



PRICING IN THE GERMAN ESCORT SERVICE SECTOR: RESULTS FROM A HEDONIC REGRESSION MODEL

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Abstract: This paper makes a contribution to the literature on practical applications of the hedonic regression model which relates the prices of goods or services to their specific characteristics or attributes. In this paper, we examine the determinants of salaries of prostitutes who work in the escort service sector in Germany. Two categories of variables are considered. The first category refers to physical attributes that can be related to sexual attractiveness. The second group of variables capture educational and communicational skills. It is the purpose of this article to disentangle the contribution of each of the attributes to the salary of the escort. Our results reveal that approximately 60 percent of the salary is determined by variables of the first category, whereas 40 percent of the price is determined by variables of the second category. This result shows, that escorts are significantly different from ordinary prostitutes. The hedonic regression approach can help to determine realistic market prices in this sector.

Keywords: Hedonic Regression, Consumer Theory, Prostitution, Shadow Economy

1. INTRODUCTION

In the sector of commercial sexual services, the escort service occupies a special position. On the one hand, the highest prices are charged here compared to other sectors (brothels, residential prostitution, street prostitution). On the other hand, escort service providers do not just offer sexual services, but also other service components such as cultural and communicative offers. For

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example, escorts are also in demand for cultural events or travel and holiday companions, where only a very small part of the booked time is spent on sexual activities. The escort sector is likely to have grown as a result of the spread of the Internet since the 1990s and the liberalization of legislation in Germany in 2002, as advertising opportunities on the Internet have resulted in increasingly better visibility of escort agencies and independent escorts (Cunningham/Scott, 2011).

Although there are now numerous studies dealing with this sector, one central question has not yet been answered. The question is about the importance of the individual characteristics of the providers in determining the prices of an escort booking. Pricing is formally based on time units, with a minimum booking period of 2 hours being the rule. Longer booking periods such as 6 or 24 hours, even multi-day arrangements are possible and are also in demand. Specific sexual services are usually not guaranteed, but are usually only advertised as options. However, they are consistently expected by clients. However, some escort agencies, which provide the vast majority of escorts in Germany, also offer pure dinner dates that explicitly exclude sexual services.

The central research question of this study is therefore: Can the different prices of escort service providers be linked to certain characteristics or attributes? In particular, it is of interest how the areas of education and personal interests are valued by clients. To answer this question, this study uses the hedonic regression analysis method. For goods and services, this makes it possible to put the importance of a relevant product or service property in a direct relationship to the price of the service.

2. HEDONIC REGRESSION

The method of hedonic regression goes back to the empirical and consumption-theoretic work of Andrew Court from 1939 (Goodman, 1998), Kelvin Lancaster (1966) and Sherwin Rosen (1974), which, in contrast to classical microeconomics, postulate that quantities of goods do not provide utility. It is the different goods characteristics or attributes that create utility. A simplified representation of the basic ideas can be found in Hossain et al. (2014). Without formally presenting the development of the theory, the basic relationship between the product price and the product characteristics can be written as follows.

$$p = f(z_1, z_2, \dots, z_n)$$

with p as the product price and $z_1, z_2, \dots, z_n$, a vector of n properties.

This relationship can be tested empirically using a linear regression model. The corresponding regression equation is:

$$p = \beta_0 + \beta_1 z_1 + \beta_2 z_2 \dots + \beta_n z_n + u$$

The coefficients capture the effect of a certain property on the price. The calculation of standardized regression coefficients makes it possible to directly compare the relative importance of certain properties or sets of properties as price determinants, irrespective of variable scaling. Hedonic regression analysis has become widespread in researching the determinants of real estate prices (Lieske et al. 2021) or as part of the quality-related price adjustment of products, for example for durable consumer goods such as motor vehicles (Reis and Santos Silva, 2002). The method has also been occasionally used to extract the price-determining factors for sexual services (Moffat and Peters, 2004; Edlund et al. 2009).

3. LITERATURE FINDINGS

There are now many quantitative studies on sex work (Ciacci, 2018). However, the question of the determinants of the price of sexual services has received relatively little attention. However, the preferences of (male) customers have now been well researched, especially in the area of escort services. It becomes clear that in addition to sexual acts in the narrower sense, “girlfriend experiences” are particularly in demand. A paid meeting is intended to simulate the authentic feeling of getting to know and conquering a woman under normal conditions, without direct and immediate financial benefits (Cunningham/Kendall, 2011; Milrod/Monto, 2012). Since clients requesting such expensive services are usually educated and wealthy themselves, relevant properties of escorts do not only include physical attractiveness, but also skills regarding education and communication. However, the connection between these demand motives and the importance of individual characteristics for the escort's fee has not yet been researched. Closing this research gap is the purpose of this paper.

The hedonic regression method has already been used in this context by Moffat (2005). He examines the price determinants of sexual services in all categories (street prostitution, brothels, apartment prostitution, escort)

on the basis of 982 user reports on the Internet. The following categories of determinants are considered.

- Category "Physical Characteristics" (age, body type, attractiveness)
- Category "Place of service" (street, provider's apartment, customer's apartment, massage parlor/brothel, hotel)
- "Service" category (normal sex, kinky extras)
- Region category (8 regions in the UK)

The duration of the meeting is also taken into account.

Moffat reports the coefficients and standard errors of an OLS regression as well as the coefficient of determination. Standardized regression coefficients are not reported. For this reason, the t-values can serve as a proxy.

The main results are the following:

- The most important price determinant is the duration of the meeting. There is a positive relationship, which is quite trivial.
- Age correlates non-linearly with price. The price maximum is reached at the age of 24. Older age lowers the achievable price.
- Slim providers achieve higher prices.
- Compared to street prostitution, prices are higher for all other places where the service is provided. They are highest for escort services in hotels.
- There are significant regional effects.
- The regression model explains 66 percent of the price variations.

The following criticism can be made:

- Moffat's approach only covers the escort service sector as part of the overall phenomenon of prostitution. A share cannot be determined.
- Educational determinants or personal interests are not taken into account. This is probably because, on the one hand, they cannot be determined, or, on the other hand, because they do not appear relevant to the purpose of the investigation.
- The high coefficient of determination for a large cross-sectional sample is primarily explained by the (trivial) relationship between fees and time spent together.

A similar approach is used by Edlund et al. (2009), who limit their study exclusively to escorts in the US. The information about prices and features

comes from Internet reviews from customers. The authors take into account age, weight and a number of other physical characteristics. Key results are:

- There is a non-linear relationship between price and age. The highest prices are achieved between the ages of 26 and 30. The authors explain this finding with the theory of Edlund and Korn (2002), who explain the high wages of prostitutes with the opportunity costs of foregone marriage opportunities. The likelihood of marriage is highest between the ages of 26 and 30.
- Smokers and overweight escorts also have to accept a price reduction, as do people with piercings or tattoos.
- There is a price surcharge for particularly large breasts and for implants.
- Depending on the specification of the model, a maximum of 38-39 percent of the variation in the price is explained.

In comparison to Moffat's study, the investigation here is explicitly limited to the area of escort services. However, two deficits remain. On the one hand, the study by Edlund et al. only studies physical characteristics and therefore only incompletely captures the complex range of services offered by escort providers. On the other hand, the proportion of explained variance in fees is relatively small.

4. ESCORT SERVICE IN GERMANY

In Germany there are many escort agencies that service as advertising platforms for escorts, usually between a few and over 100 self-employed escorts. The business is completely legal in Germany since 2002. In contrast, the number of escorts who work without an agency (independent escorts) is comparatively small. They are not included in this study. An analysis of the websites of corresponding agencies suggests that the market is divided into two parts. When advertising escorts, a group of agencies focus (almost) exclusively on sexual attributes and the offer of certain sexual services, in many cases with a detailed list of surcharges, beyond the mere remuneration for their time. Another group particularly promotes attributes such as educational qualifications, professional activity, language skills and personal interests. These attributes have no sexual references, but rather serve to advertise communicative, cultural or sporting preferences. Based on the pricing, a rough estimate of the evaluation of the

individual attributes can be made. In the first group of agencies, around €250 to €400 are charged for a 2-hour meeting, while in the second group the price range is from around €400 to €1,500. However, it would be a simplification to conclude that the non-sexual attributes in the second group would additively determine the prices. This would only be permissible if the individual sexual offers were identical. Only a simultaneous inclusion of the individual characteristics can provide information here.

5. SAMPLE AND PROPERTIES

In order to ensure the most accurate representation of the characteristics of escorts, we first checked which attributes were advertised on the websites of around 20 escort agencies. It was found that comprehensive information is only available from agencies that are in the medium to high price segment (> €400 for a booked time of 2 hours). For this reason, the following analysis is limited to these agencies. The attributes collected can be divided into two categories.

Category I includes physical characteristics that can be assumed to have an influence on perceived sexual attractiveness. The variables are

- age,
- weight,
- height,
- cup size,
- size,
- existence of tattoos and/or piercings,
- deviation from the ideal chest circumference 90 cm,
- deviation from the ideal waist circumference 60 cm,
- deviation from the ideal hip circumference 90 cm.
- waist/hip ratio.

A rating of perceived beauty was not carried out as this would have been too subjective.

Category II includes intellectual properties that are important for the fields of “communication” and “culture”. We consider

- knowledge of foreign languages,
- academic degree,
- promotion to PhD,
- personal interests.

The dependent variable is the price for a 2-hour appointment. Of the 20 agencies examined, only 6 agencies provided all information. The remaining ones are missing at least one piece of information, but usually several pieces of information. Luckily, these 6 agencies cover the full mid to high price range. For this reason, between 15 and 21 escorts were randomly selected from each agency for the sample. In total, $n = 112$ escorts were identified for whom all the necessary information was available. There are no duplicate listings with multiple agencies.

The individual properties or variables were operationalized as follows:

Category I

- Age in years (AGE)
- Weight in kg (WEIGHT)
- Height in cm (HEIGHT)
- The cup size was coded quasi-metrically as follows: (0 = A, 1 = B, 2 = C, 3 = D and so on) (CUP)
- The clothing size was measured using the European scale (32, 34, ...) (SIZE)
- Tattoos or piercings were coded as a dummy variable as follows (0 = if neither piercing nor tattoo, 1 = if either tattoo or piercing or both) (TP)
- Deviation from the ideal dimension 90cm in cm (positive or negative) D190
- Deviation from the ideal dimension 60cm in cm (positive or negative) D260
- Deviation from the ideal dimension 90cm in cm (positive or negative) D390
- Waist-hip ratio as a dimensionless number (WHRATIO)

Category II

- Knowledge of foreign languages (0 = none, 0.5 = basic knowledge of a language, 1 = fluent command of one language, 2 = fluent command of two foreign languages, and so on) (LANG)
- Academic degrees (0 = if no academic degree, 1 = if at least a bachelor's degree; students are treated as bachelors) (DAKAD)
- Doctorate (0 = no PhD, 1 = if with a PhD or doctoral student) (DPROM)

- Interests (0 = no interests that go beyond things like “shopping”, “sports”, “going out”, “cinema” ..., 1 = if at least one of the categories “classical literature”, “classical music”, “science” was specified) (INTRCLASS)

Table 1 reports descriptive statistics of category I

Table 1: Descriptive Statistics – Category I

	PRICE2H	AGE	CUP	D190	D260	D390	HEIGHT	WEIGHT	WHRATIO	TP	SIZE
Mean	780.1786	33.41071	1.933036	0.883929	6.196429	2.848214	170.4107	58.56250	0.713555	0.196429	35.77679
Median	800.0000	31.50000	2.000000	0.000000	5.000000	2.000000	170.0000	58.00000	0.701639	0.000000	36.00000
Maximum	1500.000	56.00000	5.000000	25.00000	38.00000	30.00000	183.0000	96.00000	0.933333	1.000000	42.00000
Minimum	400.0000	18.00000	0.000000	-15.00000	-2.000000	-15.00000	150.0000	44.00000	0.611650	0.000000	32.00000
Std. Dev.	272.1552	9.794790	1.186439	5.983078	6.226707	6.022794	5.617786	7.056760	0.055115	0.399082	1.752526
Skewness	0.105397	0.625170	0.773766	1.148030	2.023666	0.971960	-0.270426	1.951715	1.455630	1.528186	0.597330
Kurtosis	2.257732	2.325536	3.091988	6.208621	8.892837	6.798283	3.603321	10.74422	6.098263	3.335354	4.495519
Jarque-Bera	2.778513	9.418498	11.21547	72.64683	238.4967	84.96030	3.063742	350.9785	84.34845	44.11809	17.09768
Probability	0.249261	0.00912	0.003669	0.000000	0.000000	0.000000	0.215131	0.000000	0.000000	0.000000	0.000194
Sum	87380.00	3742.000	216.5000	99.00000	694.0000	319.0000	19086.00	6559.000	79.91819	22.00000	4007.000
Sum Sq. Dev.	8221596.	10649.11	156.2478	3973.491	4303.679	4026.420	3503.107	5527.563	0.337176	17.67857	340.9196
Observations	112	112	112	112	112	112	112	112	112	112	112

According to the Jarque-Bera test, the variables are not normally distributed, with the exception of the price variable and height. The deviation from a normal distribution is greatest for the “weight” variable, which is due to positive skewness. Higher body weights are the rare exception for escorts. We will check whether this is a problem in the regression estimates. The average escort is 33 years old, has a cup size C and clothing size 36, is 170 cm tall and weighs 59 kg. Regarding the deviations from the 90-60-90 ideal, there is only a greater divergence with a waist circumference of + 6 cm. The average fee for a meeting lasting 2 hours is €780.

Table 2: Descriptive Statistics – Category II

	DAKAD	DPROM	INTRCLASS	LANG
Mean	0.428571	0.062500	0.178571	1.388393
Median	0.000000	0.000000	0.000000	1.000000
Maximum	1.000000	1.000000	1.000000	4.000000
Minimum	0.000000	0.000000	0.000000	0.000000
Std. Dev.	0.497096	0.243149	0.384714	0.696548
Skewness	0.288675	3.614784	1.678509	1.206663
Kurtosis	1.083333	14.06667	3.817391	4.629571
Jarque-Bera	18.69907	815.4430	55.70924	39.57169
Probability	0.000087	0.000000	0.000000	0.000000
Sum	48.00000	7.000000	20.00000	155.5000
Sum Sq. Dev.	27.42857	6.562500	16.42857	53.85491
Observations	112	112	112	112

In category II it can be said that almost 43 percent of the escorts have an academic degree or are studying. Over 6 percent have a doctorate. The level of education in our sample is therefore well above average. This does not apply to language skills. Although some escorts speak three or four foreign languages, on average only one foreign language is spoken (English). 18 percent of escorts have a particularly broad and sophisticated range of interests.

6. BIVARIATE CORRELATION ANALYSIS

The bivariate correlations between the dependent variable PRICE2H and the variables of category I are shown in the table below. All variables are statistically significant except for the dummy variable TP (tattoo and/or piercing) and the cup size. The larger the escort, the higher the fee for a 2-hour meeting. The deviations from the 90-60-90 ideal, the clothing size, the age, the weight and the waist-hip ratio are negatively correlated with the price. This shows that slim women with low weight who fit the classic beauty proportions are paid best. The cup size and the existence of tattoos or piercings do not matter.

Table 3: Bivariate Correlations – Category I

Correlation t-Statistic	PRICE2H
PRICE2H	1.000000 ----
AGE	-0.704945 -10.42425
CUP	-0.088129 -0.927913
D190	-0.380857 -4.320048
D260	-0.532918 -6.605418
D390	-0.263581 -2.865803
HEIGHT	0.336528 3.748150
SIZE	-0.429250 -4.984588
TP	-0.059218 -0.622175
WEIGHT	-0.281600 -3.078006
WHRATIO	-0.415636 -4.792826

The following correlations arise for the variables in category II.

Table 4: Bivariate Correlations – category II

Correlation t-Statistic	PRICE2H
PRICE2H	1.000000 ---
DAKAD	0.609410 8.061418
DPROM	0.386469 4.394782
INTRCLASS	0.541772 6.760233
LANG	0.112499 1.187442

Here too, all correlations are highly significant, with the exception of the language variable. This could have two reasons. On the one hand, the variance of the variables is quite small and the mean (with one foreign language) is low. Escorts who speak more than 2 languages are rare. On the other hand, foreign languages do not play a major role in hedonic pricing if the escorts are predominantly booked by German-speaking customers. The attribute “language skills” would be more relevant if the proportion of foreign customers were high. However, this is apparently not the case.

The bivariate correlations usually show quite close and significant relationships between price and the individual properties. However, it is expected that some attributes correlate with each other. In terms of content, the properties then reflect something similar, and in econometric terms there is a risk of multicollinearity. For this reason, the intercorrelations of the independent property variables of category I are examined first.

It turns out that the deviations from the classic 90-60-90 ideal are largely determined by age. The deviations also correlate strongly with each other. Clothing size, weight and waist-hip ratio also correlate significantly positively with age. Height trivially correlates positively with weight. The highest correlation can be found between the characteristics of clothing size and weight. From the perspective of possible multicollinearity, the bivariate correlations are not so large as to cause serious estimation problems. However, there is a large

Table 5: Correlations between independent variables – Category I

Correlation t-Statistic	AGE	CUP	D190	D260	D390	HEIGHT	SIZE	TP	WEIGHT	WHRATIO
AGE	1.000000 ----									
CUP	0.124488 1.315882	1.000000 ----								
D190	0.455092 5.360289	0.440553 5.146960	1.000000 ----							
D260	0.468989 5.569261	0.111549 1.177287	0.616777 8.218150	1.000000 ----						
D390	0.297335 3.266194	0.327624 3.636875	0.740531 11.55729	0.588636 7.636912	1.000000 ----					
HEIGHT	-0.051720 -0.543168	-0.112079 -1.182947	0.125262 1.324189	-0.145522 -1.542672	0.151766 1.610391	1.000000 ----				
SIZE	0.503189 6.106955	0.186639 1.992492	0.663807 9.308761	0.701661 10.32838	0.679152 9.704390	0.173648 1.849332	1.000000 ----			
TP	0.025270 0.265116	-0.000510 -0.005345	0.111507 1.176829	0.078594 0.826854	-0.043706 -0.458832	0.072187 0.759085	0.063255 0.664756	1.000000 ----		
WEIGHT	0.330688 3.675042	0.199302 2.133089	0.660681 9.230835	0.620338 8.295132	0.703011 10.36762	0.420216 4.856896	0.811917 14.58693	0.085172 0.896554	1.000000 ----	
WHRATIO	0.300843 3.308540	-0.143236 -1.517928	0.079815 0.839787	0.692326 10.06282	-0.169922 -1.808456	-0.316648 -3.501192	0.249679 2.704301	0.131446 1.390682	0.121452 1.283296	1.000000 ----

amount of redundant information in the combination of different variables. This is particularly clear in the waist-hip ratio, which can be explained to 99 percent by the variables D260 and D390, by definition.

The following intercorrelations can be seen for the variables in category II.

Table 6: Correlations between independent variables – Category II

Correlation t-Statistic	DAKAD	DPROM	INTRCLASS	LANG
DAKAD	1.000000 ----			
DPROM	0.223607 2.406133	1.000000 ----		
INTRCLASS	0.444165 5.199474	0.264849 2.880626	1.000000 ----	
LANG	0.035311 0.370577	0.068153 0.716463	0.091852 0.967447	1.000000 ----

The most striking connection here is that between the breadth of interests and the presence of an academic degree. The positive correlation between the variables DPROM and DAKAD results from the fact that an academic degree is a prerequisite for a doctorate. Overall, however, the intercorrelations are low, so no problems are to be expected when estimating the regression coefficients.

7. HEDONIC REGRESSION MODEL

In a first step, the price PRICE2H is estimated depending on all variables of categories I and II, whereby two alternative models are estimated due to the collinearity of the waist-hip relationship with the deviations 90-60-90.

Table 7: Regression Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AGE	-14.24446	1.588922	-8.964855	0.0000
CUP	1.260069	12.09813	0.104154	0.9173
D190	-4.625010	3.632227	-1.273326	0.2059
D260	-2.168348	3.446304	-0.629181	0.5307
D390	3.708541	3.436767	1.079079	0.2832
HEIGHT	11.41458	3.091928	3.691734	0.0004
SIZE	5.503896	13.71088	0.401425	0.6890
WEIGHT	-5.929004	3.849123	-1.540352	0.1267
TP	-30.53113	30.66058	-0.995778	0.3218
DAKAD	67.37162	30.44562	2.212851	0.0292
DPR0M	225.6700	51.20807	4.406923	0.0000
INTRCLASS	207.7838	36.29168	5.725383	0.0000
LANG	-21.18842	17.90527	-1.183362	0.2395
C	-578.9063	603.9128	-0.958593	0.3401
R-squared	0.820399	Mean dependent var	780.1786	
Adjusted R-squared	0.796574	S.D. dependent var	272.1552	
S.E. of regression	122.7494	Akaike info criterion	12.57464	
Sum squared resid	1476607.	Schwarz criterion	12.91445	
Log likelihood	-690.1796	Hannan-Quinn criter.	12.71251	
F-statistic	34.43493	Durbin-Watson stat	2.143722	
Prob(F-statistic)	0.000000			

The deviation variables are all insignificant, recognizable by the t-values < 2. Of the other variables in category I, CUP and SIZE are insignificant. The weight variable WEIGHT is not far from the 10% significance limit.

If the deviations are replaced with the waist-hip ratio, the following regression results were obtained.

The WHRATIO variable is still insignificant, but the weight is now significant at almost the 5% level. The adjusted coefficient of determination has increased slightly compared to the first model. However, in both models the category I variables CUP, SIZE and TP are insignificant. For this reason, a reduced model is estimated that only contains the variables AGE, WHRATIO, HEIGHT and WEIGHT from category I. Category II variables are fully included.

Table 8: Regression Model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AGE	-14.71046	1.532904	-9.596466	0.0000
CUP	-4.868037	11.07344	-0.439614	0.6612
WHRATIO	-297.6514	258.6051	-1.150988	0.2525
HEIGHT	11.09378	2.880939	3.850752	0.0002
SIZE	4.662188	13.14032	0.354800	0.7235
WEIGHT	-6.483944	3.364646	-1.927080	0.0568
TP	-36.39029	29.98698	-1.213536	0.2278
DAKAD	68.94375	30.26320	2.278139	0.0248
DPR0M	222.7671	50.86343	4.379710	0.0000
INTRCLASS	203.6216	36.12271	5.636942	0.0000
LANG	-22.92120	17.38861	-1.318173	0.1905
C	-224.9746	650.2380	-0.345988	0.7301
R-squared	0.817820	Mean dependent var	780.1786	
Adjusted R-squared	0.797780	S.D. dependent var	272.1552	
S.E. of regression	122.3852	Akaike info criterion	12.55318	
Sum squared resid	1497813.	Schwarz criterion	12.84445	
Log likelihood	-690.9781	Hannan-Quinn criter.	12.67136	
F-statistic	40.80970	Durbin-Watson stat	2.133311	
Prob(F-statistic)	0.000000			

Table 9: Regression Model 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AGE	-14.50623	1.436523	-10.09815	0.0000
WHRATIO	-302.6137	240.5994	-1.257749	0.2113
HEIGHT	11.05054	2.613945	4.227533	0.0001
WEIGHT	-5.931472	2.046978	-2.897673	0.0046
DAKAD	69.73491	29.53993	2.360700	0.0201
DPR0M	217.1345	50.11163	4.333017	0.0000
INTRCLASS	201.3944	35.82936	5.620933	0.0000
LANG	-20.84158	17.03386	-1.223539	0.2239
C	-105.4788	477.3226	-0.220980	0.8255
R-squared	0.814407	Mean dependent var	780.1786	
Adjusted R-squared	0.799992	S.D. dependent var	272.1552	
S.E. of regression	121.7138	Akaike info criterion	12.51817	
Sum squared resid	1525869.	Schwarz criterion	12.73662	
Log likelihood	-692.0174	Hannan-Quinn criter.	12.60680	
F-statistic	56.49732	Durbin-Watson stat	2.134065	
Prob(F-statistic)	0.000000			

The variable WHRATIO is now insignificant again; all Category II variables are significant with the exception of LANG. We now remove this variable in a further model reduction and estimate it without the constant term, due to insignificance in all models estimated so far.

Table 10: Final Regression Model 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AGE	-14.27228	1.418921	-10.05854	0.0000
WHRATIO	-337.0784	192.3324	-1.752583	0.0826
HEIGHT	10.21630	0.992011	10.29858	0.0000
WEIGHT	-5.530534	1.927495	-2.869285	0.0050
DAKAD	73.51712	29.32848	2.506680	0.0137
DPROM	216.2353	49.57285	4.361970	0.0000
INTRCLASS	198.9392	35.54886	5.596219	0.0000
R-squared	0.811550	Mean dependent var	780.1786	
Adjusted R-squared	0.800781	S.D. dependent var	272.1552	
S.E. of regression	121.4736	Akaike info criterion	12.49773	
Sum squared resid	1549363.	Schwarz criterion	12.66764	
Log likelihood	-692.8730	Hannan-Quinn criter.	12.56667	
Durbin-Watson stat	2.076601			

All variables (properties) are now significant. The adjusted coefficient of determination is the highest of all estimated models. Over 80 percent of the price variance is explained, which is much better than the literature results previously obtained. The price for a 2-hour meeting is higher the lower the age, weight and waist-hip ratio. Height is positively correlated with the fee. The category II variables are consistently significant. The hedonic coefficients show the following quantitative effects.

- An additional year of age reduces the fee by €14.27.
- If one assumes an ideal waist-hip ratio of 0.67 according to the 90-60-90 rule and compares this with the average in our sample of 0.71, the fee drops by $(0.71 - 0.67) \times 337.1 = €13.5$. The effect is relatively small, but measurable.
- An additional centimeter of height increases the achievable fee by €10, correspondingly an additional 10 cm of height results in around €100 more fee.
- One kilogram of additional weight reduces the achievable price by €5.5. This shows that escort customers prefer tall and slim ladies.

If we look at an average escort with a height of 170 cm, a weight of 58.5 kg, a waist-hip ratio of 0.71 and an age of 33.4 years, the average fee is €695. However, the overall average in the sample is significantly higher at €780. This is because a relatively large number of escorts are (prospective) academics and the correspondingly higher fees are included in the sample. Likewise, the

average value is increased by the escorts with a PhD and those with a wide range of interests.

If an escort has a doctorate and shows a particularly wide range of interests, the hedonic regression coefficients of the variables DAKAD, DPROM and INRCLASS imply a fee premium of $73 + 216 + 199 = €488$. This then results in a total price for a meeting over 2 hours of €1,183. From the perspective of hedonic price analysis, fees of €1,500 are significantly excessive. However, they only occur rarely. In a relative view of the hedonic price components, the physical attributes that represent the sexual attractiveness of an escort account for 59 percent of the total price, while the intellectual attributes determine 41 percent of the fee. The overall picture shows that the non-physical attributes make up a surprisingly high proportion of the price. Escorts in the medium and high price segment are obviously in demand not only because of their physical attractiveness, but also because of their communicative and intellectual skills. However, above-average language skills do not seem to play a role. The relative role of the variables in categories I and II can also be shown using standardized regression coefficients. The standardized coefficients take into account the different magnitudes of the explanatory variables. The sum of the standardized coefficients in Category I is 0.946, while in Category II the sum is 0.606. Thus, we obtain a share of Category I of 61 percent and 39 percent of Category II.

8. SPECIFICATION TESTS

To finally check model 4, some specification tests are carried out. A Jarque-Béra test for normal distribution of the residuals shows a value of 0.2685. The null

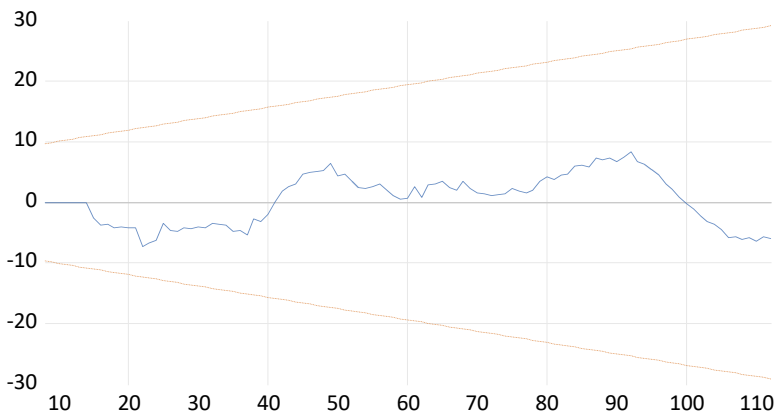


Figure 1: CUSUM Test

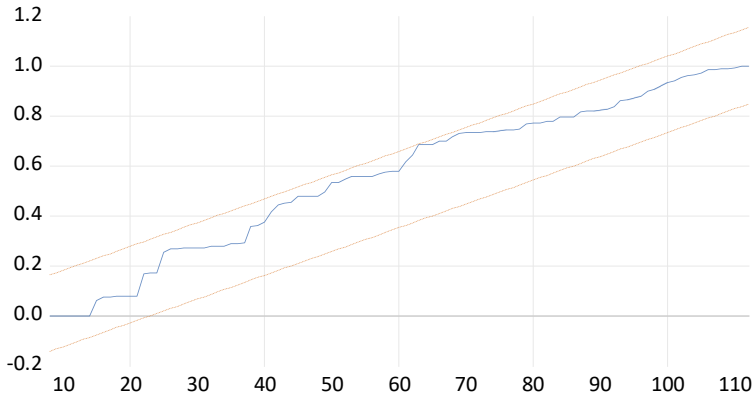


Figure 2: CUSUMSQ Test

hypothesis of a normal distribution cannot therefore be rejected. The residuals are normally distributed. The Breusch-Pagan-Godfrey test does not reject the null hypothesis of homoscedasticity with a value of 0.2670. This means that the residuals have equal variances. Misspecification is tested using the Ramsey test. The corresponding F value has the value 0.4582 and therefore does not indicate any misspecification. The test section concludes with a CUSUM or CUSUMSQ test. As the graphs below show, there are no signs of a mis-specified model here either.

9. AGENCY-SPECIFIC EFFECTS

In order to examine the impact of agencies on pricing, agency-specific effects were included as dummy variables in the regression. The main differences from previous results are as follows.

- a) There are significant agency-specific effects for each of the agencies included in the sense of “expensive” and “cheap” agencies.
- b) The coefficient of determination increases from approx. 0.8 to approx. 0.9.
- c) The price determinants used in model 4 remain significant, with the exception of the hip-waist ratio and the dummy for academic education. The insignificance of the last variable is probably due to the fact that the proportion of female academics correlates with the fixed agency effect. Cheaper agencies have a lower proportion of graduates. The same applies to the WHRATIO variable.
- d) The model with fixed agency effects consistently performs worse

in the specification tests. The Ramsey and CUSUM tests uncover misspecification and the residuals are heteroskedastic.

- e) Due to the specification problems of the agency-specific model, model 4 is expected to be more reliable.

10. CONCLUSIONS

This paper contributes to the determination of the prices of female escorts. The hedonic regression method is used, according to which the price of a product or service is determined by the respective characteristics. Each property can be assigned a specific price contribution. In our model, an escort's physical attractiveness is measured by the variables age, height, weight and waist-hip ratio. The intellectual-communicative dimension is represented by the variables “academic degree”, “doctorate” and a wide “range of interests”. The hedonic regression results show that approximately 60 percent of the price for a 2-hour meeting is determined by physical attributes, while 40 percent is determined by intellectual-communicative attributes. This fairly balanced distribution fundamentally distinguishes escorts from ordinary prostitutes, for whom the second category hardly plays a role. This result correlates strongly with the occupational profile of ancient hetaera or modern courtesans.

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