The hunting in the Province of Elassona.

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SUMMARY

The aim of this research is to be examined and analysed the socio-economic characteristics of hunters of province Elassona, in the Prefecture of Larissa. The methodology that will follow will be models of linear regression with the method of least square and with models Logit for the more complete analysis of characteristics of hunters.

The authentic project analyse also with descriptive statistics as X^2 -Karl Pearson- of independence, X^2 of good fitting and graphs, the socio-economic characteristics of hunters of province Elassona. I Have done This project as I was student in the department of Economic Science in university of Thessaly in city Volos. But I preferred to send you only the econometric part, as I consider it more important, in contrary the statistical analysis, which is more simple and trite.

Front however we begin the analysis, it deserves we are reported in the A Pan-Hellenic hunting congress that was organised in Piraeus in 1932 with subjects as the determination the hunting species and not, the advisable way and time of these hunting, the effective protection of endemic prey and the prohibition of transaction during the year, as well as the organisation of local councils of hunting and the local funds of hunting.

Many of the conclusions of congress propose most serious curtailments in the means of hunting, allowing only the firearm arm and prohibiting the manufacture, marketing, possession and use of each other means, as for example loops, fish-hook, plates, poisons as well as other auxiliary manufacture as the, barkers, partridges hunting as well as the hunting of partridges in water or hare with follow-up of traces in the snow.

In 1939 are published the law L.1926 "About hunting", which in the substance incarnated the requirements and the wishes of hunting circles. Then the first efforts of protection of wild life concerned mainly the migrating species, after the migrating birds are faced with... exceptions.

The time hunting as it is fixed by the article 261(as was modified by article L. 996/1971 and the article 8 L. 177/1975):

1. The hunting year begins from 1 August and expires 31 July of next year.
2. The hunting period for the preys which the hunting of them allowed, it begins:

a) Of hare, from 15 September and it expires 10 January.

b) The mountainous partridge from 10 September and it expires 10 March.

c) Of flat partridge from 1 October and it expires the 30 November.

d) For the remaining preys from 15 September and it expires 10 March, apart from the turtledoves, tree-living (eagle-fighter fig-eating) and remaining pigeon-species, as the quails, that the hunting of them begins on 20 August.

Is allowed the hunting only at the duration of day and from 11 March and up to the beginning of hunting period is allowed the fighting with poisons of harmful preys, with concern and responsibility of hunting associations, as is allowed also the arrest, without arm, in the nests of this nurslings, up to their destruction .

From 1950 and afterwards the environmental problems they exceed also the most ominous forecasts and acquire characteristically universality with main parameter the inequality growth between developed also developing world. The fruition of the wild animals have been checked to a large extent but have not been checked the increasing destructions of ecotypes

The ecosystems that first fell victims of growth of societies were the wetlands that were connected with the event and the distribution of illnesses, the venturous ness and the animosity for the person. France possesses first prizes in Europe draining by 140.000 hectares the year. Ireland from the initial extent of 1.175.579 hectares in 1982 had only 578.350 hectares, that is to say the 49%.The USA has finally lost the 54% from her wetlands. Switzerland from 1800 up to today has destroyed finally the 85-90% wetlands while in Central and Southern America of the 1/5 of wetlands that was recognized as

international importance they are threatened immediately by desiccation for agricultural and veterinary uses. Greece only the last 70-80 years has lost the 61% of wetlands certain from which they were irreplaceable for the wild birds.

The Province of Elassona

Elassona is the capital of the homonym province (1713 square. km.) of the prefecture Larissa, built in the southern kerbs of Olympus (altitude 300 m.), in the passage from the Thessaly and Macedonia, diffusing from Up Tjtarisio (river of Elassona) tributary of Penaeus. It abstains 63,5 km. NW from Larissa. It is reported by the Hostage with the name Olossoni. Elassona was the first city that was released by the Greek army on 6 October 1912. Entire the province of Elassonas is rich in rural products and in hunting Also will be supposed it is marked that the 2 last years has been prohibited the hunting of mountainous partridge for protection because the danger of disappearance in the province of Elassona.

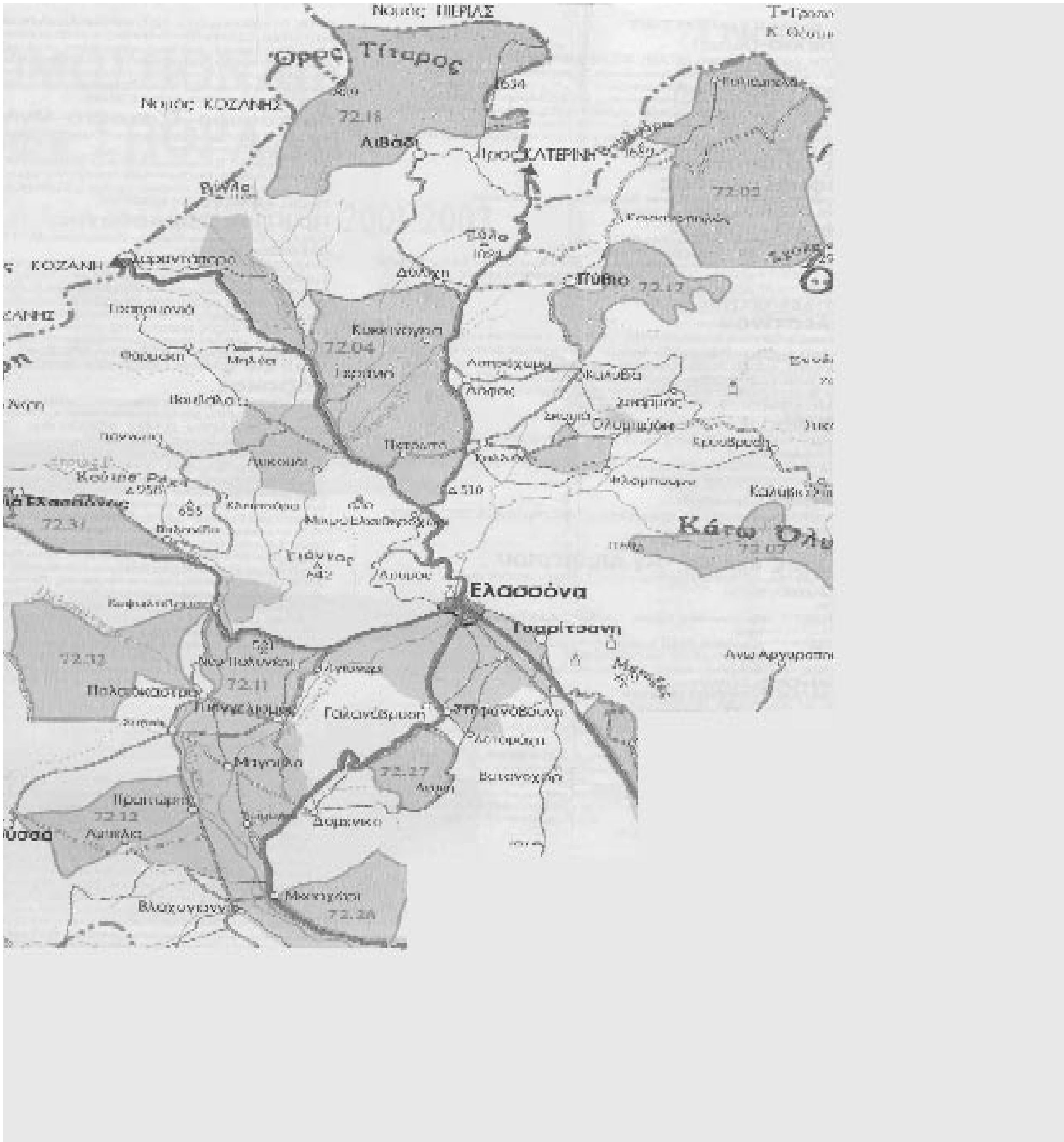
The hunting association of Elassona was founded in 1969 and the time series of hunting licenses from 1977 has as follows:

Years	Number of hunting licenses	Years	Number of hunting licenses
1977	1000	1990	947
1978	1209	1991	844
1979	1100	1992	936
1980	1160	1993	914
1981	900	1994	907
1982	1082	1995	850
1983	993	1996	917
1984	987	1997	821
1985	1000	1998	906
1986	1070	1999	937
1987	1050	2000	950
1988	900	2001	913
1989	914	2002	778

Exist 9 shelters of Wild Life and are:

1. Siopoto-Paliampela
2. Kallitheas-hill-kokkinogis-dolihis-meadow
3. Stream - Tap Goura
4. Agionerioy-Kefalovrisou
5. Verdikousas-Praitoriou-Sikeas
6. Karias
7. Stafanovounou-Domenikou-white
8. Kraneas-bath
9. Mitrouna-Olimpakos-Papamagoula

As we see in following map, in the regions, that are sketched out with the pink colour, is prohibited the hunting. In them with the green colour, is allowed the hunting from the 8-20 until the 9-15, only for the types that hunting in the areas and in the regions with the yellow colour is allowed the hunting from 9-16 for all the hunting species.



CHAPTER FIRST

ANALYSIS OF SOCIO-ECONOMIC CHARACTERISTICS OF HUNTERS WITH THE USE OF ECONOMETRIC METHODS AND LOGIT REGRESSION.

1.1 The model of preys and the father of hunter with the method Logit.

Here the hypothesis that we make is the experience of hunter that is combined if it has a father hunter. With few reasons we want to see and we prove if the hunters that hunting most preys have father hunter or no, that is to say how much the father that is or was hunter can influence his child. Consequently, is placed the question. That hunter who has father hunter, it has acquired i wonder bigger experience than from the hunter who doesn't have father hunter? In the table of 3 annex we mention the number of each prey separately that struck the hunters concerning those that have father hunter. Is placed that is to say the hypothesis, how many from those that struck a preys have father hunter. For 1= father is a hunter and 0= father is not hunter.

For the hare the regression with the use of Minitab has as follows:

$$L^*_I = -0{,}7826 + 0{,}06036X^*_i \quad R^2_{(adj.)} = 6{,}8\% \quad F=1{,}80 \quad DW= 2{,}47$$

t-statistics (-2,46) (1,34)

where L * the hypothesis 1=has a father hunter, 0=hasn't father hunter and X = the number of preys. The conclusion from this equation is, that if is increased at 1 the number of hares then will be increased at the 0,06036 the probability the father is hunter. Take the antilogarithmic of 0,06036, then we subtract it from the 1 and we multiply the result with the 100. The antilogarithmic is 1,14911 and finally becomes 14,911%. Consequently, if the number of hares that been hunting is increased at 1% then the probability that the hunter who killed the hare has a father hunter is increased at 14,911%. We should however mark that the regression without the command in the Minitab, it is step to step,

$P_i = n_i/N_i$, $1-P_i$, $P_i/1-P_i$, $L_i = Ln\left(\frac{P_i}{1-P_i}\right)$, $w_i = N_i*P_i*(1-P_i)$, $\sqrt{w_i} = \sqrt{N_i*P_i*(1-P_i)}$, $L^*_I = L_i\sqrt{w_i}$ και $X^*_i = X_i*\sqrt{w_i}$

X_i = the scale of hunting hares, N_i = the number of hunters where hunted the hares, ni = who from them has father hunter and we regressed the L^*_I as dependent variable and the X^*_i as independent.

As we see the R^2 and the F are low without however they have importance. What has importance is the econometric and economic nature of the model. The test of autocorrelation became with the help of DW (Durbin-Watson) and it was proved that does not exist problem, as well as test for heteroscedasticity became with the control of Goldfeld-Quandt test and with the White's heteroscedasticity test and it was proved that it exists homoscedasticity. What however results from the last model is that is increased the probability. And this because would wait for no one that will exist negative cross-correlation, after the 59,2% declared that it does not have father hunter. Thus, we see that not only exists negative cross-correlation, but positive, we still see however that the percentage increase of probability of hunter that hunted the hare increases at 15%.Consequently, the conclusion is that the hunters who they have father hunter hunted more hares, hence they have also bigger experience. This however we cannot generalise it still because we did not take into our consideration what becomes with the other preys, as well as the preferences. In order to be leaded to a general picture we will make the above process for all the other preys and we will prove that the results will be the same precisely with those of analysis that we concretely did for the hare.

For the wild boar we have the following regression:

$$L^*_I = -0{,}3899 + 0{,}1144X^*_i \quad R^2_{(adj.)}=87{,}4\% \quad F=28{,}8 \quad DW= 1{,}91$$
t-statistics (-5,47) (5,37)

If we take the antilogarithmic of 0,1144, we subtract it from the 1 and we multiply the result with the 100 we will have 30,137%. That is to say, if the number of hunting wild boars are increased at one unit then the probability the hunter that hunted the wild boar is increased at 30,137%.The model is very good and important from statistical side, as much as from econometric , from the opinion that it does not present problems of autocorrelation, heteroscedasticity and multicollinearity. In any case and in the case of hunting wild boars results the same conclusion with what we removed from the hare.

For roe we are not able to report a reliable conclusion the hunters who hunted roe are only four.

With regard to the woodcock the model presented autocorrelation and was solved with the method GLS in two repetitions. The hypothesis for heteroscedasticity is negative. The equation of regression for the woodcock has as follows:

$$L^*_i = -0{,}339 + 0{,}0259X^*_I \quad R^2_{(adj.)}= 0{,}0\% \quad F=0{,}23 \quad DW=1{,}44$$
t-statistics (-0,53) (0,48)

We make the same process with antilogarithmic and we have 6,145%. Consequently, if the number of hunting woodcocks is increased at one unit, the probability that the hunter who hunted has a father hunter is increased at 6,145%. We see that in the case of woodcock the experience of father of hunter plays also important role.

As we see the case of partridge.

$$L^*_I = -0{,}4059 + 0{,}03457X^*_i \quad R^2_{(adj.)}=0{,}0\% \quad F= 0{,}71 \quad DW=1{,}81$$
t-statistics (-1,84) (0,84)

The model is statistically insignificant, but from econometric nature it does not present problems. Take the antilogarithmic of 0,03457 and continue with the known steps. Finally we find 8,285%. The conclusion is similar with more. Exists also here positive cross-correlation between the number of partridges where hunted and in the hunters with a father hunter.

We continue with the pheasant.

$$L^*_I = -0{,}04606 + 0{,}02729X^*_I \quad R^2_{(adj)} =29{,}3\% \quad F=3{,}07 \quad D\,W=1{,}24$$
t-statistics (-2,01) (1,75)

The antilogarithmic of 0,02729 is 1,06485 and has 6,485%, that is to say the probability it has father hunter is increased at 6,485% when is increased at one unit the number of hunting pheasant

For the quails we draw the same conclusions. The regression is:

$$L^*_I = -0{,}3737 + 0{,}000645X^*_I \quad R^2_{(adj.)}= 19{,}7\% \quad F= 1{,}98 \quad D\,W =1{,}86$$
t-statistics (-1,80) (1,41)

In this case we have a increase at 0,149%. Here is observed a very small increase, but it does not cease once again exists positive cross-correlation.

For the ducks we have:

$$L^*_I = -0{,}3606 - 0{,}01680X^*_I \quad R^2 = 50{,}0\% \quad F = 3{,}00 \quad D\,W = 1{,}37$$

t-statistics (-2,26) (-0,34)

Here we observe negative cross-correlation between the number of hunting ducks and the probability that hunter who killed has a father hunter, that is to say from antilogarithmic we see the following: If is increased the number of hunting ducks at one unit then the probability of hunter where hunted a has father hunter is decreased at 3,944%.

For the turtledoves we have the regression:

$$L^*_I = -0{,}4128 + 0{,}00925X^*_I \quad R^2 = 0{,}0\% \quad F = 0{,}12$$

t-statistics (-2,58) (0,574)

From the antilogarithmic of 0,00925 we have the following development: If the number of hunting turtledoves is increased at one unit, then the probability (that the hunter who killed has father hunter) increases itself at 2,153%.

For the thrushes we have following model.

$$L^*_I = -0{,}3922 + 0{,}00938X^*_I$$

t-statistics (-2,47) (0,89)

As we observe so much equation for the turtledoves what for the thrushes are statistical very insignificant that does not exist R^2 and F. This happens because the hunters that hunted these winged are very few, as well as the numbers that hunted are very big so that they cause confusion in our analysis. In this case the percentage is very small, 2,183%, however it exists positive cross-correlation.

For blackbirds we see the equation:

$$L^*_I = -0{,}3551 + 0{,}00720X^*_I$$

t-statistics (-2,24) (0,32)

In this case also we observe that the model is statistically insignificant, as the increase of percentage, 1,672%. Hence, for a unitary increase of number hunting blackbirds we have a increase of probability (that the hunter who killed has father hunter) at 1,672%.

The final conclusion is that in all the hunting species, apart from the roe, that we did not examine, and the duck, exists positive cross-correlation between the number of types that be hunting and the hunters that have father hunter. Consequently, the father that is hunter plays most important role in the configuration of child as a hunter and as experience. Thus, following this thought, we will see in other model if the hunters that removed in small age, for first time, authorisation of hunting they have father hunter, contrary to those that removed in bigger age and do not have father hunter.

1.2. The model of age that they removed for first time authorisation of hunting and father of hunter.

As we reported in the previous part we saw that the hunters that have father hunter have really have eager probabilities to hunt bigger numbers of preys, and we also saw that these probabilities are enough big in the case of hare, the wild boar, the woodcock, the partridge and the pheasant. In this case we can make the following affair: The hunters that removed in very small age, for first time, authorisation of hunting, have father hunter, contrary to those that removed in bigger age they do not have father hunter. As we see the model in his theoretical form.

$L^*_i = B_0 + B_1 * X^*_i$, where L^*_i for 1= they don't have father hunter and 0 = they have father hunter and X^*_i = the ages that removed for first time hunting license (see in annex Table 4).

The model is:

$$L^*_I = -2,2832 + 0,12004X^*_I \quad R^2_{(adj.)} = 4,0 \quad F=1,50 \quad DW = 1,57$$

t-statistics (-2,506) (2,927)

The model does not present problem of autocorrelation, neither of heteroscedasticity. The conclusion is the expected. The hunters that remove in small age for first time authorisation of hunting have father hunter, while on the contrary those that remove in big age it happens that they do not have father hunter. This appears evidently from the above model, that is to say as long as is increased the age at one year the probability of hunter that removes authorisation of hunting for first time to have father hunter it is increased at 31,838%. An increase by no means small, that proves that the increase of age that they remove the hunters authorisation is connected positively with the hunters that do not have father hunter. Consequently, the hunters that have father hunter, beyond the experience and the delivery that acquires, they begin to practise the art of hunting in a smaller age concerning that hunters that do not have father hunter, a fact which means additional experience and technique.

1.3 The model of increase of preys

We will see now an the hunters observed increase in the types that they chase. As we see in table 5 in the annex, we separately mention in the first column the scale of preys for each species, in the second column the number that been hunted and in third who hunters believe that they observed increase in the preys that chase. The case of hare has as follows:

$$L^*_I = -1,41 + 0,102X^*_I \quad R2^2_{(adj.)} = 22,5\% \quad F=4,77 \quad D\,W = 2,30$$

t-statistics (-2,70) (2,18)

The model is statistically important, so much in a total level, F=4,77, as much as individually, t-ratios -2,70 and 2,18 respectively, it does not present however problem of autocorrelation as well as neither problem of heteroscedasticity. What however is observed by the above equation is that those hunters that have hunted more hares declared always that existed increase, while on the contrary those hunters that have hunted small numbers of hares declared reduction. Consequently, from the antilogarithmic of 0,102 we have the case that for each unitary increase of hare the probability of hunter that hunted it declared increase ,is increased at 26,474%, percentage of important dimensions. Hence, the hare showed increase, without of course this is absolute, because we do not take into our account the preferences of hunters. In order to avoid this error we will see what happens also with the other preys, as also what it happens with the preys concerning the more basic reasons of reduction.

The regression that resulted for the case of wild boar is:

$$L^*_I = -0{,}2330 + 0{,}01866X^*_I \quad R^2_{(adj.)} = 16{,}4\% \quad F=1{,}79 \quad DW = 2{,}45$$

t-statistics (-1,46) (0,2)

In this case the increase of probability of hunter that killed the prey, concerning the unitary increase of hunting wild boar, declared increase of it, is much smaller than that of hare and it is 4,39%.For the woodcocks completely accidentally results almost the same equation of regression and has as follows:

$$L^*_I = -0{,}2330 + 0{,}01866X^*_I \quad R^2_{(adj.)} = 0{,}0\% \quad F = 0{,}54 \quad DW = 2{,}23$$

t-statistics (-1,34) (0,73)

For the partridges however we meet opposite results. For each unitary increase of number of hunting partridges the probability the hunter that hunted it, has declared increase is decreased, so that is observed reduction of population of partridge, at least flat, because in the province of Elassona is prohibited the hunting of mountainous partridge (greka). We have therefore:

$$L^*_I = -0{,}1725 - 0{,}09302X^*_I$$

t-statistics (-1,06) (-1,09)

The percentage is considerably big, in order of 23,885%. Consequently, is observed reduction of population of partridge, thing that we will examine later.
For the pheasant we draw the same conclusions, but in smaller percentage, 7,538, it does not cease however it declares reduction.

$$L^*_I = -0{,}1573 - 0{,}03156X^*_I \quad R^2_{(adj.)} = 0{,}0\% \quad R^{2=}5{,}5\% \quad F = 0{,}17 \quad DW = 2{,}49$$

t-stat. (-0,95) (1,51)

In the quails we observe positive cross-correlation, that is to say when is increased at one unit the number of hunting quails the probability of hunter that hunted it, has declared increase of preys, is increased at 1,46%. The equation of quails is below:

$$L^*_I = -0{,}2998 + 0{,}006295X^*_I$$

t-statistics (-1,87) (0,70)

For the ducks we observe negative cross-correlation between increase of hunting ducks and the probability, the hunter that hunted has declared increase. The reduction of this probability is the order of 43,45%. The model is:

$$L^*_I = -\,0{,}2003 - 0{,}2476X^*_I$$

t-statistics (-1,263) (-1,371)

Similarly and for the turtledoves we have reduction of probability at 3,3014%. The equation of regression for the turtledoves is:

$$L^*_I = -0{,}2258 - 0{,}01458X^*_I$$
t-statistics (-1,44) (-0,75)

Also, as with the turtledoves, thus and with the thrushes and the blackbirds we have precisely the same results. The equations of regression are for the thrushes and the blackbirds are respectively:

$$L^*_I = -0{,}2484 - 0{,}000619X^*_I$$
t-statistics (-1,586) (-0,062)

and

$$L^*_I = -0{,}2295 - 0{,}06338X^*_I$$
t-statistics (-1,46) (-1,2)

We should stress that it is necessary to have reserves for the analysis of roes, the quails, the ducks, the turtledoves, the thrushes and the blackbirds, because, as we see from the data, so much the hunters that hunted these animals are minimal, as much as still minimal are their preferences for the particular preys, after for example no one did not declare preference for the thrushes. For this reason in the continuity of our analysis we would be reported only in most important, so much as for the number that have been hunted, such as for the preferences of hunters, that are the hares, the wild boars, the woodcocks, the partridges and the pheasant.

1.4. The model of reduction of preys

Now we will examine the most important reasons of reduction of preys. As we saw from the above models the preys that appear to present reduction are the winged and concretely partridges and the pheasants. We will see the most likely reasons of reduction, that are the pesticides and the overpopulation of fox, coracoids and of marten. Hence, if the number of hunting species is increased at one and simultaneously the probability where the hunter, hunted the particular prey, it has declared the particular reason, then it is very likely also to be this reason of reduction. For winged the most important reason are the two more that we reported, that however they dominate .We did not show however for which reason is concretely owed the reduction of each prey separately. For the partridges is marked this positive cross-correlation that the reason of reduction, that is owed in the pesticides, it is positively connected with the increase of number of hunting partridges. With few words, if the number of hunting partridges is increased at one unit, then the probability of hunter that has hunted it, has declared reduction because the use of pesticides, it is increased at 41,687%. Percentage very important. (See table 6 in the Annex).

$$L^*_I = -0{,}9375 + 0{,}15133X^*_I \quad R^2_{(adj.)} = 42{,}1\% \quad F=3{,}18 \quad D\,W = 2{,}01$$
t-statistics (-5,26) (2,48)

, where L^*_i for 1 = reason of reduction of preys that is owed in the pesticides for 0 = anything other and, X^*_i = the number of hunting partridges.

As we see now if this reduction is owed in the overpopulation of fox, of marten and of coracoids.

$$L^*_I = -1{,}0937 + 0{,}07069X^*_I \quad R^2_{(adj.)} = 2{,}6\% \quad F=1{,}11 \quad D\,W\ 1{,}62$$
t-statistics (-5,95) (1,55)

where L^*_i and X^*_i similarly, only that in this case the reason of reduction differs, and as we see it exists also positive cross-correlation and the increase of probability is 17,677% We thought that a reason that can to turn out important for the reduction of partridge there are a lot of poachers. If also in this case comes out the relation positive, as the above relations, this proves that the hunters wish aid of forestry service and federal hunting police. The relation finally is positive and the equation of regression is the following:

$$L^*_I = -1{,}3675 + 0{,}07915X^*_I \quad DW = 2{,}27$$

t-statistics (-6,92) (1,72)

Consequently, the increase of probability that the hunter declares as reason of reduction of partridge the existence of many poachers is roughly 20%. Bigger than that is the overpopulation of fox and coracoids. As we now examine the case of pheasant and the pesticides as cause of reduction of pheasant. As we see from the following equation, if the number is increased of hunting pheasant at one unit, the probability that the hunter hunted , has declared the pesticides as reason of reduction, it is increased at 12,4%.

$$L^*_I = -0{,}9921 + 0{,}05094X^*_I \quad R^2_{(adj.)} = 26{,}7\% \quad F = 2{,}46 \quad DW = 1{,}51$$

t-statistics (-5,46) (2,6)

In order to we see what becomes with the case where reason of reduction is placed the overpopulation of fox, of marten and of coracoids.

$$L^*_I = -1{,}0369 + 0{,}01537X^*_I \quad R^2_{(adj.)} = 36{,}1\% \quad F = 3{,}26 \quad DW = 1{,}46$$

t-statistics (-5,58) (0,84)

We see that exists positive cross-correlation, with smaller however percentage, the order of 3,6%. Then we thought that it can exist positive cross-correlation between the increase of number of hunting wild boars at one unit with the probability the hunter where hunted it, declares increase. Exist however hunters that answered as reason of reduction of preys the opening up of forestry streets with percentage that can be relatively small, it cannot however from the other hand to ignored. This reason can be reported only in the case of wild boar. Then we will examine the overpopulation of fox as the reason of reduction of hare, nevertheless that hunters said generally increase of (hare),but we should take it into our consideration and the minority, with the stimulus that we took that from the interviews of hunters that we made, beyond from the questionnaires, they said that the fox and martens are responsible for the reduction of hare, because they eat hare's kids.

Let's see first the wild boar.

$$L^*_I = -2{,}1073 + 0{,}0847X^*_I \quad R^2_{(adj.)} = 61\% \quad F = 5{,}70 \quad DW = 2{,}01$$

t-statistics (-8,36) (0,8)

Consequently, the conclusion is that when the number of hunting wild boar is increased at one unit the probability of hunter where have hunted, and it has declared opening up of forestry streets as the reason of reduction of preys, is increased at 21,535%. Finally, we have the case of hare and the overpopulation of fox as the reason of reduction.

$$L^*_I = -0{,}6997 - 0{,}05449X^*_I$$
t-statistics (-2,96) (-1,44)

In this case however the results do not vindicate those that claim that the hare decreased itself because of the overpopulation of fox and of coracoids, after for a unitary increase of number of hunting hares, the probability where the hunter hunted, and it has declared the overpopulation of fox as reason of reduction of hare, is decreased at 13,368, for the simplest reason that the bigger percentage declared increase of hare, as we showed in the previous part.

1.5. The models of arms, the dogs and the number of hunting animals.

We thought that the number of dogs, as well as the type of arm can influence in the output of hunter. For this we will see the effect of the most popular answers. That is to say, most answered that they have more from two dogs and that they chase with carbine. We will see therefore, even if those that answered are also these hunters with the most hunting preys.
The case of hare and carbines has as follows:

$$L^*_i = 0{,}0108 + 0{,}06277X^*_i \quad DW = 2{,}41 \quad F = 0{,}43$$
t-statistics (0,05) (1,77)

,where L*i is 1 = the hunter has carbine and 0 = anything else and X^*_i = the number of hunting hares. The symbolism will be similar and for the following models. Consequently, if the number of hunting hare is increased at, then in probability hunter that hunted uses only carbine is increased at 15,55%. Hence, the hunters that have carbine, they have always bigger probabilities to strike continuously bigger number of preys.

$$L^*_I = 0{,}2979 + 0{,}1513X^*_I$$
t-statistics (1,84) (1,02)

In this case the increase is scary, after it reaches almost the 42%. This sure justifies the supremacy of carbine, for the hunting of wild boar, against the other arms. However in the cases of woodcock and partridge does not happen this. Below we have the same models with the above, for the woodcock and the partridge respectively.

$$L^*_i = 0{,}3044 - 0{,}00777X^*_I \qquad \text{(Woodcock)}$$
t-statistics (1,72) (0,36)

και

$$L^*_i = 0{,}3917 - 0{,}07086X^*_I \qquad \text{(Partridge)}$$
t-statistics (2,4) (1,45)

We see therefore a reduction of this probability at 1,80% for woodcock and 17,723% for the partridge, that implies these preys can be hunted and with indirect-barrel double-barrelled gun, and with mutual-attack double-barrelled gun . For the pheasants, it is vindicated carbine, after increases itself the probability (hunter that hunted the additional pheasant the only uses carbine) at 8,026%.

$$L^*_I = 0{,}2413 + 0{,}03353X^*_I \quad \text{(pheasant)}$$
t-statistics (1,45) (1,54)

Now we will examine the case of hunters that have more from two dogs concerning the preys that they killed. We will examine from the mammals the hares and the wild boars and from the winged we will examine woodcocks, the partridges and the pheasants, because we found them the most considerably for our analysis according to the number that hunted, but also in according with the species of prey and for the two mammals that we examine, the relation came out positive. That is to say for each moreover hare or wild boar that have hunted, the probability where the hunter hunted, have more from two dogs, it is increased at 21,84% for the hare and at 49% for the wild boar. The models that follow are:

$$L^*_I = -0{,}5534 + 0{,}08579X^*_I \quad \text{(Hare)}$$
t-statistics (-2,47) (2,52)

και

$$L^*_I = -0{,}1657 + 0{,}1734X^*_I \quad \text{(Wild boar)}$$
t-statistics (-1,036) (1,23)

,where L^*_i for 1= hunter has above two dogs and 0 = anything else and X = the number of preys. From the side however of winged that we examine, result the same results, at least with regard to the woodcock and the partridge, which they present the reduction of this probability at 14,712% and 15,523% respectively. While for the pheasant the probability is increased at 10,243%. The models are presented immediately below.

$$L^*_I = 0{,}0582 - 0{,}05961X^*_I \quad \text{(Woodcock)}$$
t-statistics (0,326) (-2,20)

$$L^*_I = -0{,}0493 - 0{,}06267X^*_I \quad \text{(Partridge)}$$
t-statistics (-0,3) (-1,21)

$$L^*_I = -0{,}2099 + 0{,}04235X^*_I \quad \text{(Pheasant)}$$
t-statistics (-1,27) (2,014)

1.6. Models for the role of ecological organisations, the hunting organisations and the state for the protection of environment concerning ages of hunters.

As we see now the following model. (See table in the Annex).

$$L^*_I = 0{,}2534 - 0{,}03393X^*_i \quad R^2_{(adj.)} = 12{,}8\% \quad F = 4{,}38 \quad DW = 1{,}51$$
t-statistics (0,368) (-2,04)

,where for L^*_i we have for 1 = the hunter answered that the role of ecological organisations is positive and 0 = anything else and X^*_I =the ages of hunters. What we make that is to say are that we classify ages at serial progress and see how much hunters correspond in these ages. From these ages we see who answered positively also who answered anything else. Consequently, if exists positive cross-correlation between them, then this means that as long as it is increased the year of age of hunters is decreased and the probability they have answered positively. With few words, if results this, then it means that the hunters of eager age answer negatively or do not know, thing that can happen in important degree, specifically for those that are above 60 years. Thus, from the above model we see that as long as is increased the age at one year the probability that the hunter can answer positively for the role of ecological organisations for the protection of environment, it is decreased at 8,126%. Similar conclusion we will also conjecture from the two following models that follow.

$$L^*_I = 0{,}994 - 0{,}0039X^*_I \quad R^2_{(adj.)} = 0{,}0\% \quad F = 0{,}04 \quad D\,W = 1{,}65$$

t-statistics (1,64) (-0,19)

, where L^*_i we have for 1 = the hunter answered that the role of hunting organisations is positive 0 = anything else and H = the ages of hunters. In this case we see that the reduction is minimal, hardly 0,9%, because all almost the hunters answered positively for the role of hunting organisations for the protection of environment, and appear that those that answered anything else are once again the old men. As we see now and the last model.

$$L^*_I = 0{,}512 - 0{,}0166X^*_I \quad R^2_{(adj.)} = 5{,}4\% \quad F = 2{,}43 \quad D\,W = 2{,}02$$

t-statistics (1,11) (-1,56)

, where L^*_i we have for 1 = the hunter answered positively for the role of state, 0 = anything else and X^*_i = the ages of hunters. In this case also we draw the same conclusions, that is to say when it is increased at one year the age, the probability that the hunter answered positively for the role of state in the protection of environment, is decreased at 3,9%.

CHAPTER SECOND

LINEAR MODELS WITH USE OF DUMMY VARIABLES

2.1. The models of mean expenses, mean consumption for hunting and the mean maximum kilometric distance for those that declared increase as well as for those that declared reduction of the preys.

In this part we will see, with the use of dummy variables, the mean exits, the mean expenses that they consume for hunting, as well as the mean maximum kilometric distances that they cover in order to reach in the hunting biotope. The first equation that we have is:

$$Y_1 = 33{,}6 + 7{,}54D_1 \quad R^2_{(adj.)} = 2{,}1\% \quad F=4{,}68 \quad D\,W = 1{,}96$$
t-statistics (15,54) (2,16)

, where for Y_1 = the exits and D_1 = dummy variable that it expresses for 1 = all hunters said increase of hunting types and 0 = they said reduction or anything else. Consequently, the mean exits for the hunters that said reduction are 33,6, while for those that said increase are 33,6+7,54=41,14.

The equation for the mean maximum km. distance has as follows:

$$Y_2 = 90{,}7 + 50{,}6D_2 \quad R^2_{(adj.)} = 4{,}4\% \quad F=8{,}82 \quad D\,W = 1{,}77$$
t-statistics (8,05) (2,97)

, where for Y_2 = the km. that express the maximum distance that made the hunters in order to reach in the hunting biotope and D_2 = dummy variable that expresses precisely the same with the D_1. The mean maximum kilometric distance for the hunters that declared reduction is 90,7 km. , while those that declared increase is 90,7+50,6=141,3 km. Of course there is a very big difference.

Last model is what follows.

$$Y_3 = 964 + 181D_3 \quad R^2_{(adj.)} = 0{,}0\% \quad F= 0{,}83 \quad D\,W = 2{,}01$$
t-statistics (8,32) (0,91)

We should report that the model had autocorrelation, which was also erased. Hence, the mean expenses that consume the hunters that have declared reduction of preys are 96 Euro, while those that declared increase, their mean expenses are 964 + 181=114 Euro. Consequently, the conclusion is that the hunters that have declared increase of preys who they chase have bigger exits, at 7,5 almost more, they cover bigger kilometric distances in order to reach in the hunting biotope, at 50,6 almost km. more, and have more expenses, at 181 Euro almost higher, from those that declared reduction. Hence, therefore is reason these hunters (that declared increase) they kill bigger numbers of preys. And we report this fact in juxtaposition with the analysis of previous part. While therefore, they claim that exists increase, it will be supposed to take also into our consideration both expenses exits, as well as the km that they cover. Because, for example when you consume 181 Euro, on average, more from the other, it is very likely to have bigger success in hunting.

2.2. The models of mean expenses, the mean consumption for hunting and the mean kilometric distance concerning the preys.

We will see first the model of mean expenses. Because the variables, as the number of hunting wild boars, roes, partridges, ducks and thrushes were judged inadequate to enter in a model , we were forced not use them to analyse each one separately. As we see the following model, after first was untied the problem of autocorrelation.

$$Y= 27{,}5 + 0{,}934X_1 + 0{,}766X_2 + 0{,}305X_3 + 0{,}149X_4 + 0{,}359X_5$$

t-statistics (12,72) (3,55) (3,44) (1,66) (1,62) (1,52)

$R^2_{(adj.)}$= 16% F=7,38 D W =2,00

, where Y = the exits that made the hunters in order to reach the hunting biotope, X_1 = the number of hunting hares X_2 = similarly for woodcocks X_3 = similarly for phesants X_4 = similarly for the quails and X_5 = similarly for blackbirds. When therefore, is increased the number of hunting hares at one unit and all the other remains stable (ceteris paribus), then the exits are increased at 0,934. Similarly for the woodcocks are increased at 0,766, for pheasants at 0,305, for quails at 0,149 and for the blackbirds at 0,359. The three following models show us the expenses that the hunters are doing for the hunting of additional mammal. The models express the expenses for the hunting of hare, the wild boar and roe respectively. It should be reported that the models had autocorrelation, which was also erased. With regard to the problem of heteroscedasticity, this did not exist.

$Y= 886 + 31{,}4X$ $R^2_{(adj.)}$ F= 4,11 D W =2,01

t-statistics (7,95) (2,03)

, where Y = the expenses and X = the number of hunting hares. If therefore is increased at one unit the number of hunting hare, then the expenses will be increased at 31 Euro. The constant term means, that if the number of hunting hare is zero then the expenses that make the hunters, without hunting hare, are 886 Euro.

$Y= 1003 + 35{,}9X$ $R^2_{(adj.)}$= 0,0% F= 0,40 D W= 2,01

t-statistics (10,18) (0,63)

,where Y = the expenses and X = the number of hunting wild boars also in this case we give the same explanation. We should however mark that variable X, in the particular case, it is not important and for this reason it will be supposed that we give particular weight in this model.. Below we examine the roe.

$Y= 1005 + 458X$ $R^2_{(adj.)}$= 1,1% F=2,84 D W =2,01

t-statistics (10,35) (1,68)

Hence, if is increased the number of the hunting roe, then the expenses will be increased at 458 Euro. From the side of winged we will only analyse the pheasants and the turtledoves, because the other winged presented weakness as for their importance, no that they do not present also these, but they presented also erroneously signs (likely problem of multicollinearity).

$$Y = 993 + 7{,}7X \quad R^2_{(adj.)} = 0{,}0\% \quad F=0{,}53 \quad D\,W = 2{,}01$$

t-statistics (9,90) (0,73)

If the number of hunting pheasants increased at one unit, then the expenses will be increased at 7,7 Euro'. Similarly for the turtledoves.

$$Y = 998 + 6{,}20X \quad R^2_{(adj.)} \quad F= 0{,}43 \quad D\,W = 2{,}01$$

t-statistics (10,18) (0,65)

2.3. Model for the mean expenses depending on the incoming scale, the educational rung, the professional activity, the familial situation, the age, the exits, the maximum kilometric distance and the mean kilometric distance.

In the model that follows, and after a lot of experimentations we took certain variables from each category. Thus, we place as dependent the expenses that made the hunters, exclusively for the hunting and as independent we put dummy variables that express the incoming situation, for three scales from this, the professional activity, for four scales, the familial situation, for two categories and the educational level, for three categories, while from quantitative variables we put the exits, the mean km. distance, the maximum km. distance that make the hunters in order to reach in the hunting biotope as well as their ages. We have therefore five quantitative variables, where the one is dependent. As we see the model.

$$Y = 95 - 595D_1 - 123D_2 + 1217D_3 + 216D_4 - 385D_5 + 33D_6$$

t-statistics (0,18) (-2,24) (-0,55) (3,00) (0,87) (-1,13) (0,10)

$$- 338D_7 - 183D_8 + 587D_9 - 180D_{10} + 754D_{11} + 868D_{12} + 2{,}86X_1$$

t-statistics (-1,17) (-0,42) (2,38) (-0,45) (1,93) (2,79) (0,71)

$$+ 0{,}48X_2 + 7{,}32X_3 + 5{,}1X_4$$

t-statistics (0,47) (2,73) (0,51)

$R^2_{(adj.)} = 18{,}7\%$ F= 3,42 D W= 1,97

where for Y = the expenses, D_1 dummy variable for 1 = hunters with income < 500 Euro and 0 = anything else, D_2 similarly for 1 = hunters with income 500-1000 Euro and 0 = anything else, D_3 similarly for 1 = hunters with income > 2000 Euro and 0 = anything else, D_4 dummy variable for 1 = hunters that are farmers/ cattle-breeders and 0 = anything else, D_5 similarly for 1 = hunters that are private employees and 0 = anything else, D_6 similarly for 1 = hunters that are self-employing and 0 = anything else, D_7 similarly for 1 = hunters that are free professionals and 0 = anything else, D_8 dummy variable that for 1 = hunters who have finished the primary school and 0 = anything else, D_9 similarly for 1 = hunters that have finished the high school and 0 = anything else, D_{10} similarly for 1 = hunters that have finished the University and 0 = anything else, D_{11} dummy variable that for 1 = hunters who are bachelors and 0 = anything else, D_{12} similarly for 1 = hunters that are married and 0 = anything else. Quantitative variables have as follows: X_1 = the exits that made the hunters, X_2 = the maximum kilometric distance, X_3 = the mean kilometric distance and X_4 = the ages of hunters. The model had presented problem of autocorrelation and naturally the above model is also the correct. From the above regression we can export endless individual regressions, as it is for example the immediately below.

Let’s analyse therefore that the mean expenses. for the hunter, who has income < 500 Euro', he is farmer/ cattle-breeder, it has not finished the primary school and he is married it is:

$95-595 +216 –183 +868 + 2,86X_1 + 0,48X_2 + 7,32X_3 + 5,1X_4 =401+ 2,86X_1 + 0,48X_2 + 7,32X_3 + 5,1X_4$

and if we know that it has made, for example, 30 exits, the maximum km. distance that it has covered has been 100, the mean km. distance that it covers is 50 km. and he is 40 years old, then we have:
Mean expenses = 401 + 2,86*30 + 0,48 * 100 + 7,32 * 50 + 5,1 * 40
= 401 + 85,8 + 48 + 366 + 204 = 1104,8 Euro.

CONCLUSION

We saw that with Logit Regression we are able to examine socio-economics characteristics, a fact that we cannot do the same with the simple linear regression. From the other side, dummy variable is powerful weapon to compute reliable results. In this project we saw that hunters who have a father hunter have more successes and experience. The young hunters prefer the forestry protection by the ecological organisations and the older hunter do not. But , we must say this negativity about the ecological organisations, is coming from the reserve of the past, because many times these organisations to their effort to do something wealth and good for the environment, the cause finally damage. In few words hunting is must be free and it must be protected by the law because we must protect the animals and the environment.

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ANNEX

							TABLE 1							
Scale of Hares	How many hit	with father hunter	Scale of wild boars	How many hit	with father hunter	Scale of roes	How many hit	with father hunter	Scale of woodcock	How many hit	with father hunter	Scale of partridge	How many hit	with father hunter
0	32	9	0	148	59	0	99	34	0	148	58	0	164	67
1	16	10	1	9	4	1	5	3	1	1	1	10	1	0
2	18	5	2	4	2	2	8	6	2	4	1	20	1	0
3	15	5	3	3	2	3	7	5	3	2	1	100	2	1
4	17	5	4	3	2	4	3	1	4	1	1	150	1	1
5	14	6	10	1	0	5	10	4	5	3	3			
6	6	1	17	1	1	6	1	0	6	1	0			
7	15	6				7	1	0	7	1	1			
8	6	3				8	3	0	10	3	1			
9	1	0				9	2	1	11	1	0			
10	13	6				10	12	5	15	1	0			
11	2	1				11	1	0	18	1	1			
12	2	0				12	1	1	20	1	0			
13	1	1				15	6	3	26	1	1			
14	1	0				20	5	3						
15	3	2				25	1	0						
16	1	0				30	2	1						
17	2	2				32	1	1						
20	1	0				50	1	0						
35	2	2												
43	1	1												

TABLE 2

Scale of pheasant	How many hit	with father hunter	Scale of quails	How many hit	with father hunter	Scale of ducks	How many hit	with father hunter	Scale of turtledoves	How many hit	with father hunter	Scale of blackbirds	How many hit	with father hunter
0	138	54	0	155	63	0	160	66	0	160	64	0	163	66
2	1	0	10	2	0	2	1	0	12	1	0	10	1	1
3	1	1	20	2	1	5	2	0	15	2	1	15	1	1
4	1	0	30	4	2	7	1	1	20	1	1	20	1	1
5	1	1	50	2	1	10	2	1	25	1	1	50	3	1
7	1	0	60	1	1	20	2	1	30	1	0			
8	1	0	100	2	1	30	1	0	40	1	0			
9	1	0	150	1	0				50	1	0			
10	11	5							100	1	1			
15	2	1												
20	2	1												
27	1	1												
30	3	2												
40	4	2												
50	1	1												

TABLE 3

Scale of partridges	How many hit	How many said increase	Scale of pheasant	How many hit	How many said increase
0	148	71	0	138	65
1	1	0	2	1	1
2	4	0	3	1	0
3	2	0	4	1	0
4	1	0	5	1	1
5	3	2	7	1	0
6	1	0	8	1	0
7	1	0	9	1	0
10	3	0	10	11	3
11	1	0	15	2	1
15	1	0	20	2	0
18	1	0	27	1	1
20	1	0	30	3	1
26	1	1	40	4	1
		1	50	1	0

TABLE 4

Age which for fist time got a licences	The number of hunters which corresponds in specific age	With father hunter	Scale of hares	How many hit	How many said increase	Scale of wild boars	How many hit	How many said increase	Scale of woodcocks	How many hit	How many said increase
16	1	1	0	32	7	0	148	67	0	99	50
17	5	3	1	16	7	1	9	3	1	5	1
18	37	17	2	18	7	2	4	2	2	8	5
19	12	7	3	15	2	3	3	1	3	7	3
20	15	6	4	17	10	4	3	1	4	3	0
21	9	6	5	14	4	10	1	0	5	10	5
22	14	6	6	6	2	17	1	1	6	1	1
23	18	7	7	15	11				7	1	0
24	8	3	8	6	3				8	3	0
25	12	3	9	1	1				9	2	0
26	5	2	10	13	6				10	12	2
27	6	1	11	2	1				11	1	0
28	11	4	12	2	2				12	1	0
29	3	0	13	1	0				15	6	2
30	4	2	14	1	1				20	5	3
32	1	0	15	3	2				25	1	0
33	3	0	16	1	1				30	2	1
35	1	0	17	2	1				32	1	0
37	1	0	20	1	1				50	1	0
38	1	0	35	2	1						
55	1	0	43	1	1						

TABLE 5

Scale of hares	How many hit	How many of them declare as the reason of reduction the overpopulation of fox, coracoids and martens	Scale of wild boars	How many hit	How many of them declare as the reason of reduction the opening up of forestry streets
0	32	10	0	148	11
1	16	5	1	9	3
2	18	4	2	4	0
3	15	4	3	3	2
4	17	6	4	3	1
5	14	3	10	1	0
6	6	4	17	1	0
7	15	3			
8	6	2			
9	1	0			
10	13	5			
11	2	0			
12	2	0			
13	1	1			
14	1	0			
15	3	0			
16	1	0			
17	2	0			
20	1	0			
35	2	0			
43	1	0			

TABLE 6

Scale of woodcocks	How many hit	How many of them declare as the reason of reduction pesticides	scale of hares	How many hit	How many hunt with carbine	scale of wild boars	How many hit	How many hunt with carbine
0	99	19	0	32	18	0	148	85
1	5	2	1	16	10	1	9	6
2	8	3	2	18	6	2	4	2
3	7	4	3	15	9	3	3	3
4	3	3	4	17	10	4	3	1
5	10	4	5	14	7	10	1	1
6	1	0	6	6	4	17	1	1
7	1	1	7	15	9			
8	3	3	8	6	4			
9	2	1	9	1	1			
10	12	5	10	13	6			
11	1	1	11	2	2			
12	1	1	12	2	1			
15	6	2	13	1	1			
20	5	1	14	1	1			
25	1	1	15	2	2			
30	2	1	16	1	1			
32	1	0	17	2	1			
50	1	1	20	1	1			
			35	1	1			
			43	1	1			

TABLE 7

Scale of partridges	How many hit	How many of them declare as the reason of reduction the pesticides	How many of them declare as the reason the overpopulation of fox, coracoids and martens	Scale of pheasants	How many hit	owed in the fox	How many of them declare as the reason of reduction the pesticides
0	148	41	34	0	138	36	35
1	1	1	1	2	1	0	0
2	4	1	2	3	1	1	1
3	2	1	1	4	1	1	1
4	1	1	1	5	1	0	0
5	3	1	2	7	1	0	0
6	1	0	0	8	1	0	0
7	1	0	0	9	1	0	1
10	3	3	1	10	11	2	6
11	1	1	1	15	2	1	1
15	1	1	1	20	2	2	2
18	1	0	0	27	1	0	0
20	1	1	1	30	3	1	2
26	1	1	0	40	4	2	2
				50	1	0	1
							1

TABLE 8

Scale of woodcocks	How many hit	How many hunt with carbine	Scale of patridges	How many hit	How many hunt with carbine	Scale of pheasant	How many hit	How many hunt with carbine
0	99	59	0	148	88	0	138	77
1	5	2	1	1	0	2	1	1
2	8	6	2	4	2	3	1	0
3	7	1	3	2	1	4	1	1
4	3	2	4	1	1	5	1	0
5	10	4	5	3	3	8	1	1
6	1	1	6	1	0	9	1	1
7	1	0	7	1	1	10	11	8
8	3	0	10	3	0	15	2	1
9	2	2	11	1	1	20	2	0
10	12	8	15	1	0	27	1	1
11	1	1	18	1	1	30	3	3
12	1	0	20	1	0	40	4	3
15	6	5	26	1	0	50	1	1
20	5	3						
25	1	0						
30	2	1						
32	1	1						
50	1	0						

TABLE 9

Age of hunters	How many correspond	How many declare as positive the role of ecologicla organisations	Age of the hunters	How many correspond	How many declare as positive the role of hunting organisations	Age of the hunters	How many correspond	How many declare as positive the role of the state
19	1	1	19	1	1	19	1	1
20	2	1	20	2	2	20	2	0
21	3	2	21	3	2	21	3	2
22	3	1	22	3	2	22	3	0
23	3	1	23	3	3	23	3	2
24	1	0	24	1	0	24	1	0
26	1	1	26	1	1	26	1	0
27	3	0	27	3	1	27	3	0
28	3	1	28	3	3	28	3	2
29	4	1	29	4	4	29	4	1
30	3	0	30	3	3	30	3	2
31	2	1	31	2	2	31	2	1
32	6	1	32	6	6	32	6	5
33	2	0	33	2	1	33	2	1
34	4	0	34	4	3	34	4	3
35	9	2	35	9	8	35	9	3
36	4	2	36	4	4	36	4	1
37	5	2	37	5	4	37	5	1
38	8	2	38	8	8	38	8	3
39	1	0	39	1	1	39	1	1
40	9	3	40	9	7	40	9	3
41	4	2	41	4	3	41	4	2
42	7	2	42	7	4	42	7	4
43	7	2	43	7	5	43	7	5
44	9	3	44	9	8	44	9	2
45	10	1	45	10	8	45	10	4

TABLE 10

Age of hunters	How many correspond	How many declare as positive the role of ecologicla organisations	Age of the hunters	How many correspond	How many declare as positive the role of hunting organisations	Age of the hunters	How many correspond	How many declare as positive the role of the state
46	1	0	46	1	1	46	1	1
47	6	1	47	6	6	47	6	2
48	3	0	48	3	3	48	3	1
49	3	1	49	3	2	49	3	0
50	3	0	50	3	3	50	3	1
51	1	1	51	1	0	51	1	0
52	7	2	52	7	7	52	7	4
53	1	0	53	1	1	53	1	1
54	3	0	54	3	3	54	3	3
55	5	1	55	5	5	55	5	1
56	3	0	56	3	3	56	3	3
57	1	0	57	1	0	57	1	1
58	2	1	58	2	2	58	2	2
59	3	2	59	3	3	59	3	1
60	4	0	60	4	3	60	4	3
62	1	0	62	1	1	62	1	0
63	1	0	63	1	1	63	1	0
65	1	0	65	1	1	65	1	0
66	1	0	66	1	1	66	1	1
67	1	0	67	1	0	67	1	0
69	3	0	69	3	1	69	3	0
71	1	0	71	1	1	71	1	1

TABLE 11

Scale of hares	How many hit	How many of them have >2 dogs	Scale of wild boars	How many hit	How many of them have >2 dogs	Scale of woodcocks	How many hit	How many of them have >2 dogs
0	32	9	0	148	70	0	99	54
1	16	8	1	9	3	1	5	1
2	18	7	2	4	1	2	8	3
3	15	5	3	3	2	3	7	4
4	17	9	4	3	2	4	3	1
5	14	6	10	1	1	5	10	2
6	6	3	17	1	1	6	1	1
7	15	9				7	1	0
8	6	3				8	3	0
9	1	1				9	2	0
10	13	7				10	12	8
11	2	1				11	1	0
12	2	2				12	1	0
13	1	0				15	6	2
14	1	1				20	5	1
15	3	3				25	1	1
16	1	1				30	2	0
17	2	1				32	1	0
20	1	1				50	1	0
35	2	1						
43	1	1						

TABLE 12

Scale of	How many	How many of them	Scale of	How many	How many of them
patridges	hit	have >2 dogs	pheasants	hit	have >2 dogs
0	148	73	0	138	65
1	1	0	2	1	0
2	4	1	3	1	1
3	2	1	4	1	0
4	1	0	5	1	1
5	3	3	7	1	0
6	1	0	8	1	0
7	1	0	9	1	0
10	3	1	10	11	3
11	1	0	15	2	2
15	1	0	20	2	1
18	1	0	27	1	1
20	1	1	30	3	2
26	1	0	40	4	4
			50	1	1

TABLE 13

Number of hunters	expenses which correspond	exits	max km	mean km	Age of hunters	Number of hunters	expenses which correspond	exits	max km	mean km	Age of hunters
1	1760	25	100	20	31	29	500	20	50	15	49
2	500	50	50	20	40	30	1000	25	20	5	47
3	735	30	80	40	56	31	100	20	15	5	67
4	500	30	120	20	35	32	600	36	15	5	55
5	500	20	45	25	44	33	7300	70	25	10	47
6	590	40	180	35	54	34	1000	45	300	50	37
7	5000	50	150	50	41	35	600	20	50	10	36
8	9000	30	250	150	52	36	3000	45	200	100	48
9	3000	50	130	15	47	37	2000	80	35	25	54
10	3000	40	300	5	38	38	580	120	6	6	56
11	900	15	10	7	44	39	2500	10	130	35	45
12	880	130	15	15	28	40	3000	30	25	15	43
13	440	36	15	5	65	41	440	50	150	50	20
14	145	36	15	5	49	42	1500	20	100	30	19
15	700	15	50	20	42	43	300	20	180	40	50
16	1500	15	20	10	23	44	1500	40	80	30	34
17	900	50	10	10	52	45	1500	60	150	30	44
18	500	40	60	20	44	46	1500	50	150	70	36
19	1000	20	100	20	60	47	2000	12	30	20	55
20	1000	70	70	15	42	48	300	20	100	20	63
21	3000	48	180	6	40	49	1174	50	5	5	40
22	1500	40	100	100	38	50	1000	35	150	15	21
23	2000	46	150	20	52	51	1500	48	35	17	41
24	3000	99	150	50	45	52	1000	60	150	4	43
25	350	40	40	8	38	53	1500	20	250	5	55
26	2000	35	150	40	44	54	600	80	30	30	35
27	1000	99	25	20	45	55	3000	10	4	4	52
28	1500	48	70	10	36	56	2055	30	10	10	26

TABLE 14

Number	expenses which	exits	max km	mean km	Age	Number	expenses which	exits	max km	mean km	Age
of hunters	correspond				of hunters	of hunters	correspond				of hunters
57	3000	30	10	10	47	81	100	6	4	2	23
58	2000	45	400	70	55	82	440	20	200	20	29
59	1500	48	400	200	37	83	150	70	150	30	69
60	1000	45	200	30	41	84	3000	50	300	70	49
61	1500	60	300	300	45	85	200	70	20	5	43
62	3000	40	350	300	37	86	300	30	100	10	71
63	800	20	150	50	35	87	600	43	15	6	44
64	300	48	35	10	62	88	1200	40	30	20	38
65	500	80	75	40	44	89	800	35	250	30	42
66	3000	40	700	200	45	90	1000	48	200	30	40
67	2500	58	150	80	30	91	2050	60	70	20	46
68	1500	60	400	100	33	92	1800	40	45	20	54
69	2000	60	60	30	27	93	1500	30	45	25	42
70	3000	30	140	50	52	94	1000	30	10	10	21
71	1500	38	180	20	34	95	2000	60	120	40	35
72	1500	48	180	20	59	96	1500	15	150	70	45
73	1760	40	300	150	39	97	880	30	40	15	48
74	300	45	15	10	58	98	600	10	15	15	27
75	440	70	70	10	40	99	2000	30	300	50	34
76	1800	46	120	30	56	100	900	65	150	20	59
77	3000	50	150	60	60	101	730	50	80	30	45
78	1500	30	250	100	32	102	2000	30	150	30	43
79	1500	40	300	50	32	103	530	120	35	10	35
80	500	50	50	25	22	104	2000	35	100	20	41

TABLE 15

Number	expenses which	exits	max km	mean km	Age	Number	expenses which	exits	max km	mean km	Age
105	400	20	5	2	50	132	1500	30	250	100	32
106	1000	30	99	99	58	133	0	15	70	60	37
107	300	28	8	3	29	134	900	50	100	70	47
108	500	30	5	3	42	135	600	28	140	80	32
109	800	16	5	2	53	136	1500	40	40	40	38
110	300	32	7	2	32	137	1500	8	300	40	36
111	500	20	8	3	52	138	3000	48	150	50	50
112	500	20	10	3	28	139	600	45	150	20	40
113	200	20	6	2	38	140	600	30	300	50	35
114	500	22	7	2	48	141	1500	50	100	70	44
115	300	26	5	2	43	142	6000	45	18	10	20
116	600	15	7	3	45	143	3000	40	150	50	21
117	600	16	3	2	33	144	6000	5	20	20	34
118	400	60	160	20	22	145	600	15	200	50	29
119	700	45	120	40	43	146	300	40	70	25	30
120	200	50	30	10	38	147	3000	48	200	10	29
121	3000	50	130	25	35	148	640	50	200	50	22
122	2500	48	45	20	60	149	600	20	20	15	55
123	600	48	50	40	37	150	1200	75	180	35	30
124	300	50	15	1	43	151	900	20	150	10	59
125	1000	30	45	5	69	152	300	50	200	50	35
126	500	40	5	2	69	153	1200	48	100	40	38
127	300	36	3	1,5	66	154	300	40	15	10	27
128	1000	48	80	40	42	155	2350	60	150	50	45
129	500	15	10	5	44	156	2000	38	100	25	28
130	300	15	200	10	51	157	1500	50	600	15	60
131	600	53	93	29	40	158	1500	40	80	50	42

TABLE 16

Number of hunters	expenses which correspond	exits	max km	mean km	Age of hunters
159	2500	32	80	50	40
160	300	45	17	7	40
161	1000	30	150	20	52
162	450	15	20	5	57
163	200	40	50	10	23
164	500	45	8	2	31
165	1350	18	10	5	24
166	4000	100	350	30	47
167	4000	100	150	50	35
168	3000	100	200	15	45
169	3000	100	180	30	32