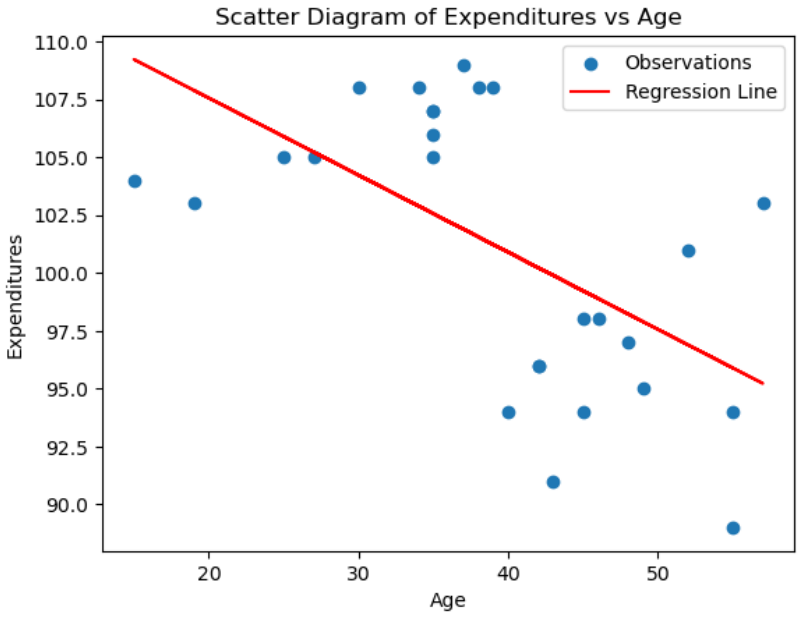
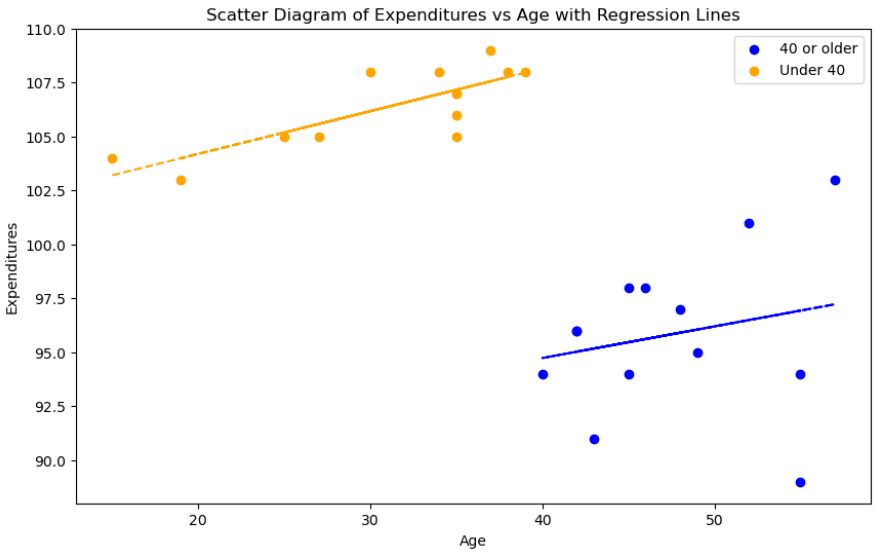
While the generalized model shows a negative relationship between age and expenditure, a closer inspection shows that when dividing the sample into 2 groups (<40 and >40 years) the relationship is actually positive, and with higher significance for the younger group (consistently expending more as they age) until they hit 40 years old, at which their expenditure drops and becomes less stable (As shown by the low t-statistic and high p-value over t.

One could predict better the expenditures of a younger population than an older one.





Alpha (intersect) Beta (Slope)

Model for all clients:

OLS Regression Results

Dep. Variable:	Expenditures	R-squared:	0.338
Model:	OLS	Adj. R-squared:	0.310
Method:	Least Squares	F-statistic:	12.24
Date:	Tue, 02 Jan 2024	Prob (F-statistic):	0.00185
Time:	12:22:52	Log-Likelihood:	-78.076
No. Observations:	26	AIC:	160.2
Df Residuals:	24	BIC:	162.7
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	114.2411	3.882	29.428	0.000	106.229	122.253
Age	-0.3336	0.095	-3.498	0.002	-0.530	-0.137

Omnibus:	5.126	Durbin-Watson:	1.955
Prob(Omnibus):	0.077	Jarque-Bera (JB):	1.689
Skew:	-0.021	Prob(JB):	0.430
Kurtosis:	1.752	Cond. No.	159.

Model for clients aged 40 or older:

OLS Regression Results

Dep. Variable:	Expenditures	R-squared:	0.048
Model:	OLS	Adj. R-squared:	-0.039
Method:	Least Squares	F-statistic:	0.5507
Date:	Tue, 02 Jan 2024	Prob (F-statistic):	0.474
Time:	12:08:05	Log-Likelihood:	-34.827
No. Observations:	13	AIC:	73.65
Df Residuals:	11	BIC:	74.78
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	88.8719	9.458	9.396	0.000	68.054	109.690
Age	0.1465	0.197	0.742	0.474	-0.288	0.581

Omnibus:	1.384	Durbin-Watson:	2.745
Prob(Omnibus):	0.501	Jarque-Bera (JB):	0.534
Skew:	-0.496	Prob(JB):	0.766
Kurtosis:	2.957	Cond. No.	427.

Model for clients younger than 40:

OLS Regression Results

Dep. Variable:	Expenditures	R-squared:	0.644
Model:	OLS	Adj. R-squared:	0.612
Method:	Least Squares	F-statistic:	19.90
Date:	Tue, 02 Jan 2024	Prob (F-statistic):	0.000962
Time:	12:08:05	Log-Likelihood:	-19.212
No. Observations:	13	AIC:	42.42
Df Residuals:	11	BIC:	43.55
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	100.2323	1.416	70.791	0.000	97.116	103.349
Age	0.1980	0.044	4.460	0.001	0.100	0.296

Omnibus:	0.100	Durbin-Watson:	1.864
Prob(Omnibus):	0.951	Jarque-Bera (JB):	0.154
Skew:	-0.135	Prob(JB):	0.926
Kurtosis:	2.541	Cond. No.	141.

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