

Theoretical Approach of Consumption, Expense, Family Income through Engle Equations (Evidence from Jordan Family Households – (1989- 2006))

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Abstract

This research aims to give a theoretical approach through three models of Engle equation, and check which model of them can satisfy the theoretical approach of Jordan households' consumptions and compatible with family budget.

Also this research investigates an applications of these models through urban and rural in Jordan families consumptions considered 10 groups of commodity , then estimate specific effects and general effects of return scale has been done . The expenses elasticity has classified according the three models.

Our finding as a results in all three models as it available in category of 17 yrs old that in urban elasticity is higher than rural when we applied the models, this result too important due to the ratio of the youth ratio in Jordan which represent 73% of population, other results presents in research .

Keywords : Expense Elasticity , Family Consumption , Model Of Price Commodity , Engle Equation , Urban, Ruler .

Jell classifications : 018 , P 48 , R 29 .

Introduction

The great concern from the planning policymakers and monetary policymakers, investment plans on the rationed level of consumption research. And how distributing family budget, which encourage the econometrical of construct standard models to investigates the effect of consumption and suitable for other research fields such as equitable in distribute income, price planning policy, country international trade, and inflation policy treat.

So this paper includes theoretical approach to determine the mathematical models and practiced sides of consumption, and family budget in Jordan.

Also beyond the theoretical approach paper aims to discuss accuracy identification for concept and expense elasticities, and consumption items of families' speculative focus on large uses through model and specify effects factor on family consumption and analyses data

to achieve the aim of the study. Therefore the main research problem is to applied and to choose which model is suitable to use to Jordan data family consumption.

Some studies in family household have done of family budget in Jordan but it have descriptive approach , also International bank help Jordan to study the poverty line in Jordan , 1990 , they have used Ginni coefficients in urban and ruler.

Therefore the guidance of this study are international studies such as American studies in the field of living standard ,one of them entitled as “ poverty level versus the living income standard, they have define poverty in their study.

The poverty level based on the economic food plan as the developed of (Moli orshansky, 2000). By 1969 the federal government adopted these poverty measures as official definition of poverty. The term living standard can be mean many different things , from a narrow economic view point : it means the average income in the community in a broader sense , it refers to welfare or quality, an over view adequately measures can be formed by considering arrange of indicator quality of dispels of life as (Robert , 1990) .

Cost living means either “ the amount of money needed to buy certain goods and services , two types of indices are typically used to compare the prices of the certain goods and services including food, housing and transportation , so that cost may be compared among communities or over time .

Theoretical price indices are ratio of cost functions representing the preferences of households, however the price indices has been applied to empirical welfare studies (Glewwe, 1990, Grootaert and Kanbar, 1996).

Several empirical studies have been conducted to study households and consumption such as Campbell and Cocco (2003) and Koijen, Van hemert and Van. N (2008), those examined risk management in the context of choosing an optimal residential mortgage. Also related, the home bias literature explorers explanations for why households portfolios but they are not sufficiently. Hone, Kubik and Stein (2004) found that social interaction influence the stock market participation of individual households, While Cole and Shastry (2009) find that households' education plays even large role

Therefore this paper written to provide an economic perspective on a households of goods and services consumption, on other hand living standard and related to income expense, while loans affordability is related to income either, it takes two parts urban and ruler as comparison state of Jordan, Research has divided n to four parts, first part presents an introduction with objectives of this paper and hypothesis of research. second part concerning with the theory indicate to problems of use of family data consumption and a comparison between used of income and sum of total expense of families and concentrate of heterogeneity of data , while third part s an evidence as applied case of Jordan. Fourth part has the results of analyses of three models which selected to study data of Jordanian families, then concluded remarks.

1 - Research hypotheses:

Hypothesis research performs according the suggested three following models ::

first model:

$$\frac{V_{ij}}{N_j} = f_1 \left(\frac{Z_j}{N_j} \right)$$

When it was applied to a achieve expenses elasticity's concern belter than the other models.

second model:

$$\frac{(V_{ij})}{\left(\sum_{r=1}^R AirS_{ij} \right)} = f_1 \left(\frac{R_j}{\sum_{r=1}^R Ar * Srj} \right)$$

When it was used, to analysis consumption data for commodity groups, in Jordan. Concerns better than the other models. That considered the general effect especially for age, sex and family size construction

Third model:

$$f_1 \frac{(V_{ij})}{\left(\sum_{r=1}^R AirS_{ij} \right)} = \left(\frac{Z_j}{\sum_{r=1}^R Ar * Srj} \right)$$

Considered the age, sex, and family size construction and the economic size, considered as the best than the other models. According to the importance of consumption planning which considered as limited factor in equitable in distributing income, income benefits studies Prices planning policy, and inflation solutions. So, building standard models For consumption, consider very important in planning policies. We have to distinguish between family consumption and the consumption depending on national account system, when discussing consumption.

2 - Data and Methodology:

Whereas the consumption depending on invitational account included family Consumption which used in the following family survey:

1. Commodities and services that the family purchase each for consumption.
2. Commodities and services that family received as (corporeal) .
3. Commodities that the family produces and consume immediately including department rent.

Where as family consumption depending on national account system includes:

1. Fees of accident insurance services and life insurance.
2. Commodities and services that family Individuals received from associations prepared to offer that and the country pay expenses.
3. Consumption of retirements pays office.

So family consumption means: the total of population Consumption from commodities and services and commodities values that the country offer for families free, and particular projects which not aspirate unprofitable and realize benefits for families when it is consumed.

The importance of consumption data, and family income, that we can get from family immediately, in wide usage. In developed and developing countries as well, regardless of the economical system. These fields are:

1. Study the family sector's saving in purpose of planning and directing it in fields that achieve economical growth.
2. Planning outside trade to insure facing locale demand and substitution the domination on commodities and services by imports and disposable abundant by export it.
3. Put centrality planning to increase the locale products Illa propitiate with expected demand.
4. Make studies about inflation reasons and ways of solution to insure the achievement of economic growth and economic stability.
5. Determination of ways level (maximum _minimum).
6. Make economic benefits studies for directing the exploitations toward profitable project that has huge demand on its products.
7. Perspective demand on commodity and service for purpose of facing the demand and planning economic policies.

3 - Consumption:

A - . Factors that effect on consumption:

Consumption effected by a group of factors, social, and economic variables. Therefore consequently its influence and effect by this variable. We can classify it to countable factors able to be measured such as income and it's distribute, commodity price and complementing and substitute commodity price, population and family size. Other uncountable factors such as consumption desire, their habits in consumption environment, geographical site, climate, optimistic and pessimist view for economic, political, expected income condition.

B - . Consumption data resources and family income:

Consumption data and family income are taken immediately from families. Calculate by what we call families survey through statistic survey including a big sample from families. This survey may cover other sides of families living like habitation situation, education level and how they direct their time and its health situation.

There are many sources to get consumption data and family income such as statistics from commodities and its uses resources and storage statistics, imports products,.

Statistics which helps in estimating the available commodities. Also the statistics concerns the uses of government consumption commodities and mediator consumption; by subtract this usage from the total available commodities. As for family consumption data from services the most important resources for data is statistics from services establishments such as the budgets of services establishments and its income, the service size that offers to family sector. Also we can have data from income taxes records and sectors statistics, or assistance funds and social insurance its worth to notice that every resources that mention above have distinguishes and weakness points concern consumption estimate and family income. Also these data about classes and at certain time these tables show medium family consumption average from commodities and services and it is accuracy limited specially in recreation fields, evening parties, beverage, and some other services and also in income data, benefits, taxes as families gives base data towards up. According to consumption and data biased towards down according income. So incorrect data miss understanding statistic among families or shame or exaggerating and pride which have to be considered when making models to concern of what we call (standard error). In addition to some commodities that some families consume that cant be estimate like commodities and services families received free or supported such as health services and medication, employers shareholders in social insurance fund, health insurance or gifts and a small amount of money the country offer, since families survey don't show resources of commodity and services and the other uses.

C . Problems of using consumption data:

Since the used statistic in estimate operation that concern family survey, section data or time series. So separate statistic data from hetrogenousity effect that associated with section data, or the other case associated with time sequence that is the existence of auto correlation. So that Engle function necessary in building standard models design for measure.

Theory of research.

- As consume demand any commodity or certain service depend on money unity and quality factor such as income, commodity price, the price of the alternative commodity, complementary, describe. So that it can be express in the following function formula:

$$Q_d = f(p_1, p_n, pop_t, I, H, \dots, (1))$$

As:

Qd: the demand quantity from commodity.

Pl: commodity price.

Pn: alternative commodity price.

Popt: family's numbers.

I: income.

H: consumer desire.

It is assumed that no changes happened in commodities price during the research period and stability in consumer discur stability on family size also consumer income can be expressed as total expenses on different commodities and services. Avoiding problems that rise when counting family income. Using the total sum of expenses instead of the income gives logical results $V_{it} = f_i(z_t) \dots \dots \dots (2)$ corresponding the

economic theory, according to that we can write the following formula as follows:

As:

- Vit: expenses amount on families commodities.
- Zt: total expenses on commodities and services.

For the control proposes on quality factors that effect on consumer behavior (Ernest Engle) the German scientist) analysis the individual level and to considered the size from his point of view, as follow:

$$\frac{V_{it}}{N_t} = f_t \left(\frac{Z_t}{N_t} \right)$$

As:

Nt: family individual numbers.

The function takes many forms:

A-linear function:

$$V_{it} = B_0 + B_1 Z_t + ue \dots\dots\dots (4)$$

B-semi logarithmic function:

$$V_{it} = a_1 + B_1 L_n Z_t + ue \dots\dots\dots (5)$$

c-double logarithmic:

$$\ln V_{it} = a_1 + B_1 \ln Z_t + ue \dots\dots\dots (6)$$

This country considered as the most country using this kind of analyzing consumer behavior studies the desalinate degree of consumption the elasticities of commodity income or commodities studied group. This model has characteristic to correct the hetrosedasticity effect.

$$\begin{aligned} \text{Mpc} &= B_1 \frac{V_{it}}{Z_t} \\ R &= B_1 \end{aligned}$$

D-Log-log inverse function:

It's on the following mathematical formula:

$$\begin{aligned} \ln V_{it} &= a_1 - \frac{B_1}{Z_t} - Y_t \ln Z_t + ue \dots\dots\dots (7) \\ \text{Mpc} &= V_{it} \left(\frac{B_1 - Y_t}{Z_t^2} \right) \\ n &= \frac{B_1}{Z_t} - Y_t \end{aligned}$$

This formula distinguishes in solving the difference in hetrosedasticity problem and curve fitting for almost all commodities and to different income levels.

4. Analysis consumption data problem:

There are many problems that face the researcher when analysis consumption data when it is cross section data from these problems. The comparison between: using income as single variable (stable), and the problem about it when counting it, and counting any other income, the monetary income or the real income. As well as age constructive, sex male or female, family size, size economical problem, different mistakes hetrosedasticity. In consumption function in addition to examine the right mathematical function for the demand function.

5. The comparison between using income of total expenses:

Concerning the real income it is considered as a scale expressed improvement range in consumer living level. Whereas it show purchasing power for the actual monetary sum that the individual gain from commodity and services, so it considered as more comprehensive than the monetary income which express about the actual amount that the individual gain from money valued in monetary items. Most researchers prefer using the total expenses sum instead of income in estimating expenses elasticity for different commodities groups using sum of total express give big value for coefficient bigger than when using the income as single variable in the models that means; using income as single variable will be less elasticity than using sum expenses total, so the elasticity of the commodities perform the result of commodity elasticity. (1)

6. Solving zero data in consumption formula:

using quantity as a depending variable on consumption demand formula instead of values, help researcher to measure qualities elasticity that the increase average in payment price range for each item verse the increase in income with one item extant, which means that the expenses elasticity and commodity for any commodity equal the sum of expenses elasticity and commodities elasticity for that commodity it is:

$$\left(\frac{dV_t}{dZ_t}\right)\left(\frac{Z_t}{V_t}\right) = \left(\frac{dP_t}{dZ_t}\right)\left(\frac{Z_t}{P_t}\right) + \left(\frac{dQ_t}{dZ_t}\right)\left(\frac{Z_t}{Q_t}\right)$$

As:

(Qt) (Pt): price quantity.

and commodity

(No): expenses commodity.

$$\eta_D = \eta_Q + \eta_Q \dots \dots \dots (8)$$

elasticity of

(Na): quantize elasticity.

(Nq): expenses elasticity of commodity in elasticity.

This reliable variable may have sometimes zero value especially when studying consumer behavior on preferable commodity level, and not the commodities collection. Zero data means that some families don't purchase any amount of commodities or any group of commodities during the survey period so it is important to study the nature of this data so that to know the reasons that make these families not to buy this commodity in order to solve that can be by two assumptions, first: concerning storage solving, considering that families consumption the purchased commodity before survey period, by compare the differences between the income average for consumption families form the storage commodity , if these indicator was equal, so we could integrated them, if not it require settling the outlines of the estimated demand formula by multiple these outlines with the contrast of family number rate which purchase the commodity (i) to the total sum of families number in the sample.

7. Edge construction and sex in family size:

When analyzing data concern the depending variable (follow) of expenses on specific commodity (i) and independent variable (sum total expenses), so the researcher depend on constant returns of scale assumption, or what we call homogeneity assumption in estimating formula coefficient, for consumption demand, but it is known that consumer expenses different from edge to another so the consumption for adult person different from children consumption and also from old consumption also from female consumption to male consumption. So that, the relation that concern analysis on individual level, and regarding family size, It can be writing as:

$$\frac{V_t}{N_t} = f_t \left(\begin{matrix} Z_t \\ Z_t \end{matrix} \right) \dots\dots\dots (9)$$

As:

Nt: (i) family number And the formula should be settled to:

$$\left(\frac{V_{y_{t,r}}}{\lambda Y_t} \right) = f_t \left(\frac{Z_{t,r}}{\lambda^* Y_t} \right) \dots\dots\dots (10)$$

As:

r = 1, 2, 3...): perform number of edge classes that studied.

AYt: perform the specific effect \ the edge class (r) from family\ the kind of expenses on commodities.

A *Yt: perform the general effect \ the edge class (r) from family \ income (sum of total expenses).

By using double logarithmic formula and the iteration procedure method, so that the pervious equation becomes:

$$\frac{V_{t,r}}{\lambda Y_t} = f_t(Y) \dots\dots\dots (11)$$

When specifying the edge class that desired to study, classifying according to sex (male, female) the mathematical formula will be as follows:

$$V_t = \lambda_{t1} S_1 + \lambda_{t2} S_2 + \dots\dots\dots + \lambda_{ti} S_i$$

As known

(ft) was took the double

logarithmic formula so that:

$$\begin{matrix} F_t = a_t y^{Bt} \\ V_t y^{Bt} = B_{\theta} \end{matrix}$$

If a primary estimate available specific effect

for (Bi) it can be estimate the

(ir) therefore the (9) formula was re-write as:

$$\frac{V_i}{\lambda_{ir} S_{ij}} = B_0 Y^{Br} \dots\dots\dots (12)$$

When using the iteration procedure to the formula (11) and (10) we get many values for (Bi) for every commodities group, also get a primary estimate for (Bi) by using the estimated degree propensity from the formula that shows consumption data on the individual level:

$$\frac{V_i}{\sum_{j=1}^R A \lambda_{ir} S_{ij}} = \hat{a}_i \frac{Z_i}{\sum_{j=1}^R \lambda_r^* S_{rj}}$$

When researcher wanted to estimate the specific effect (Air) for each edge class it take the mathematical formula as:

$$\frac{V_{ij}}{Z_i} = \hat{A}_{it} S_{ij} + \hat{A}_{i2} S_{2j} + \dots\dots\dots + \hat{A}_{ir} S_{rj} \dots\dots\dots (13)$$

$$\left(\sum_{j=1}^R \lambda_r^* S_{rj} \right)$$

As:

$$A_{ir} = (B_0 \lambda_0)$$

To estimate the general effect that concerns the sum of total expenses (income) so:

$$\hat{A}_r^* = \sum_{i=1}^I W_i \hat{A}_{ir}$$

As:

$$W_i = \frac{1}{d} \sum_{j=1}^J \frac{V_{it} / N_j}{Z_j / N_j}$$

8 - consumption formula and returns of scale:

Most studies about consumer behavior assumed that if there are two families have the same income level in homogeneous group and have the same way of expenses. So, they can be performed in the same demand curve, but this assumed can't continue for a long time, because families different in size of children's number, and in

variable (Vit/t) take negative relation with children number in families. So family with low income for each individual are low expense

8es for each individual this due to family member. The following formula performs that:

$$V_{ij} / (\lambda_j) Q_i = f_1 (Z_t / (N_j) Q_0) \dots \dots \dots (14)$$

As:

Q_i= perform the effect on returns of scale in expenses on commodity group.

Q₀= perform general effect for returns in income and total expenses.

The general effect in returns of scale in income (total expenses) as follows:

$$Q_0 = \frac{\sum_{i=1}^i \lambda_i Q_i}{\sum_{i=1}^i \lambda_i}$$

As:

$$\lambda_i = W_i \sum_{r=1}^R A_{ir}$$

$$W_i = \frac{1}{R} \sum_{r=1}^R A_{ir}$$

9 . Hetrogenosity in false differences ,and empirical results:

To analysis consumption cross-section data by using the original small squares (OLS) with homogeneity assumption as:

$$U_t = N (0 \sigma^2)$$

That means mistakes that result from the different between the seen values for the variable (Vit) distribute naturally for mean with zero value and different constant its value σ^2 .

Actually this assumption can't be achieved when studying statistic data have cross-section data perform, due to the different disruption seen about the following variable from level to another from the independent variable so that there should be test for

nonhetrosedasticity in cross-section-data problem. We can perform the test by spearman rank correlation coefficient test also

gold feild-Quendt test. Especially in using crosses-section-data case. In this test the sample divided to two samples the first sample contain the small values for the independent variable, the second sample include the big values for the independent variables.

This test estimates the slant line of the following variable (Vit) on the independent variable (Zt) for each divided sample alone according to linear formula.

$$V_{it} = B_0 + B_1 Z_{1i} + u_i$$

Then making estimate for the two divided samples the differences between each one alone according to the following formula:

$$Se^2 = \frac{\sum V_{it}^2 - \hat{B}_0 \sum V_{it} - \hat{B}_1 \sum V_{it} Z}{n - k} \dots\dots\dots (12)$$

As:

n: sample size

k: estimated information number

Then we make the test.

$$S_2^2 / S_1^2 \leq F (n_1 - k) (n_2 - k)$$

$$S_1^2$$

:the differences in the divided sample with small values

$$S_2^2$$

: the differences in the divided sample with large values

N₁: divided sample size with small values.

N₂: divided sample size with large values.

In case of achieving this we accepted zero assumption (Ho =Bi = 0), that means there is homogeneity in differences of the divided sample, but if not achieved, so we will accept the alternate assumption (fIN), to solve (Unhetrosedasticity error differences problem) you need to study the relation between independent variable, real values, and the variable (follow) estimate. It was appeared to the economical researcher that the error different studied model constant proportion with depended variable value.

$$E (u_1^2) = \sigma_1^2 Z_1^r$$

As:

$$\sigma^2$$

: perform sample different and Unhetrosedasticity value.

To estimate the indicators related to family consumption in Jordan the researcher used model given estimate and follow up the iteration procedure, to be able to estimate all the specific effect, (Qi) to the returns of scale , in expenses on the commodity (i) and the general effect to the returns of scale

(Qo)in the total expenses.The researcher chose expenses analysis(40) families living in the city, and (40) families living in the country using data from family budget research in Jordan in (2004) the quarter data.

The researcher estimate the indicators of specify effects on returns also scale also the general effects. It was used in consumption data selection, when estimate expenses elasticity to the mention commodities group. The researcher has chosen three models for this purpose:

Model (1): Analysis consumption data, according to individual level.

$$\frac{V_{ij}}{N_i} = f_1 \left(\frac{Z_j}{N_j} \right) \dots\dots\dots (13)$$

Model (2): Considered the general effects especially for, edge, sex, and family size only.

$$\frac{V_{ij}}{\sum_{i=1}^R AirSrj} = f_1 \left(\frac{Z_j}{\sum_{r=1}^B A^*rSrj} \right) \dots\dots\dots (14)$$

Model (3): considered each of edge, sex, family size, and returns of scale.

$$\frac{V_{ij}}{\sum_{i=1}^R AirSrj} = f_1 \left(\frac{Z_j}{\sum_{r=1}^R A^*rSrj} \right)^{Q_i} \dots\dots\dots (15)$$

The equation of finding demand formula given was used as:

$$LOG \left(\frac{V_{ij}}{\sum_{i=1}^R AirSij} \right) = \hat{a}_0 + \hat{B}_1 LOG \left(\frac{Z_j}{\sum_{i=1}^R A^* rSij} \right) \dots\dots\dots (16)$$

It was used to find each specify effects and general effect for ten commodities group to the consumption formula data for country sector and city sector to two edge class without considering the sex for each: First class: include family member from 17 and above. Second class: include family member from 17 and below. The used sample in the analysis was contain from 1000 families distributed on city and on 7 main cities in Jordan and 1000 country and Bedouin families in 9 population communities, also consumer expenses according sector:

$$n^* = \frac{\hat{A}^*2}{A^*1} \quad \pi_{ij} = \frac{\hat{A}_{id}}{A_{il}}$$

The first edge class was taken as a basic to calculate the weights to the probable medium of (AWHS) to family size as (Wi) perform monthly expenses percentage on commodity groups. It is clear in table (1) that expenses weight on the commodity groups to the edge class (17 and below) in the city was higher than its comparable in country in all commodities group. This is due to the different ways of expenses between country and city according to this edge class.

As the weight of family expenses of the edge class of 17 and below, such as cleansing, cosmetics and medical care 58%, but in country sector it was 57%. To estimate the general effects to the returns of scale beside the total expenses so the next model was used.

If we assumed that the initial value of $Q_0^{\wedge} = 1$ so we can estimate each of

$Q_1^{\wedge}, B_1^{\wedge}, a_1^{\wedge}$ as Q_0^{\wedge} equal:

$$\hat{Q}_0 = \sum_{i=1}^i \lambda_i \hat{Q}_1 / \sum_{i=1}^i \lambda_i \dots\dots\dots(18)$$

We are able to estimate $Q_0^{\wedge}_{t+1}$ from the previous formula as $t = 1,2 \dots$. And by following the iteration procedure and re-estimate until we reach the convergence met, in another word we reach the stationary point. We have used the previous method to analysis the expenses of (40) family in

the city and (40) family in the country in Jordan for the purpose of finding the specific effect of returns of scale in the total expenses (income), the second table explain these indicators it shows that the expenses way on rice, wheat, fuel, light, culture, education in the city sector, and the herbaceous

group in country sector have positive effect on returns of scale, but expenses way according to other rest groups in both sectors, it have negative effect. It was reflected on general effect indicator value (-2.278) in the city and (3.896) in the country. These indicators were used

when estimating expenses elasticity to the mention commodities groups. The comparison of the expenses elasticity to all different commodities group in the city and country sectors as in Jordan, was shown in table (3) as it is clear that in model (3) gives expenses elasticity closer to real for all commodities, such as fruits, vegetables in the city in model (1) (1.95) in model (2) (2.41) and in model (3) (1.52), but in the country in the model (1) (0.79), model (2) (0.64), in model (3) (0.56).. Also according to long life commodities and half edge we found in model

(3) gives result more harmonious with the economic theory, which conceded that consume the long life commodities in the city are more elasticity than the country, this show that studying the construction of edge, family size and sex, and returns of scale are necessary when analyzing consumption data formula and deciding the economical policy concerning outside trade, price and solving inflation.

Concluded remarks:-

The researcher found the following results:

1) Model (3) that considered each edge, sex, and family size and returns of scale which as follows:

$$\frac{V_{ij}}{\sum_{i=1}^R A_{ir} S_{rj}} = f_1 \left(\left(\frac{Z_j}{\sum_{r=1}^R A^*_{r} S_{rj}} \right)^{\hat{Q}_1} \right) \dots \quad (19)$$

The best model has been used for this purpose.

2) Expenses way on wheat, rice, light, fuel, education, commodities in S~ the city have positive effect were Herbaceous, vegetables have positive effect on returns of scale, and the other commodities groups have negative effects, which reflect on general effect indicator of returns of scale in Jordan.

3) Show the importance of studying ~ sex, family size construction and returns of scale. This was clear when analyzing data on table (3).

Considered the importance of expenses elasticity when drawing consumption policies.

The government in Jordan the should be Uses the economical mathematical analysis models for analyzing the cross-section-data or time-series instead of using description method, and when they decided the policies of consumption they should give great care to the probable weights, family size will be settling when drawing taxes. Also when solving the inflation you have to study expenses elasticity indicator, and considered it as one of the solution indicators of the problems.

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Table (1)

Consumption expenses weight with proper medium of family size AWHs

categories	urban				rural			
	Wi	Tlil1	Tlil2	AWHS	Wi	Tlil1	Tlil2	AWHS
Food stuff	0.492	1.00	0.96	6.80	0.513	1.00	0.92	5.95
Alcoholic beverages and smoking	0.047	1.00	0.82	6.50	0.038	1.00	0.87	5.40
Fuel and energy	0.065	1.00	1.10	7.60	0.062	1.00	0.93	6.50
Cleansing, cosmetic, medical care	0.024	1.00	0.85	6.40	0.015	1.00	0.57	5.70
Education, pedagogy and culture	0.021	1.00	0.73	5.80	0.009	1.00	0.59	5.20
Clothes and fabric	0.083	1.00	0.79	5.20	0.014	1.00	0.61	4.80
Home commodities , furniture and other things	0.072	1.00	1.08	6.80	0.045	1.00	1.02	5.30
Shoes ,bags and leather	0.019	1.00	0.61	6.20	0.09	1.00	0.59	6.10
Repair and rent	0.135	1.00	----	----	----	0.61	----	----

This table conducts according to the statistic tables and the given data from general statistics department, consumer research and family budget of many issuances in 1989, 1996,2002 and the quarter statistic of the general statistic department

Table (2)

Estimate the specific effect and general effect of the returns of scale

Sector / Commodity group	urban	rural
Rice	0.075	-2.41
Wheat	0.37	-9.07
Milk and its product	-5.6	-2.85
Herbaceous	-1.06	-2.85
Fruits and vegetables	-0.35	1.76
Meat, eggs ,fish	-1.39	-1.34
Sugar	-3.26	-4.12
Fuel and lights	0.32	-8.21
Education	2.56	-0.52
Other commodities	-4.18	1.98
Clothes and fabrics	-0.65	-6.87

* The table counted according to the statistic tables and the given data

from general statistics department, consumer research and family budget of many issuances in 1989, 1996,2002 and the quarter statistic of the general statistic department 2006 .

Table (3)

Expense elasticities according the suggested models

Sector	urban			rural		
	Model 1	Model 2	Model3	Model 1	Model 2	Model 3
Rice	1.15	1.46	0.69	0.89	0.96	0.86
Wheat	0.76	0.79	0.36	2.29	2.36	2.28
Milk and its product	2.75	2.63	3.12	3.56	3.15	0.89
Herbaceous	-2.14	-2.29	-1.32	-1.8	-1.85	-0.63
Fruits and vegetables	1.95	2.41	1.52	0.79	0.64	0.56
Meat, eggs ,fish	1.72	1.19	0.75	2.18	2.16	1.20
Sugar	1.35	0.94	0.98	2.56	2.83	2.31
Fuel and lights	0.85	0.86	0.34	0.71	0.56	0.26
Culture and Education	3.28	3.45	1.27	3.14	3.51	2.18
Clothes	0.48	-0.59	-1.6	0.59	-0.81	0.32
Other commodities	1.14	2.63	1.85	0.91	0.96	1.19

* The researcher counted this according to the statistic tables and the given data from general statistics department, consumer research and family budget of many issuances in 1989, 1996,2002 and the quarter statistic of the general statistic department 2006 .