

Econometrics : Who is the most likely to have a date ?

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May 21, 2013

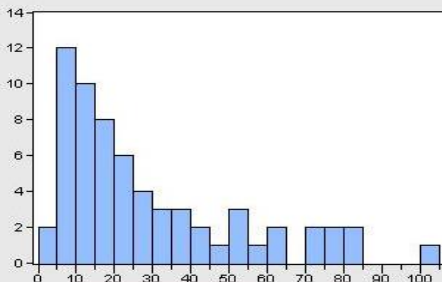
- 1 Our topic
- 2 Our model
- 3 Other interpretation
- 4 Conclusion and critics

The variables

Sex	Male OR Female
Age	25 OR 44
Race	Caucasian OR Black/Arabian
Level of education	Master OR Baccalaureat
Center of interests	Intellectual/cultural OR partying
Introduction	Looking for durable relationship OR an occasional one
Number of visits	Observed on the site to measure the attractiveness due to the photo

- 1 N:64 exceed p:7
- 2 warning : the variable *visit*

Histogram of the sample



Series: DATE
Sample 1 64
Observations 64

Mean 28.39063
Median 19.00000
Maximum 103.0000
Minimum 2.00000
Std. Dev. 24.13824
Skewness 1.222342
Kurtosis 3.583563

Jarque-Bera 16.84540
Probability 0.000220

First equation

$$\begin{aligned} \text{date}_i = & \beta_1 + \beta_2 \text{Age}_i + \beta_3 \text{interest}_i + \beta_4 \text{origin}_i + \beta_5 \text{sex}_i + \beta_6 \text{education}_i \\ & + \beta_7 \text{attractiveness}_i + u_i \quad (1) \end{aligned}$$

Estimate equation

Dependent Variable: DATE
 Method: Least Squares
 Date: 05/21/13 Time: 10:31
 Sample: 1 64
 Included observations: 64

	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.805371	5.176878	-1.507737	0.1372
TWENTYFIVE	6.655864	2.335273	2.850144	0.0061
FUN	2.235489	2.287140	0.977417	0.3326
PARTY	-1.028964	2.288795	-0.449566	0.6548
BLACKARABIAN	2.798107	2.398651	1.186534	0.2483
MALE	-4.252882	3.121800	-1.362317	0.1786
LOWEDUCATION	-3.028112	2.295426	-1.319194	0.1925
VISIT	0.442034	0.033730	13.10523	0.0000
R-squared	0.872773	Mean dependent var	28.39063	
Adjusted R-squared	0.856869	S.D. dependent var	24.13824	
S.E. of regression	9.132127	Akaike info criterion	7.377943	
Sum squared resid	4670.162	Schwarz criterion	7.647803	
Log likelihood	-228.0942	Hannan-Quinn criter.	7.484255	
F-statistic	54.87959	Durbin-Watson stat	1.688058	
Prob(F-statistic)	0.000000			

Are all variables useful ?

All coefficients' probability are high

Party coefficient is the highest : no use

Are all variables useful ?

Correlation								
	DATE	FUN	LOWEDUCA...	MALE	PARTY	TWENTYFIVE	VISIT	BLACKARAB...
DATE	1.000000	0.084164	0.001957	-0.671351	-0.065895	0.004567	0.914345	-0.142882
FUN	0.084164	1.000000	0.000000	0.000000	0.000000	0.000000	0.042028	0.000000
LOWEDUCA...	0.001957	0.000000	1.000000	0.000000	0.000000	0.000000	0.073064	0.000000
MALE	-0.671351	0.000000	0.000000	1.000000	0.000000	0.000000	-0.653046	0.000000
PARTY	-0.065895	0.000000	0.000000	0.000000	1.000000	0.000000	-0.049787	0.000000
TWENTYFIVE	0.004567	0.000000	0.000000	0.000000	0.000000	1.000000	-0.150653	0.000000
VISIT	0.914345	0.042028	0.073064	-0.653046	-0.049787	-0.150653	1.000000	-0.225657
BLACKARAB...	-0.142882	0.000000	0.000000	0.000000	0.000000	0.000000	-0.225657	1.000000

Are all variables useful ?

Wald Test:

Equation: Untitled

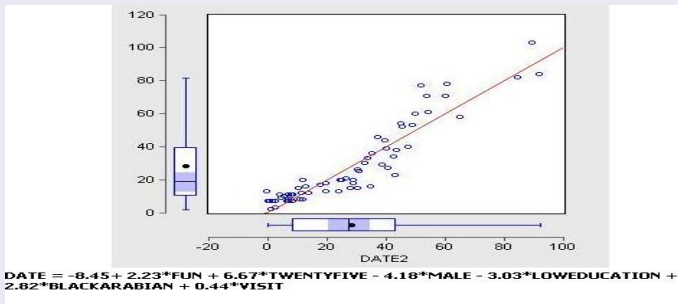
Test Statistic	Value	df	Probability
F-statistic	185.0656	(2, 56)	0.0000
Chi-square	370.1312	2	0.0000

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(8)	0.442034	0.033730
C(6)	-4.252882	3.121800

Restrictions are linear in coefficients.

The linear regression

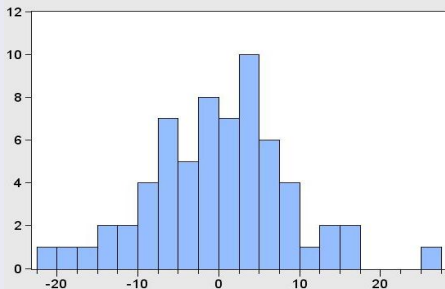


Quality of the model

Heteroskedasticity Test: White

F-statistic	1.169668	Prob. F(22,41)	0.3239
Obs*R-squared	24.67894	Prob. Chi-Square(22)	0.3127
Scaled explained SS	23.51274	Prob. Chi-Square(22)	0.3733

Quality of the model



Series: Residuals
Sample 1 64
Observations 64

Mean	-3.16e-15
Median	0.283253
Maximum	25.09756
Minimum	-20.15269
Std. Dev.	8.625375
Skewness	0.135751
Kurtosis	3.402243

Jarque-Bera	0.628034
Probability	0.730506

Women's model

Dependent Variable: DATE
 Method: Least Squares
 Date: 05/21/13 Time: 11:21
 Sample: 1 32
 Included observations: 32

	Coefficient	Std. Error	t-Statistic	Prob.
C	-13.11901	6.663544	-1.968774	0.0602
FUN	5.860072	3.704983	1.581673	0.1263
PARTY	-4.508835	3.698810	-1.218996	0.2342
TWENTYFIVE	7.953342	3.706181	2.145967	0.0418
BLACKARABIAN	-0.580824	3.777907	-0.153742	0.8790
LOWEDUCATION	-3.707608	3.712705	-0.998627	0.3275
VISIT	0.502437	0.043304	11.60266	0.0000
R-squared	0.856729	Mean dependent var		44.46875
Adjusted R-squared	0.822344	S.D. dependent var		24.79852
S.E. of regression	10.45239	Akaike info criterion		7.722178
Sum squared resid	2731.310	Schwarz criterion		8.042808
Log likelihood	-116.5548	Hannan-Quinn criter.		7.828458
F-statistic	24.91579	Durbin-Watson stat		1.433255
Prob(F-statistic)	0.000000			

Women's model

Wald Test:
Equation: EQ01

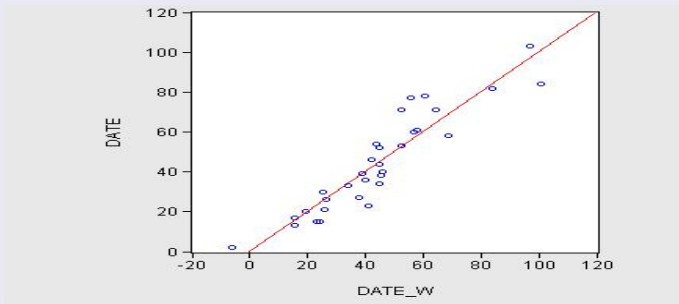
Test Statistic	Value	df	Probability
F-statistic	0.023637	(1, 25)	0.8790
Chi-square	0.023637	1	0.8778

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(5)	-0.580824	3.777907

Restrictions are linear in coefficients.

Women's model

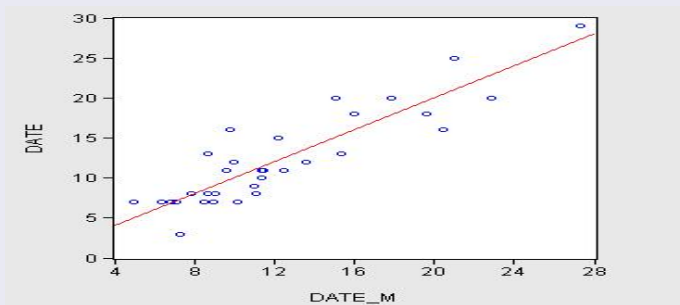


Men's model

Dependent Variable: DATE
 Method: Least Squares
 Date: 05/17/13 Time: 16:24
 Sample: 1 32
 Included observations: 32

	Coefficient	Std. Error	t-Statistic	Prob.
C	4.288529	2.331749	1.839190	0.0778
EDUCATION	-1.414892	1.062826	-1.331254	0.1951
FUN	-1.271559	1.052666	-1.207941	0.2384
ORIGIN	1.056126	1.250311	0.844691	0.4063
VISIT	0.198279	0.026539	7.471197	0.0000
TWENTYFIVE	0.236073	1.210714	0.194987	0.8470
PARTY	-0.997797	1.108577	-0.900070	0.3767
R-squared	0.798833	Mean dependent var		12.31250
Adjusted R-squared	0.750552	S.D. dependent var		5.953787
S.E. of regression	2.973603	Akaike info criterion		5.208066
Sum squared resid	221.0578	Schwarz criterion		5.528695
Log likelihood	-76.32905	Hannan-Quinn criter.		5.314345
F-statistic	16.54577	Durbin-Watson stat		2.036935
Prob(F-statistic)	0.000000			

Men's model



Comparison

	Gender : Male	Low education	Interests : Party	Looking for occasional relationship/fun	Black/Arabian origins	Age: Youth	Attractive photo
Full sample	Negative	Negative	0	Positive	Positive	Positive	Positive
Women	-	Negative	Negative	Positive	0	Positive	Positive
Men	-	Negative	Negative	Negative	Positive	0	Positive

Explanation

- Price subscription and spams
- The proportion men/women on the site

- The sample : too simple !
- Time
- Photo

- Thank you for your attention ! Do you have any question ?