	*t* Statistic
Intercept	–0.116	–0.55	0.424	0.75
Art experience	0.023**	2.29		
Art experience^2/100	–0.031*	–1.69		
Age			0.041	1.56
Age^2/100			–0.041	–1.33
Male	0.062	0.81	0.179**	2.06
White	–0.025	–0.21	0.355**	2.58
College degree	–0.074	–0.70	0.372**	2.95
Graduate degree	0.082	0.66	0.561**	3.96
Formal art degree	0.012	0.13	–0.037	–0.37
Arts union	0.547**	6.50		
Years in current work location	0.003	0.53		
Weeks traveling	0.032**	6.27		
Hazardous materials	0.149**	2.56		
Dance	0.410**	2.15	0.046	0.21
Film/video/television/radio	0.421**	2.92	–0.042	–0.26
Crafts	0.793**	3.96	0.168	0.74
Photography	0.264	1.61	0.363*	1.96
Music	0.474**	3.23	0.080	0.49
Theater	0.191	1.50	0.071	0.53
Writing	0.073	0.47	0.338*	1.96
Other	0.359**	2.68	–0.007	–0.05
N	1218			
System log-likelihood	–6557.28			

*Significant at the 90 percent level.
**Significant at the 95 percent level. Omitted field is visual arts (painting and sculpture).

TABLE 3

FULL-INFORMATION MAXIMUM-LIKELIHOOD ESTIMATES OF HOURS EQUATIONS

	Log of art hours		Log of nonart hours	
Variable	Coefficient	*t* Statistic	Coefficient	*t* Statistic
Intercept	3.290**	11.71	3.194**	15.89
Log hourly art inc.	0.445**	4.38	–0.307**	–5.31
Log hourly nonart inc.	–0.327**	–2.06	0.126	1.15
Male	0.107	1.50	0.065	1.28
White	0.141	1.17	–0.043	–0.50
Dependents	0.021	0.99	–0.036*	–1.74
Married	–0.040	–0.75	–0.081	–1.57
Partner's insurance	0.150**	2.32	–0.255**	–4.10
Formal art degree	0.098*	1.72		
Arts Union	–0.162**	–2.14		
Dance	–0.276	–1.63	–0.087	–0.73
Film/video/television/radio	–0.475**	–3.66	0.139	1.52
Crafts	–0.306	–1.62	–0.146	–1.13
Photography	–0.244	–1.59	–0.001	–0.01
Music	–0.354**	–2.62	–0.029	–0.30
Theater	–0.172	–1.62	–0.073	–0.96
Writing	–0.164	–1.14	–0.012	–0.12
Other	–0.129	–1.08	–0.175**	–2.10
N	1218			
System log-likelihood	–6557.28			

*Significant at the 90 percent level.
**Significant at the 95 percent level. Omitted field is visual arts.

that while earning less per hour, visual artists work longer art hours than any others. These differences in art earnings and hours between visual artists and those who are performing artists seem likely to be related to the fact that the former are usually self-employed, wherease the latter depend on others for their irregular employment.

If education does not significantly affect hourly art income, are these artists behaving in an economically rational way in acquiring substantial amounts of education? One reason for their educational choices may be that their education does provide them with appropriate human capital for the nonart jobs they pursue. There are high returns to advanced degrees in the nonarts sector, and the majority of these degrees are in the arts. The graduate work photographers and filmmakers complete may pay off in the nonart sector, and graduate work in all the arts provides the credentials for the arts teaching done by many. Nineteen percent of the respondents say they earn their major income as an arts instructor. It is also possible that higher education in the arts may serve as a signal to some perspective nonarts employers. Another possibility has nothing to do with nonart earnings. Artists may choose to stay in school not so much to acquire human capital as to have time to do art. Because of the financial aid they may receive, they may be able, while in school, to work at their art more intensively with less need to take time from it to work at another job. Finally, as suggested earlier, training in the performing arts may affect not hourly art income but the number of art hours. The coefficient in the art hours equation, which indicates that those with a formal art degree work 10 percent more hours, is consistent with this explanation.

Table 3 reports the hours' results. Of primary interest to us are the estimates of the effect of hourly art and nonart income on time spent on art and nonart work. All the effects have the signs predicted by the weak version of Throsby's model, and three are significant. A 10 percent increase in hourly art income would increase art hours by 4.5 percent and would decrease nonart hours by 3.1 percent. A 10 percent increase in hourly nonart income would lower art hours by 3.3 percent and increase the number of nonart hours by 1.3.[4] Since we have specified both the income and hours' variables in logs, the estimated coefficients represent elasticities. Our results suggest artists' allocation of hours is inelastic. These results suggest that artists are responding to economic incentives on the margin rather than maximizing total art time and support the weak version of Throsby's work preference model.

[4] This may suggest that higher hourly nonart income reduces total hours at work, perhaps as the artist substitutes leisure for art time. However, given the imprecision of our estimates, we cannot reject the null hypothesis that hourly nonart income has an effect of the same magnitude in both the art and nonart hours equations.

Having a partner's insurance coverage raises art hours by 15 percent and lowers nonart hours by 26 percent. This suggests that, for at least a part of the sample, art work is a major activity of the individuals with a working spouse and that it may be the case that a large art subsidy takes place within the household. Dependents have no effect on art hours and a small negative effect on nonart hours, whereas we find no significant effect of marital status. Finally, union workers work 16 percent fewer art hours, which is consistent with what we expect to observe about union members.

Conclusions

This article, using data from the Information on Artists survey, has shown that even though artists accept much lower average earnings from art than from nonart work, their allocation of time between the art and nonart sectors is responsive to art and nonart returns. Full-information maximum-likelihood estimates from a system of four equations (art and nonart income, art and nonart hours worked) indicate that artists do allocate hours based on returns to art and nonart work. We also find that artists' nonart incomes, but not their art incomes, are influenced by their years of education.

These are workers in one of the most creative and nontraditional of professions. Their decisions cannot be explained adequately without reference to the nonfinancial rewards of their art. The difference in average art and nonart earnings we observe suggests that artists have preferences for doing art work. However, at the margin, they do respond in a relatively traditional way to economic incentives.

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