Household Demand Patterns in France 1980-1995

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1 FAMILY BUDGET SURVEYS IN FRANCE

The main source of statistical information used in this study is based on family budget surveys (FBS) and we are comparing and sometimes combining data from several years. However, the FBS project has a very long history and has been modified continuously during all period of its existence. Some methodological changes were minor from the comparative point of view but others could influence the sense of observed evolutions. In this section we stress some basic points of the FBS evolution and which are important to better understand the results in comparative perspective and to set the limits of such exercises.

The history of the family budget survey can be divided into three phases:

1. The first surveys on households designed to describe their living conditions were made in the second half of the nineteenth century. Their main goal was to draw the public attention on the terrible living conditions of certain urban populations. The sample were thus very small (a hundred persons or so) and not designed to be representative of the global population but to illustrate the living conditions of interesting fringes of the population. Those first studies appeared in the United Kingdom.

2. During the first half of the twentieth century, the main goal of family budget surveys was to provide weights for the calculation of price indexes that is to measure the importance of this or that good in the consumption. At the same time, prices elasticities were calculated for the first time. Besides, techniques had evolved : random sampling, designed to be representative of the whole population, waves survey in order to neutralise the seasonal design of consumption, and introduction of expenditures diaries (as soon as 1954).

3. The actual phase(after 1950) is characterised by the development of several specialised surveys that specifically deal with some expenditures (transports, holidays, clothing, savings, housing conditions, health, leisure...). Two surveys, the Consumer Expenditure Survey and the Food Consumption survey, constituted the basis of households budget surveys. From 1965 to 1974, the Consumer Expenditure Survey was made every year, the Food Consumption survey every other year.

The goals of the surveys were more diverse. The survey was used to provide weight for price indexes, as usual, but also to evaluate the total consumption for each detailed product

(for instance, the measurement of the total consumption of meat in France). Those data were used by the National Accountants. They were also disseminated, since they gave insight on the structure of markets. The data were also used to forecast future consumption levels and structure. They also gave information on consumer behaviour.

The first survey covering the whole non institutional civilian population was made in 1956. Since then the French Statistical Office (INSEE) have been conducting family budget surveys very regularly.The FBS was made in 1956, 1963, every year in the period 1965 to 1974, in 1979, 1984-1985, 1989, and 1994-1995. The last one was made in 2000-2001 but it has not been published yet.

From 1965 to 1972: the FBS was an ongoing survey. But when comparing FBS results with other sources (National Accounts in particular) a degradation of quality was evident. More and more expenditures were not recorded. Several changes could explain this evolution: more purchases in hypermarkets, increasing the respondent burden, individualisation of purchases, each person having an independent budget, and so on.

In 1973 and 1974, a single survey was made, grouping the former FBS and Food Consumption survey. Only the Food part was published, the non alimentary results being not reliable.

Between 1975 and 1978, a global reflection on the FBS was made, in order to improve its methodology. In 1977, a pilot survey was made, with interviews and long process of expenditure accounting (one year).

The context of 1978-1979 survey was particular. The last results available were very old (1972) and there was a huge demand for new data in the field. A new FBS was thus launched in 1977-1979. Thanks to several innovations (a present to the households having participated, a better training of interviewers, a better methodology) the results were good. In particular, the gaps between FBS and National Accounts figures were reduced. The 1978 survey covered 92% of the consumption as measured by National Accounts versus 82,4% in 1972.

The 1984-1985 FBS was very similar to that of 1979. Tests have conducted to a new diary, 14 days long (instead of 10 days in the former survey).

In the 1989-1990 FBS the respondent burden was slightly reduced. Some special modules (more than 55 years old people, working hours) were eliminated.

The 1994-1995 survey adopted the same methodology as in 1989. Some parts were skipped (detailed description of housing conditions, of holidays, of cars), some new ones were added (savings, financial situation, selling and purchase of dwellings). For the first time questionnaires were made using a Computer Assisted Personal Interview technology.

As far as income was concerned, the data collection was the same but with greater reliability. A list of all types of income earned by the household was established, then the amounts were asked for each type of income. If the household could not or would not give the exact amount, a bracket was proposed.

The most recent 2000-2001 FBS has been completed with several modules : professional career, children living out of the household, some durable goods, valuable goods, medical goods. The modules focusing on food away from home and on the goods produced for own consumption have been entirely redesigned. Besides, a new module dealing with guests invited at home have been created in order to complete the knowledge about food consumption at home. On the contrary, some modules have been lightened (holidays, home renovation).

The present study is based on FBS which belongs to the same generation (1979-1995) with almost identical methodological choices, so comparable to a large extent at least from this point of view.

General characteristics of FBS

Traditionally, the main goal of the FBS is to measure with tmost accuracy expenditures, consumption and income of French households.

The study of expenditures is the central and traditional target of the survey : all households expenditures (nature and amount) are recorded, then broken down according to a 800 items classification that is compatible with the National Accounts classification. All expenditures are covered, including those that are not consumption of goods and services, National Accounts-wise : taxes and contributions, insurance premiums, home renovation expenditures, transfers between households, purchase of second hand goods, loan pay offs. The survey also collects information about non monetary consumption: food produced for own consumption, fictitious rent, employer payments in kind...

Till 1989, the study of income was not a goal of the survey: the data on income were not used per se, but only as an explanatory variable of consumption. But methodological studies have proved that the FBS (or at least the 1984-1985 and 1989 surveys) provided a satisfactory measure of income. The FBS survey can thus be considered as a reliable source of data on income, which completes the information provided by the « Fiscal Revenue » survey. The FBS records all types of income: taxable income, non taxable income, social security benefits, money from other households, exceptional income...

The FBS mainly records monetary data. Specialsed surveys on health, clothing, transportation, leisure, holidays, focus more on the qualitative aspect and the household behaviour. Nevertheless, in order to illustrate the monetary data, some supplementary questions assessing the households' financial situation are asked. They are very useful for several studies.

2 FAMILY BUDGET SURVEY METHODOLOGY 1979-2000

The sample

The survey covers all civilian non institutional households in metropolitan France and overseas departments. Overseas territories are not in the scope of the survey.

The metropolitan s each one having an eighth of the sample.

Data collection is made in several waves (8) during 1 year over two calendar years (for instance 1994-1995) starting in the spring.

There is no data collection during the first half of August and the second half of December.

The interviewer will visit the household three times. It is necessary to respect the relevant waiting periods between visits in order to let the household fill the diaries. The interviewer is completing the expenditure information by a special "quality questionnaire describing the condition of the data collection. The diaries are kept by households during 14 days.ample has been obtained using as a sample frame the Census housing files, completed by a file containing new houses. It is a random uniform sample of dwellings.

The data collection unit is the household.

No group or category is over-represented in the sample, since the main objective is to draw a global picture of the budget of all households living in France. Only the main residences are surveyed. Other residences (vacant, secondary or occasional) are excluded from the survey scope.

The household's expenditures are not recorded over a year. It is thus necessary to have a uniform break down of the sample over the year, in order to take into accounts the seasonal effects that may affect some expenditures : the impact of season (fruits, vegetables), of temperature (clothes, energy), of the calendar (taxes, energy bills) can be great. The careful breakdown of the sample is necessary to get a correct estimate of the annual expenditure, but also a faithful picture of the seasonal movements throughout the year. This is why there are eight waves of survey, of six weeks each, and each one having an eighth of the sample. Data collection is made in several waves (8) during 1 year over two calendar years (for instance 1994-1995) starting in the spring. There is no data collection during the first half of August and the second half of December. The interviewer will visit the household three times. It is necessary to respect the relevant waiting periods between visits in order to let the household fill the diaries. The interviewer is completing the expenditure information by

a special "quality questionnaire describing the condition of the data collection. The diaries are kept by households during 14 days.

Non response rates: total and partial

The FBS being long, difficult, time-consuming, it is not easy to avoid refusals. Even if it is mandatory, and if there are some incentives (letter, present, folow-up letters), the non response rate is rather high. For the three last surveys (1985, 1990, 1995), for instance, out of 100 households, 13 refuse to answer from the beginning, and 12 begin the survey but do not complete it. In total 75% give responses to all parts of the survey.

The voluntary and unvoluntary omissions

Even if he or she is willing to make the survey, it might happen that the respondent does not know or does not want to convey the exact amount of his or her income, or of certain expenditures that are sometimes difficult to estimate (for instance, holidays expenditures).

One major problem of the survey is that people have thus a natural tendency to forget or underestimate, voluntarily or not, some expenditures, in the diary as well as in the questionnaires. It is the same as far as income is concerned. Some results are thus somewhat underestimated compared to the National Accounts.

Other problems

- The reference period differs with the nature of expenditure: there might be confusion

- Some expenses can be recorded twice (for instance maintenance charges)

- Purchases that are not detailed enough in the diary

- Omission of some hypermarkets bills

Expenditures data collection

The Family Budget Surveys use two data collection instruments:

1° A Computer Assisted Personal Interview (CAPI): household questionnaire presented by the interviewer during a face to face interview. It records the socio-demographic characteristics of the household,- regular or big expenditures, the revenues the household received during the last calendar year, qualitatives questions describing the household's financial situation. Given its length, the questionnaire is broken down over three visits. After data collection, the questionnaires undergo several auditings.

2° Diaries filled by all persons aged 14 years old or more. They record all daily expenditures, and small, irregular expenditures. The person must write down every expenditure made within 14 days.

The interviewer hands out the diaries during his or her first visit, checks them during the second visit and collect them during the third visit.

As far as big or regular expenditures are concerned, the households' memory is reliable. This is why this type of expenditure is dealt with by direct questions, with relevant reference period that differs with the nature of expenditure.

The reference periods are given in the Table A1.

Socialised expenditures (Health, Education)

All expenditures covered by Social Security and Public Sector (Education) are theoretically excluded from the survey. Social insurance premiums (mandatory social contributions) are not reported. On the other hand all extra, voluntary health insurance premiums are registered as expenditures. No health expenditure covered by social security (doctors, medicines, hospital) is taken into account. This is even the case for not reimbursed by Social Security share of this expenditure.

Education costs in public sector are not registered either. On the other hand fees in private and semi-private sector are reported.

Home-ownership status, Rental Value

Different types of ownership status are distinguished (rent, mortgage, rent). A potential rental value of the home is estimated econometrically using Housing Survey and then imputed to owners' households by econometric matching method. This done in order to enable the correction for housing good service value and disposable income differences between home-owners and households renting their home.

"No answer " and "do not know problems"

Some expenditures, and moreover some revenues, are not easily told by the household. In that case, it is better to tolerate a non response than upset the household. Of course, a complete answer (exact amount) or a partial answer (brackets) is better than nothing at all.

For all amounts, and for most questions, « do not know » and « do not want to answer » are possible. However, it is forbidden for several identification questions (name, age, gender, filter questions).

A « do not know » is possible when the household cannot answer at one because some documents are needed, and will answer later. A « do not know » or « do not want » cancels the questions that follow and are linked to the amount at stake.

The interviewer will always favour an approximate amount to a non response. For instance, all revenues can be declared using brackets if the household does not want to convey the exact income.

If there is a non response, it is important to record that the income or the expenditure exists. If it is known that the households has paid a phone bill, it will be possible to impute a phone bill amount. If it is not known, then the household will be given a zero phone consumption.

Analysing data on yearly reference base

The expenditures are recorded on different reference periods (see the table "reference periods" A1). The first step consists in an annual estimate of each expenditure item. In order to achieve this estimate, the amount is weighted by the relevant coefficient. For instance, child care expenditures are recorded over a reference period of a month and are thus multiplied by 12 in order to have the corresponding annual estimate. An electricity bill over four month will be multiplied by three. The diary expenditures will be multiplied by 365/14 since they are recorded over a period of fourteen days.

For some modules it is more complicated. This is the case for holidays or clothe, since only the two last trips, and the clothes of only a few members of the household, are completely described. It is thus necessary to estimate expenditure for all the vacation trips, or a clothing expenditure for the whole household.

By aggregating all the expenditure items the annual budget of the household is rebuilt.

The annual expenditure is estimated by using the questionnaires and the diaries. For several types of expenditures the diary is the only source (eg food expenditures). This is why the quality and reliability of diaries is so important. For other types of expenditures, the questionnaires and the diary are potential sources. Whenever this is the case (for insurances or home renovation) the questionnaire is priviledged because it is assumed to be more reliable for regular and big expenditures.

Nevertheless, all expenditures must be recorded in the diary and Insee will process double-counts. This will be made by merging the files from the CAPI questionnaires with the files from the diaries. It will also be necessary to econometrically estimate some expenditures recorded on an agregated level, into more detailed expenditures. Finally, a ranking ratio technique corrects the total non response.

3 DEMPATEM OBJECTIVES AND ANALYSED CONSUMPTION STRUCTURE CHOICES

3.1 GENERAL INTRODUCTION

The consumption-group of the Dempatem project examines whether or not there is an increase in the demand for services of households and, if this is the case, examines the possible explanations suggested in the literature of the rise in households' expenditures on services, as discussed above. For this households' demand patterns over different goods and services are investigated in detail.

The investigation period

In the comparative perspective the period covering the end of the seventies until the end of eighties was chosen. In the case of France it corresponds to 4 waves of FBS survey available 1979, 1985, 1990, and 1995. The 2000 edition was not ready to process during the project. All these surveys were made (including 2000) with very similar general methodology described above. It makes these surveys comparable to each other at relatively low level of details. The average number of observations is 10 000 representative for 22 million of households.

The commodity classification

When constructing the different aggregated commodities the emphasis is put on services. Table 4 lists the consumer commodities we distinguish and reports the average budget shares for the years 1979, 1989 and 1998. We distinguish 20 major categories and, for descriptive purposes only, several minor categories including expenditures on durables. The budget share is defined as the expenditures on a certain good divided by total household expenditures (see table A3).

3.2 EXCLUDING HOUSING, HEALTH, EDUCATION SERVICES AND DURABLE GOODS

The expenditures on housing vary considerably across countries. This has a lot to do with differences in the housing market. But more importantly, there are fundamental differences across countries in the way imputed rent is calculated. For this reason we decided to exclude housing expenditures from the empirical analysis of the determinants of the budget shares. To be more precise, the major category 'housing' will be excluded. The minor categories are, respectively, 'rent', 'imputed rent' and 'home repairs. This latter category is excluded since for most renters 'home repairs' is included in the rent and, moreover, home repairs can be considered to be an investment. A final note is that housing allowances (rent subsidies) are considered to be disposable income, hence we report on 'gross' rents if possible.

Expenditures on Health Services depend on the health system in place, hence deviates considerably across countries mainly due to institutional differences. For this reason they are excluded from total household expenditures. Expenditures on Education services are also excluded from total household expenditures because differences across countries are mainly attributed to institutional differences. The exclusion of Health and Education services from private household expenditures is closely related to the fact that the health and education sectors are largely publicly financed.

We need to report separately on public spending and compare across countries.

Durable goods, are excluded from the empirical analysis of household expenditure patterns. The durable categories that are lumped into one durable goods category are: Purchase of cars and bikes, Furnishing, Appliances, Books, newspapers and computer, Audio and video equipment, Toys and hobbies, and Holiday goods.

3.3 ZEROS EXPENDITURES

The registration period in French surveys is 2 weeks, and for a particular household it may happen to have zero expenditure on a given good.

We report on the proportions of zero expenditure (Table A4). Of course it is impossible to distinguish infrequency of purchase from no purchase ever. For the purpose of this study the reason for observing zeros is not really of much concern and we therefore treat zeros as zero expenditure.

4 EMPIRICAL ANALYSIS

4.1 DESCRIPTIVE FACTS

4.1.1 HOUSEHOLDS' DEMOGRAPHIC AND EMPLOYMENT STRUCTURE GENERAL CHANGES (1979-1995) (TABLE 1, TABLE2)

The most striking observed evolution over two decades is a strong increase in the proportion of households with elderly couples (more than 65) and decrease of couples with children. Similarly the contrasted evolution is observed between singles: their proportion increased most for childless and (or) elderly. The employment status changes slightly this general pattern making the shares decreasing slower in the case of couples with young children where both are working. The share of working singles increased slower than that of non-employed. Similarly, the decrease of the share of couples with both employed was stronger than those with only one member employed. On the other hand the proportion of couples with both parent employed and having children decreased slower than the share of similar couples with only one member employed.

Average size of the household diminished over the period from 3.05 to 2.58 and the proportion of childless households increased from 45, 2% in 1979 to 57.6% in 1995 (Table2). Among families with children, the most dramatic decrease is observed in the proportion of households with one or two children (by 3.5 and more then 4 percentage points over observed period respectively).

4.1.2 HOUSEHOLDS' BUDGET SHARES EVOLUTION 1979-1995

As discussed above we decided to eliminate different types of expenditures being difficult to treat within the frame of our study, particularly in the comparative perspective (Health, housing, education). In tables 4 and 5 we present the budget coefficient evolution for both respectively total and Dempatem project restricted total expenditure definitions.

Non-restricted full nomenclature shows very typical changes in consumption structure for developed countries: radical decrease in food share (from 18 to 14% over the period) and dramatic increase in housing expenditure share (from 18 to 25 %). Another relatively strong increase concerns transport services (especially private ones (from 5 to 8%), but also to the less extent the public ones). On the other hand the clothing and footwear decrease in the similar proportions (from almost 8 to 5%). Both entertainment goods and services' shares increase, but less than 1 percent point over the period.

Another general observation, which can have consequences on budget share estimation, is the constant increasing discrepancy between declared incomes and to total expenditure. The after tax income represents in 1995 only 89% of the total expenditure to be compared with 97% in 1979. This steadily increasing difference reveals the importance of measuring errors especially as income is concerned.

When restricted total expenditure definitions are used (without housing health, education and durables) (table5) the general observation is the shift from goods' to services' shares by 8 percentage points. The increase in transport and entertainment shares on the side of services and those of food and clothing shares among goods contribute mostly to this shape of evolution. On the other hand a significant increase is observed in shares for food away from home as well as entertainment goods.

Summing up the observed tendencies in budget shares evolution (with both restricted and full nomenclature) shows usually observed shrinking position of basic goods (food, clothing) and expanding role of goods and services linked essentially with entertainment - thus classical shift from necessities to luxury goods. This latter cleavage is probably more significant that good -services opposition at least as far as budget shares evolution is concerned. Further analysis of budget elasticities will enable to bring more detail about it.

4.1.3 BUDGET SHARE EVOLUTION AND INCOME EFFECT

Typical explanation of individual budget share evolution is the change of the income or individual income position. We use the total equivalent expenditure (divided by squared root of family size to adjust for demographic structure differences) rather than equivalent income because of increasing over time measuring errors on income variable. Then, the budget shares evolution is analysed by quintiles of the total equivalent expenditure The goods-services share difference is decreasing when moving from low to high standard of living and decreasing for all quintiles over the time (table 6). However, this difference diminished significantly less over the period for higher quintiles of the distribution. So, the observed trend stresses the shift from goods to services but tends to lower the difference of consumption structures between households having low and high standard of living. The share of goods and services is clearly income dependent, but this relationship weakens over the time indicating the evolution of services from luxury to the necessity good when the income increases. Changing the method of equivalent expenditure computation (dividing by square root of number of person rather than by number of persons) strengthens this conclusion (table 4bis). It would be interesting to have more precise insight of this evolution by considering service expenditures by more complete households' poverty classes

definitions using multi-criteria indicator with respect to the household's reference group. (see section 5.1)

4.1.4 PRICE EFFECTS

The analysed period was long enough to show not only relatively strong general price increase, but also the differentiation in specific items inflation evolution. (Table 6) It results in changes in relative prices between goods and services and affects consumer's choices. The strongest increase was observed for services in general and for holiday services in particular. On the other hand communication services became relatively cheaper probably because of deregulations. Among goods the smallest increase was observed for entertainment goods and the strongest for alcoholic beverages and tobacco probably because of increase in taxes. Thus the relative position of all goods and services changed considerably reflecting both consumer behaviour modifications and the market structural changes. Differentiated evolution of specific item and general price indices affects the budget share observed changes. This specific relative price effect will be taken into account in further decomposition analysis (section 4.7.3).

4.2 ESTIMATION OF A QUADRATIC ALMOST IDEAL DEMAND SYSTEM (QAIDS) ON AGGREGATE TIME SERIES

In this section, income and price elasticities are computed on an aggregate time-series, in order to capture the evolution over a long period, and to compare the estimates on aggregate time-series to the estimates on individual cross-section. Moreover we test on this macro time-series for the existence of a positive relationship between the women participation rate and expenditures on services: the women participation on the labour market may imply a demand for market services, which substitute for domestic services and their durable complements. This relation has been found as significant by Hammes-Rosa using aggregate time-series for the U.S. (1950-1982), Canada (1961-1985) and France (1968-1986). We estimate this relation for more recent time-series in France, and also on cross-section and show that, on time-series, the evidence is disputable.

4.2.1 MODEL AND ECONOMETRIC STATEGY:

We use the Almost Ideal Demand system developed by Deaton and Muellbauer (1980), with a quadratic form for the natural logarithm of total expenditures in order to take into account non-linearities. The quadratic system proposed by Banks et al. (1997) implies a

sophisticated econometrics if both the non-linear effect of prices and the non-linear condition for integrability are taken into account. In our estimations, the procedure does not converge when these non-linearities are considered jointly, probably because of the multicolinearities of the price variations (for semi-aggregate functions) over the period. Thus we estimated the linearized version of QAIDS (with the Stone index) using the convergence algorithm proposed by Banks et al. to estimate the integrability parameter e(p) in the coefficient of the quadratic log income. In order to take into account the aggregation bias due to the difference between the Stone index and the exact price index, the price elasticities are corrected by the method proposed by Pashardes (1990). The additivity constraint is automatically imposed. We impose also the homogeneity and symmetry conditions. The possible correlation between the residuals of the expenditures classified by durability suggests the use of Seemingly Unrelated Regression.

Our model takes the following form:

$$w^i_t = a^i + + b^i_1.\ln(Y_t/a(p_t)) + [b^i_2/e(p_t)]\ \ln(Y_t/a(p_t))^2 + Z_t.c + \varepsilon$$

with w^i_t the expenditure budget share on good i at time t, Y_t the total expenditure (instrumented), $a(p_t)$ the exact or the Stone price index, Z_t the relative prices and

$$e(p_t) = \Pi_i p_{it}^{bi}$$

a factor ensuring the integrability of the demand system. The estimation is made by the convergence procedure proposed by Banks et al..

4.2.2 THE DATA

We use the 1960-2000 aggregate time -series recently provided by Insee for different definitions of the expenditures : by durability (four items), by function (14 items), by good (304 items).In this note, we present the estimations for four categories of expenditures grouped by durability : durables, semi-durables, non-durables goods, and services (see Appendix I for details on the data-set).

4.2.3 RESULTS (TABLE 4.2.1):

The total expenditures elasticities are similar for the linear and quadratic versions of the demand system, although the parameters for the square total expenditure is significant in all estimations. As concerns Services, the total expenditures elasticity is somewhat greater than one, but much smaller than the elasticities for Durables. The direct price elasticity for services is around its total expenditures elasticity.

Adding both the women unemployment rate and the women activity rate gives bad results, due to co linearity between the two rates. The women participation rate alone is positive and highly significant in the AIDS estimations (somewhat less significant in the QAIDS estimation) : the increase of women participation by 1 point increases the budget share for services by 1,11% (student t=7.39 ; the coefficient is 0.13 with t=1.28 in the QAIDS specification), which is quite important : the women participation thus seems to explain *the half of the increase of the budget share for services* on the period.

In fact, the women participation increases all over the period in France, so that this variable is a proxy for a trend and it interacts with income variables. So, the result presented by Hammes and Rosa *must be corrected by estimating both the participation effect and a dynamic specification of income changes*. We define a partial adjustment on permanent income Y' by the equation [1]:

$$\ln(Y'_{ht}/ a(p_t)) = [\ln(Y'_{h,t-1}/ a(p_{t-1}))+g] + \beta.[\ln(Y'_{h,t}/ a(p_t)) - (\ln(Y'_{h,t-1}/ a(p_{t-1}))+g)] \quad (2)$$

With $E_{t-1}(\ln(Y'_{h,t}/ a(p_t))) = \ln(Y_{h,t-1}/ a(p_{t-1}))+g$, the tendencial expected income for period t made one period before (g=expected rate of income change) and β the adjustment parameter. In the linear version of equation (1), i.e . with c_i=0, the tendencial expected income and its difference with current income (interpreted as a logarithmic conjuncture income) are substituted to income with coefficients b^i_1 and b^i_2, giving rise with equation (1) to the reduced form :

$$w^i_t = a'^i + (1-\beta).w^i_{t-1} +[(b^i_1+ b^i_2.(1-\beta)].\ln(Y'_t/ a(p_t)) + b^i_2(1-\beta) \ln(Y'_{t-1}/ a(p_{t-1})) +$$

$$+ Z_t.c -(1-\beta) Z_{t-1}.c +\eta$$

with η a MA(1) error term and Z the vector of price (coefficients c are constrained by the additivity, homogeneity and symmetry of price effects).

To take into account the endogeneity of past expenditures due to the autoregressive scheme of the error term, the autoregressive variable w^i_{t-1} is instrumented by its past values, the logarithmic total expenditures and its square, and the relative price of good i.

The expenditures on services have greater permanent income elasticities than their transitory, which is normal. The permanent elasticity is a little over the unity. The direct compensated price elasticity for services is –1.03, which compares to –0.80 for model (1). More important, the coefficient for women participation is again positive but much smaller than for equation (1), and it becomes non significant, at value 0.00438 (t=1.38). This shows

clearly that the positive effect of women participation is in fact due to the static specification : this variables takes all the long term influences which are correlated with a trend, which biases the estimates of all parameters. Thus, we conclude that aggregate time-series estimations do not prove the influence of women participation on service expenditures, contrary to Hammes-Rosa analysis. One needs to test this influence on individual data.

4.2.4 DIFFERENT TYPES OF SERVICES AND SUBSTITUTION (WORK IN PROGRESS)

4.3 MULTIDIMENSIONAL CROSS-SECTION ANALYSIS OF CONSUMPTION STRUCTURES. ENGEL CURVES ESTIMATION IN THE COMPARATIVE PERSPECTIVE.

Controlling for simultaneously for several factors which influencing the observed differences in the consumption structures needs the use of econometric framework. The traditional tool to analyse consumption patterns are so-called Engel Curves, which relate the consumption with income and socio-economic variables. In the comparative perspective we use the same model specification model for all Dempatem participating countries.

The basis for the analysis of expenditure patterns of households in this section is and so-called Engel curve, i.e. relating budget shares to household expenditures and characteristics $w_k(x, p; z)$. Using semi-logarithmic form (Working specification) it gives

$$w_k(x, p; z) = \theta_0(p) + \theta_k(p)'z + \beta_k \ln x, \quad (1)$$

where w_k is the budget share of good k, as a function of expenditures x, prices p and household characteristic z.)

We do not have price information and, moreover, within a period all households are assumed to face the same prices. We will use these Engel curves to estimate the budget elasticities and classify commodities into 'luxuries' or 'necessities'.

We include the following explanatory variables:

- Ln(Expenditures)
- Ln(Household size)
- Number of persons under 6 years of age divided by household size

- Number of person over 5 and under 18 years of age divided by household size
- Number of person over 17 and under 31 years of age divided by household size
- Number of person over 30 and under 65 years of age divided by household size
- Number of person over 64 years of age divided by household size
- Age and Age squared of the head of household
- Number of employed persons in the household
- A dummy variable equal to 1 if all adults are employed, 0 otherwise
- A dummy variable equal to 1 if all adults are employed and a person under 6 years of age is present in the household, 0 otherwise

The following reduced form Engel curve is estimated:

$$w_k = \theta_k + \theta_k' z + \beta_k \ln x + \varepsilon_i , \qquad (2)$$

where w_k is the budget share of good *k*, *x* household's total expenditure, *z* household's characteristics ε_k a stochastic term captures measurement errors and unobserved preferences. We estimate equation (2) taking into account possible measurement errors in total expenditures using its predicted value obtained from instrumentation equation with disposable household income and a few socio-demographic characteristics.

4.3.1 GENERAL ESTIMATION RESULTS

The annexe tables (A5) give the results of classic OLS estimation. Generally, the main variable of interest (instrumented log of the total expenditure is highly significant across all equations). It will enable to obtain a good estimate of total expenditure (or budget) elasticity. Other variables significance depends highly on the kind of item. For food the logarithm of household's size parameter is highly significant and positive. Employment status does not influence significantly the food share and age generation variables have significant but heterogeneous impact. The income effect is negative. The similar pattern is observed for alcohol and tobacco. Cloth's share is positively correlated with the total expenditure but practically independent from the household's size. Private transport depends positively on the total expenditure and household's size and age-generation variables. Furnishing and appliances are not very well explained by equation variables. Entertainment goods depend negatively on the family size and positively on total expenditure similarly to the personal goods. Miscellaneous goods are aggregate of residual expenditures both on goods and

services without any precise dominant profile. The beta coefficient is negative suggesting this item is rather a necessity type aggregate.

Estimating the total services expenditure gives the positive income effect (positive relationship with the total expenditure), negative impact of demographic variables and positive impact of employment status variables).

Thus, the service expenditures are driven essentially by the income effect associated with high family work participation strengthened by the presence of young children. The last tendency is particularly visible in the case of the dummy variable indicating that both parents work and the presence of a young child. Its parameter estimate for total service expenditure is relatively high, positive and significant (0.028 (.0007) , see Table A5, part 9) . It means that for these families there is a significant increase in the share of budget spent on services with respect to others, which amounts to almost 10% of average services' budget share. This result of strong dependency of service expenditure and family labour force participation could be tested more precisely by matching FBS with Labour Force Survey and Time Use Survey.

On the other hand potential needs for services resulting only from particular demographic family situation (number of persons, age, presence of children), does not seem to have a significant effect (*ceteris paribus*) on services purchase.

4.3.2 ROBUSTNESS OF ESTIMATIONS, OUTLIERS AND ZERO-ANSWERS PROBLEMS

In order to check for the stability of our empirical results, we checked for two frequently appearing problems in FBS estimations: outliers and possible selection bias caused by the zero responses**.** We applied the robust estimation to eliminate outliers and two-step Heckman procedure to deal with selection bias. Generally the model parameters for main expenditures do not change considerably in the case of robust estimation(see appendix tables A7) . Selection bias due to zeros is not statistically significant in most cases, and even corrected for, it does not change considerably parameter estimates.

4.3.3 TOTAL EXPENDITURE ELASTICITIES (BUDGET ELASTICITIES)

Total expenditure elasticities are computed using the beta coefficients and sample average budget shares for all corresponding items (table 7). The values of elasticities obtained by instrumenting the total expenditure by income and socio-demographic variables gives are almost systematically superior then those obtained when no instrumentation is used, but

their hierarchy is maintained. As expected elasticities for goods are lower then those for services. The highest elasticities are obtained for home and holiday services (above 2 when instrumenting), the lowest - below 1- for food, alcohol, home energy, and communication services. The total service expenditure has budget elasticity 1.2 above the average for goods.

Thus generally services have highest budget elasticities than goods and belong more often to the category of luxuries. However many goods and services have similar and high level of elasticities (food away , entertainment goods) or similar and low level of elasticities (communication services and home energy). The chance that a luxury is a service rather than a good is probably higher and can increase in the future but this hypothesis should be tested more precisely.

4.3.5 DECOMPOSING BUDGET SHARE CHANGES OVER TIME

The estimated Engel curves can be used to a counterfactual (simulation) analysis for different components impact on the change in budget coefficients over the time (see methodological document). It consists to analyse one by one, different factors influencing the budget share for a given item applying structures (demographics, employment) and values (incomes, budget) from one period to another and observing the resulting differences in budget share. These differences will be interpreted as a specific contribution of a given factor in budget share evolution.(table 4.3.5).

Generally income and price effect explain the most of variations, and to the less extent demographic structure changes. Employment status and particularly distributional factor have a very little impact.

The increase in all services budget share between 1980 and 1995 (+8pp) is due essentially to the income effect (2.64 pp) and relative price effect (Baumol): +5.25pp, and to the less extent to demographics (+0.81 pp) . On the other hand the strongest decrease in budget share observed for food (-5.45pp) is much more due to income effect (-3.94 pp) than to the relative price effect (-1.48pp). Other factors have relatively small impact. Cloth and Footwear , another strong decrease in budget share (-2.90pp), can be almost entirely explained as a relative price effect. The entertainment goods budget share change is almost entirely explained by the opposite interactions of relative price effect (+3.05pp) and residual (-2.49pp) suggesting problems in aggregation of this item.

4.3.6 COMPARING ELASTICITIES BETWEEN COUNTRIES (FRANCE ,USA, HOLLAND…)

Generally the elasticities are very close to each other when considering France and Holland, and slightly smaller for USA (table 8). This particularly the case of services almost all services. The most of differences between European countries and the USA are observed on transport services and goods (both public and private). It reflects rather different living conditions between American in European households than difference in preferences.

The large elasticities differences observed in "Miscellaneous" item means, that the diversity of goods contained in this item may cause serious problems when comparing between countries.

… (to be developed)

5 ENGEL CURVES BY POVERTY CLASSES :

Households' consumption behaviour may depend on their relative position as an effect of social interactions or on their absolute poverty imposing various constraints. So, it is important to evaluate the influence the income distribution effect and its evolution.. We define sub-populations characterized by their relative well-being situations using the Synthetic Index of Poverty and Richness (SIPR) and compare their consumption functions.

5.1 THE SYNTHETIC INDEX OF POVERTY AND RICHNESS (SIPR)

Defined in Gardes et al. (2000) SIPR classifies households according to three different criteria :

(1) The food share criterion: families which have a budget share of food by one third greater than the average of their reference population are considered as poor. Conversely, households with food budget share lower than two thirds of the reference population average will be considered as rich. Other households are classified as medium.

(2) The relative total expenditure criterion :households with the total expenditure smaller by one third than the average of their reference population are considered as poor. Conversely, those with the total expenditure higher by 50% than their reference population mean will be considered as rich. Other household are classified as medium.

(3) The general income distribution position criterion: the households belonging to the first quartile of general population per consumer unit disposable income distribution will be considered as poor and those belonging to fourth quartile of this distribution as rich. Other will be classified as medium.

The first criterion refers to subsistence constraints, the second to the non-satisfaction of basic needs, the third to the capability of the household to have decent living conditions through their income.

The poor are defined as those families which are poor according to all criteria (1+2+3). Conversely the rich households having all rich criteria.

The rest of the population is classified into three groups: quasi-poor if they are poor according to two criteria and medium for the third one. Quasi-rich if they are rich according to two criteria and medium for the third one. Medium for all other households.

The reference populations have been defined as a combination of education, localization, age and family type characteristics.

About 5% of the population is classified as poor, 4% as rich, 11% as quasi-poor , 9.5% as quasi-rich and 69% in the medium class (note that these proportions are quite the same in different countries,(Cardoso-Gardes, 1996), because of the relative definition of the criteria).

The SIPR does not aim to count the poor, but rather to define homogenous populations in order to compare their behaviour. The classification as poor and as rich, as defined by the SIPR, is restrictive, so that the difference between the five sub-populations can be clearly evaluated. Total Expenditure elasticities for the different sub-populations and for year 1995 are presented in Table 5.1

First observation is that the group elasticities are generally higher than those for the whole population and as expected they are higher for services than for goods. They do not follow usual, decreasing tendency from low to high-income households. The difference between rich and poor is significant and in usual sense (smaller for rich) for food and for all goods but is higher for rich than for poor in the case of services.

Thus we can conclude that considered within homogenous social and income classes all expenditures seems to be more luxuries (less saturated) than for the total population. Service expenditures are highly sensitive to the income even in high ranked social-income classes.

6 DYNAMIC ENGEL CURVE:

The static nature of Engel curves has recently been disputed, as habit or addiction effects have been proved to exist for all types of goods (, 1995). Estimation of dynamic models, such as the partial adjustment equation presented in section 4, needs panel data (and special estimation techniques). We propose to estimate them on cross-sectional data using a cohort instrumentation procedure defined in Gardes (2003).

The method consists to define, for each agent h in a cohort C_h, an agent S(h) in the same survey and aged one year less and with similar observable permanent characteristics Z'. Then, we correct for the generation effect associated with these characteristics by computing for each variable of interest x its estimated value for an agent in the same cohort C_h, i.e. having characteristics Z_h in the previous year. Suppose saving x depends on variables Z, so that, for the first order approximation:

(i) Between two periods for individual h: $x(Z_{h,t}) - x(Z_{h,t-1}) = (Z_{h,t} - Z_{h,t-1}).\ \beta^{ts} + \varepsilon_{h,t} - \varepsilon_{h,t-1}$

(ii) Between S(h) and h in period t: $x(Z_{h,t}) - x\{S(Z_h),t)\} = (Z_{h,t} - Z_{S(h),t}).\ \beta^{cs} + \varepsilon_{h,t} - \varepsilon_{S(h),t}$.

Suppose now that $Z_{h,t-1}$ is equal to $Z_{S(h),t}$. Saving by the similar individual S(h) in t must be corrected to be compared to saving by h in t+1 by the formula, residuals being set to zero:

$$Ex(Z_{h,t-1}) = x(Z_{S(h),t}) + \{Z_{S(h),t} - Z_{h,t}\}.(\beta^{ts} - \beta^{cs}) \quad (9)$$

The coefficients β^{ts} can be estimated on aggregate time-series or on a panel or pseudo-panel containing at least two periods[2]. $Z_{S(h),t}$ can be computed as the average on households having the same permanent characteristics as household h.

Estimations in progress

7 CROSS-SECTION VERSUS TIME -SERIES ESTIMATES:

7.1 RATIONALE:

The recent literature on relative income effects and social interactions can be related to the old problem of the difference between estimations on cross-sections and estimations on time-series.

Note that the estimation of dynamic models on time-series needs at least four periods to instrument the lagged endogenous variable when some endogeneity is suspected. Whenever the coefficients β are used to define the endogenous variable, they can be calibrated on another data set or estimated by convergence using the model and equation (3).

Indeed, social diffusion of consumption can be estimated comparing individuals, which have, ceteris paribus, different position on the income distribution (i.e. different relative income) in the same survey. On the contrary, the change in expenditure due to income changes can be measured for the same agent (or the same type of agent) between two periods, thus using an individual time-series (or pseudo-panel data). A discrepancy between income elasticities estimates on cross-section and time-series means that similar agents (as concern all characteristics except income) with different relative income are not truly similar, because the income position generates relative income effects which are due either to social interactions (as supposed by Duesenberry), or by latent variables related to the income position (for instance the parents level of being during infancy, or liquidity constraints, which are not observed in family expenditures surveys).

Such differences between cross-section and time-series estimates of demand functions have been observed in recent empirical works: for instance, Gardes et al. (2002) analyse the bias to income and total expenditure food elasticities estimated on panel or pseudo-panel data caused by measurement error and unobserved heterogeneity. Our results (see Table 1) suggest that unobserved heterogeneity imparts a downward bias to cross-section estimates of income elasticities of at-home food expenditures and an upward bias to estimates of income elasticities of away-from-home food expenditures. Moreover, the magnitude of the differences in elasticity estimates across methods of estimation is roughly similar in U.S. and Polish-based expenditure data: for instance, despite some variations between the different estimations, the relative income elasticity of food at home is around .20 based on a collection of methods for the PSID (1984-1987), while the time-series estimates (within or first differences) are 0.4. A Hausman test strongly rejects the equality of cross-section and time-series estimates. On a Polish panel (1987-1990), total expenditure elasticities for at-home food are much higher in value than the income elasticity estimates

based on PSID data. Higher elasticities are to be expected for a country in which food constitutes a share of total expenditures that is three times higher than in the U.S. Cross-section elasticities are estimated around 0.5, while time-series estimate is 0.8. On the contrary, cross-section elasticities for food away from home are estimated around 1 for the U.S. while time-series are around 0.4 (similar results for Poland though the estimates are less accurate, due to the absence of food away for almost all Polish households during this period).

Similar results have been obtained on pseudo-panels of French and Canadian surveys (Gardes et al., 1996). These articles show that endogeneity biases exist for cross -section estimations for half of the commodities: for instance, the social diffusion, as concern the income effect, is significantly greater for most expenditures on services, while the changes of expenditures on housing over time is more related to income changes than are the differences between two households in the same survey. (table 7.1)

One way to explain these differences relies on the discussion of the relationship between the relative position of the agent in the income distribution, and its non-monetary resources (such as time) and the presence of constraints (such as subsistence constraints) on its choice.

7.2 MEASURING THE SHADOW PRICES:

Suppose that *monetary price* p_m and a *shadow price* π corresponding to *nonmonetary resources* and to *constraints faced by the households* are combine d together into a complete price. Expressed in logarithm form, we have: $p_c = p_m + \pi$. We can reveal the shadow component of the price system applying Neary-Roberts (1980, equation 15 p.30) analysis: suppose that equation

$$x_{iht} = Z_{ht}.\beta_i + p_{ciht}.\gamma_i + u_{iht} \quad (1)$$

for good i (i = 1 to n), individual h (h = 1 to H) in period t (t = 1 to T), with $Z_{ht} = (Z_{1ht}, Z_{2ht})$, is estimated independently on cross-section and time-series over the same data-set. We assume also that the shadow price π_{iht} of good i for household h in period t, depends on variables Z_{1ht}, which intervene also in the consumption function for good i, and other determinants S_{ht}:

$$\pi_{iht} = Z_{1ht}.\theta_1 + S_{ht}.\theta_2 + \lambda_{ih} + \mu_{iht}$$

Let us set $u_{iht} = \alpha_{ih} + \varepsilon_{iht}$ where α_{ih} is the specific effect which contains all permanent components of the residual for individual h and good i. As discussed by Mundlak (1970), the

cross -section estimates can be biased by a correlation between the explanatory variables Z_{lht} and this specific effect. Such a correlation can be due to la tent permanent variables (such as an event during the infancy, characteristics of parents or permanent wealth) which are related to some among the explanatory variables Z_{ht} in the cross-section : for instance, the relative income position of the household can be related to its wealth or to its cultural inheritance. Thus, the correlation δ_i between the time average of the vector of the explanatory variables, $Z_{lht} = (z^k_{ht})_{k=1 \text{ to } Kl}$, transformed by the Between matrix:

$$BZ_{ht} = \{(1/T)\ \Sigma_t z^k_{ht}\}_{k=1 \text{ to } K},$$

and the specific effect α_{ih} , $\alpha_{ih} = BZ_{ht}.\delta_i + \eta_{ih}$, will add to the parameter β_i of these variables in the time average estimation : $Bx_{iht} = BZ_{ht}.(\beta_i + \delta_i) + \eta_{ih} + B\varepsilon_{iht}$, so that the between estimates are biased. The difference between the cross-section and the time-series estimates amounts to δ_i.

We now assume that only the monetary component of prices change over time (the shadow component being related to permanent variables), while the different agents observed in the cross-section survey are characterized by different non-observed shadow prices (corresponding to individual non-monetary resources and constraints). Equation (1) writes on time-series (for instance in first differences between periods):

$$x_{iht} = Z_{ht}.\beta_i + p_{miht}.\gamma_i + u_{iht}$$

while on cross-section it is, supposing the price effect γ_i and monetary prices are the same on both dimensions:

$$x_{iht} = Z_{ht}.\beta'_i + u'_{iht} = Z_{ht}.\beta_i + \pi_{iht}.\gamma_i + u_{iht}$$

with obvious notations. Thus, the difference between the two estimations is:

$$0 = Z_{lht}.\delta_{li} = Z_{lht}.\theta_l\gamma'_i + (S_{ht}.\theta_2 + \lambda_{ih} + \mu_{iht}).\ \gamma_i$$

which allows calculating the set of parameters θ_l after calibrating the price effect measured by γ_i.

Indeed, the marginal propensity to consume with respect to Z_{lht}, when considering the effect of the shadow prices π_{jht} on consumption, can be written:

$$dx_{iht}/dZ_{lht} = dg_i/dZ_{lht} + \Sigma_j\ (dg_i/d\pi_{jht}).(d\pi_{jht}/dZ_{lht}).$$

The second term differs between cross-section and time-series variations because of the correlation of the shadow price with the endogenous variables Z_{lht}. So, comparing two different households surveyed in the same period, this bias adds to the direct unbiased consumption propensity with respect to Z_{lht}, as estimated on time-series. For instance, the influence of the head's age cohort or income may differ on cross-sections and time-series if

the shadow prices depend on cohort effects or on the relative income position of the agent (note that the same can occur for monetary prices). Hence the comparison of estimations computed on cross-sections and time -series reveals the difference of the shadow price system between two households.

The component $\Sigma_j \, dg_i/d\pi_{jht}.d\pi_{jht}/dZ_{1ht}$ of the marginal propensity of endogenous variables can be used to reveal the variation of shadow prices over Z_{1ht}, $d\pi_{jht}/dZ_{1ht}$, since it can be computed by resolving a system of n linear equations after having independently estimated the price marginal propensities $dg_i/d\pi_j = \gamma_{ij}$. We may also consider only the *direct effect* through the price of good i : $\gamma_{ii}.d\pi_i/dZ_1$ of the variables Z_{1ht}, so that:

$$d\pi_i/dZ_1 = [\beta_i^{(c.s.)} - \beta_i^{(t.s.)}]/\gamma_{ii}. \qquad (2)$$

The price effect γ_{ii} is supposed to be the same for monetary and shadow prices. Thus, the change between two periods in the shadow price can be written as: $d\ln\pi_{iht} = \sum_k (d\pi_i/dz^k_1).dz^k_{1ht}$.[1]

The income elasticities of the shadow pr ices of food at home and food away from home expenditures are computed in Table I for the PSID and the Polish panel (with equation 2, assuming that the direct price elasticities are one half of the corresponding income elasticities). These parameters are *remarquebly similar* in both countries: positive, smaller than one, for food at home, they indicate that the complete cost of food at home is.[2]

greater for rich household than for the poor. Indeed, rich people are time constrained and have a higher opportunity cost for the supplementary time they must use for food at home compared to food away. Thus, their complete price may rise for food at home relatively to food away, and the difference is likely to be greater for the American people. On the contrary, the income elasticity of the complete price for food away is negative, and around the same level for both countries.

7.3 PSEUDO-PANEL ON THE FRENCH FAMILY BUDGET SURVEYS:

In progress

1 This model is presented more completly and applied in Diaye et al. (2001).
2 This model is presented more completly and applied in Diaye et al. (2001).

CONCLUSIONS

In progress

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TABLES:

Table 1. France distribution of DEMPATEM (17) household types
Marital Age Age DEMPATEM reference youngest Number 1979-1995 change in Type status person child employed share (pp)

DEMPATEM Type	Marital status	Age reference person	Age youngest child	Number employed	1979-1995 change in share (pp)
1	Single	16-64	None	0	3,2
2	Single	16-64	None	1	2,5
3	Single	65+	None	0,1	3,9
4	Couple	16-64	None	0	2,5
5	Couple	16-64	None	1	-1,1
6	Couple	16-64	None	2+	-1,4
7	Couple	65+	None	0, 1, 2+	3,6
8	Other	16+	None	0, 1, 2+	-2,9
9	Single	16+	0-14	0	0,8
10	Single	16+	0-14	1	0,4
11	Couple	16+	0-5	0	NA
12	Couple	16+	0-5	1	NA
13	Couple	16+	0-5	2+	NA
14	Couple	16+	0-14	0	0,5
15	Couple	16+	0-14	1	-6,6
16	Couple	16+	0-14	2+	-3,1
17	Other	16+	0-17	0, 1, 2+	-2,3

Table 2. Average household size and number of children 1979-1995 (France)

	1979	1985	1990	1995	PP change 80-97
Average household size (persons)	3,05	2,78	2,72	2,58	-0,47
Average number of children <14	0,7	0,59	0,55	0,51	-0,19
Average number of children <25	1,11	0,93	0,89	0,81	-0,3
Distribution of number of children (<25)(%)					(p.p.)
No Children	45,21	52,26	53,88	57,57	12,36
One Child	20,71	18,66	17,74	17,24	-3,47
Two Children	20,33	18,42	18,23	16,13	-4,2
Three Children	8,81	7,32	7,44	6,55	-2,26
Four or More Children	4,94	3,34	2,71	2,51	-2,43
	100	100	100	100	0

Notes: Author's analysis of French Consumer Expenditure Surveys 1979,1985,1990,1995.

Table 3. France: Household income and distribution of total expenditure for 1995 (All amounts are in current French Francs)

	1979	1985	1990	1995
Mean	92174	133983	159211	187644
Percentiles				
100%	471901	658822,5	1049993,9	1805513
99%	245969	364476,2	488422,5	561637
95%	174282	260436,3	322792,4	382065
90%	146401	218764,5	268147,5	318585
75%	658822	165946,6	197317,3	233590
50%	83254	120697,7	139613,5	164220
25%	61613	86133,1	98312,2	113826
10%	46227	62644,7	70138,1	82311
5%	39602	52947,7	57415,5	68661
1%	32187	39236,8	42646,2	50158
Inequality Measure, P90/P10	3,17	3,49	3,82	3,87
Distribution of Household Total Net Income				
Mean	67275,6	106797	130332	150089
Percentiles				
100%	1730993	1182966	1710967	2886270
99%	229316	352012	433880	469237
95%	143093	225750	276745	317282
90%	116913	184300	224025	261050
75%	85033	135970,5	166209	192688
50%	58293	95256,5	114829	132379
25%	37390	59999,5	73336	82330
10%	21333	37818	46289	53830
5%	14733	27800	35055	38034
1%	4747	4418	7888	11340
Inequality Measure, P90/P10	5,48	4,87	4,84	4,84
Distribution of Total Restricted Expenditure				
Mean	57993,2	92252	112242	132359
Percentiles				
100%	423239	602932,4	983630,6	1722265
99%	194555	294168,5	403104,5	436262
95%	130320	205275,9	258313	301831
90%	106038	167929,5	208564,9	244028
75%	74994	120660,2	145420,5	172894
50%	50222	80374	94269,9	112962
25%	31019	49651,7	57133,7	68816
10%	17457	29344,1	34084,6	41419
5%	12049	21698,9	23951,3	30552
1%	6153	10790,9	13194	16957
Inequality Measure, P90/P10	6,07	5,72	6,12	5,89

Table 4. France expenditure shares by "complete" DEMPATEM categories (Percent of total expenditures; change in percentage points)

	1979	1985	1990	1995	1979-1995
Before-tax income	89,06	86,64	84,26	79,99	
After-tax income	96,99	95,15	92,41	88,59	
All goods andservices	100	100	100	100	
1. Food and non-alcoholic beverages	19,84	18,35	16,11	14,39	-5,45
1a. Food	19,36	17,85	15,56	13,79	-5,57
1b. Non-alcoholic beverages	0,48	0,5	0,55	0,6	0,12
2. Alcoholic beverages and tobacco	2,63	2,35	2,11	2,43	-0,2
2a. Alcoholic beverages	2	1,65	1,4	1,46	-0,54
2b. Tobacco	0,62	0,7	0,7	0,96	0,34
3. Clothing and footwear	7,67	6,15	5,99	5,01	-2,66
3a. Clothing and footwear	7,67	6,15	5,99	5,01	-2,66
3b. Accessories	0	0	0	0	0
4. Private transport goods	10,35	10,85	11,15	9,46	-0,89
4a. Durables: cars, bikes & motors	5,92	6,3	7,54	6,11	0,19
4b. Fuel	4,43	4,55	3,61	3,35	-1,08
5. Furnishing and appliances	6,27	4,84	5,24	4,72	-1,55
5a. Durables: furniture & furnishing	3,49	2,68	2,82	2,26	-1,23
5b. - Appliances, non-durables	2,77	2,15	2,42	2,47	-0,3
6. Entertainment goods	5,7	5,2	5,61	6,38	0,68
6a. - Books, newspapers, computers	1,13	1,14	1,14	1,03	-0,1
6b. – audio and video equipment	2,99	2,46	2,88	2,92	-0,07
6c. - Toys and hobbies	1,57	1,6	1,6	2,43	0,86
6d. - Holiday goods: sport-goods, rental of equipment	0	0	0	0	0
7. Personal Goods	1,38	1,08	1,22	1,4	0,02
8. Home energy	4,14	5,51	4,02	3,85	-0,29
9. Food and beverages away from home	4,19	4,03	4,27	4,41	0,22
10. Holiday Services	1,88	1,81	1,91	1,94	0,06
10a. Package tours and travel insurance	0	0	0	0	0
10b. Holidays in other countries	0	0	0	0	0
10c. Holidays in the home country	0	0	0	0	0
11. Housing	18,01	19,76	21,65	24,48	6,47
11a. Rent and home related service charges	5,18	6,23	6,42	7,59	2,41
11b. Imputed rent for homeowners	10,31	11,12	12,86	13,01	2,7
11c. House repairs	2,52	2,41	2,37	3,87	1,35
12. Household services	1,43	1,15	1,26	1,25	-0,18
12a. Domestic help	0,46	0,38	0,42	0,41	-0,05
12b. Childcare and babysitting	0,54	0,44	0,49	0,48	-0,06
12c. Laundry services	0	0	0	0	0
12d. Repairs	0,43	0,33	0,35	0,36	-0,07
13. Health goods and services	4,56	4,89	5,18	4,56	0
13a. Payment to Doctors	2,78	3,01	3,21	2,48	-0,3
13b. Drugs and other medical goods	1,78	1,88	1,97	2,08	0,3
14. Personal services	1,32	1,54	1,49	1,2	-0,12
15. Public transport services	1,2	1,32	1,22	1,99	0,79
16. Private transport services	5,38	6,69	7,05	7,71	2,33
16a. Repairs	1,9	1,7	1,61	1,72	-0,18
16b. Car insurance, road-tax, license fees	3,23	4,76	5,2	5,67	2,44
16c. Driving lessons	0,25	0,23	0,24	0,32	0,07
17. Communication services	1,22	1,55	1,62	1,6	0,38
18. Education and training services	0,66	0,51	0,61	0,43	-0,23
19. Entertainment services	1,57	1,6	1,6	2,43	0,86
20. Miscellaneous goods and services	0,61	0,81	0,7	0,39	-0,22
20a. Financial and insurance services	0,61	0,81	0,7	0,39	-0,22
20b. Contributions	0	0	0	0	0
20c. Other services such as passport fees	0	0	0	0	0
	100	100	100	100	0

Notes: Total expenditures include author's estimate of imputed rent for owner-occupied housing.

Table 5. France expenditure shares by "restricted" DEMPATEM categories

	1979	1990	1995	Change 1980-97
Durables	22561	23661	23812	5,55
Housing	46500	41882	45935	-1,21
Health	4548	3608	4560	0,25
Education	12893	9830	8557	-33,63
Expenditures excluding above	128412	102169	104780	-18,40
Total expenditures	217392	180307	187644	-13,68
Total before-tax income	158669	147601	150089	-5,41
1. Food and non-alcoholic beverages	25,85	22,2	20,4	-5,45
2. Alcoholic beverages and tobacco	3,42	2,9	3,44	0,02
3. Clothing and Footwear	10	8,26	7,1	-2,9
4. Private Transport Goods	13,48	15,37	13,41	-0,07
5. Furnishing and Appliances	8,16	7,22	6,69	-1,47
6. Entertainment Goods	7,42	7,74	9,04	1,62
7. Personal Goods	1,79	1,68	1,98	0,19
8. Home Energy	5,4	5,55	5,45	0,05
9. Food and beverages away from home	7,9	8,51	9,01	1,11
10. Holiday Services	0	0	0	0
12. Household Services	1,86	1,74	1,77	-0,09
14. Personal Services	1,72	2,05	1,7	-0,02
15. Public Transport Services	1,56	1,68	2,82	1,26
16. Private Transport Services	7,01	9,72	10,93	3,92
17. Communication Services	1,58	2,23	2,26	0,68
19. Entertainment Services	2,05	2,2	3,44	1,39
20. Miscellaneous goods and services	0,79	0,96	0,55	-0,24
All	100	100	100	0
Non-durable goods (categories 1-8)	75,52	70,92	67,51	-8,01
Services (categories 9-20)	24,47	29,09	32,48	8,01
	100	100	100	0

Table 5b. Restricted Dempatem budget shares in constant 1979 prices Table 6 Price Indices of goods and services

	1980	1990	1995
1. Food and non-alcoholic beverages	25,85	23,92	22,76
2. Alcoholic beverages and tobacco	3,42	3,51	4,24
3. Clothing and Footwear	10,00	10,30	10,07
4. Private Transport Goods	13,48	12,58	12,28
5. Furnishing and Appliances	8,16	8,06	8,00
6. Entertainment Goods	7,42	6,41	6,23
7. Personal Goods	1,79	1,98	1,66
8. Home Energy	5,40	5,38	5,09
9. Food and beverages away from home	7,90	9,44	10,13
10. Holiday Services		0,00	0,00
12. Household Services	1,86	2,23	2,36
14. Personal Services	1,72	1,98	2,07
15. Public Transport Services	1,56	1,66	1,68
16. Private Transport Services	7,01	8,84	9,78
17. Communication Services	1,58	1,06	0,96
19. Entertainment Services	2,05	1,77	1,72
20. Miscellaneous goods and services	0,80	0,89	0,99
All services	24,47	27,87	29,68
Non Durable Goods	75,53	72,13	70,32
all goods and services	100,00	100,00	100,00

Table 6. Price Indices of goods and services

Price Indices, Dempatem categories (1995=100)						
	1980	Years 1990	1995	1979	Years 1989	1998
All goods and services	42,4	88,3	100			
	Price Indices			Relative Increase		
1. Food and non-alcoholic beverages	50,1	95,3	100,0	118,2	107,9	100,0
2. Alcoholic beverages and tobacco	35,6	75,0	100,0	84,0	84,9	100,0
3. Clothing and Footwear	43,8	92,7	100,0	103,3	105,0	100,0
4. Private transport goods	48,4	92,8	100,0	114,2	105,1	100,0
5. Furnishing and appliances	45,0	91,3	100,0	106,1	103,4	100,0
6. Entertainment goods	52,5	93,2	100,0	123,8	105,5	100,0
7. Personal Goods	47,7	108,3	100,0	112,5	122,7	100,0
8. Home energy	46,8	95,9	100,0	110,4	108,6	100,0
9. Food and beverages away from home	34,4	84,5	100,0	81,1	95,7	100,0
10. Holiday Services	33,5	85,3	100,0	79,0	96,6	100,0
11. Housing	35,7	82,3	100,0	84,2	93,2	100,0
12. Household services	34,8	85,6	100,0	82,1	96,9	100,0
14. Personal services	36,6	86,4	100,0	86,3	97,8	100,0
15. Public transport services	41	89,8	100,0	96,7	101,7	100,0
16. Private transport services	31,6	82,0	100,0	74,6	92,9	100,0
17. Communication services	72,7	100,2	100,0	171,5	113,5	100,0
19. Entertainment services	52,5	93,2	100,0	123,8	105,5	100,0
20. Miscellaneous goods and services	35,3	82,0	100,0	83,3	92,9	100,0
all services	38,1	84,9	100,0	89,9	96,1	100,0
durables	56,3	97,3	100,0	132,8	110,2	100,0
non durables	47,3	92	100,0	111,6	104,2	100,0
all goods and services	42,4	88,3	100,0	100,0	100,0	100,0
Housing	35,7	82,3	100,0	84,2	93,2	100,0
Health	53,3	93,1	100,0	125,7	105,4	100,0
Education	32,6	83,9	100,0	76,9	95,0	100,0
Non-Durables & Services	43,8	88,2	100,0	103,3	99,9	100,0

Table 6a. Household characteristics by per capita net income quintile

TABLE 6a1	ALL	1980 quintiles				
		1	2	3	4	5
(a) Household characteristics						
No job (% of all)	0,1854	0,0888	0,1527	0,1874	0,2701	0,2283
One job (% of all)	0,4025	0,4866	0,3762	0,3490	0,3382	0,4627
Two jobs (% of all)	0,3591	0,3358	0,3936	0,4129	0,3574	0,2959
Retired, no earners (% of all)	0,0529	0,0888	0,0775	0,0507	0,0343	0,0132
total	1,0000	1,0000	1,0000	1,0000		
Average number persons	3,05	4,58	3,51	2,98	2,37	1,81
Average number children<14	0,70	1,57	0,85	0,61	0,33	0,13
Average number children<25	1,11	2,33	1,39	1,00	0,58	0,25
Average age reference person	47,47	43,62	46,66	48,17	50,33	48,55
Average after-tax income (FF current)	67275,59	59792,81	65963,38	68178,82	67212,14	75115,42
(b) Share of expenditures in total expenditures (DEMPATEM "restricted" definitions)						
Goods	0,7552	0,8156	0,7857	0,7654	0,7472	0,7024
1. Food and non-alcoholic beverages	0,2585	0,3815	0,3163	0,2701	0,2345	0,1665
2. Alcoholic beverages and tobacco	0,0342	0,0383	0,0348	0,0353	0,0344	0,0307
3. Clothing and Footwear	0,1	0,0969	0,102	0,0975	0,0963	0,1049
4. Private Transport Goods	0,1348	0,1022	0,1162	0,1463	0,1478	0,1455
5. Furnishing and Appliances	0,0816	0,0624	0,0721	0,0739	0,0852	0,1007
6. Entertainment Goods	0,0742	0,0547	0,0676	0,0725	0,0768	0,088
7. Personal Goods	0,0179	0,0106	0,0137	0,0152	0,0183	0,0262
8. Home Energy	0,054	0,069	0,063	0,0546	0,0539	0,0399
Services	0,2447	0,1844	0,2142	0,2347	0,2527	0,2979
9. Food and beverages away from home	0,079	0,0621	0,0695	0,0737	0,0845	0,0938
10. Holiday Services	0	0	0	0	0	0
12. Household Services	0,0186	0,0086	0,0155	0,0195	0,0208	0,0236
14. Personal Services	0,0172	0,008	0,0117	0,0153	0,0163	0,0278
15. Public Transport Services	0,0156	0,0098	0,0117	0,0138	0,0144	0,0233
16. Private Transport Services	0,0701	0,0674	0,0688	0,0703	0,0708	0,0718
17. Communication Services	0,0158	0,0136	0,0157	0,016	0,0171	0,0161
19. Entertainment Services	0,0205	0,013	0,018	0,0203	0,0224	0,0248
20. Miscellaneous goods and services	0,0079	0,0019	0,0033	0,0058	0,0064	0,0167

Table 6a2.

TABLE 6a2	1990					
	ALL	Quintile				
		1	2	3	4	5
(a) Household characteristics						
No job (% of all)	0,3042	0,2092	0,2981	0,3418	0,3512	0,3204
One job (% of all)	0,3412	0,4272	0,2931	0,2683	0,3053	0,4123
Two jobs (% of all)	0,3180	0,3160	0,3606	0,3512	0,3158	0,2463
Retired, no earners (% of all)	0,0366	0,0476	0,0481	0,0387	0,0277	0,0210
total		1,0000	1,0000	1,0000	1,0000	1,0000
Average number persons	2,72	4,01	3,02	2,58	2,21	1,78
Average number children<14	0,55	1,31	0,64	0,42	0,27	0,11
Average number children<25	0,89	1,92	1,06	0,74	0,47	0,24
Average age reference person	49,49	45,67	49,92	51,47	51,33	49,04
Average after-tax income (FF current)	130332,18	116111,03	120592,15	126418,84	131672,41	156592,65
(b) Share of expenditures in total expenditures (DEMPATEM "restricted" definitions)						
Goods	0,7092	0,7523	0,7343	0,7215	0,7067	0,6703
1. Food and non-alcoholic beverages	0,222	0,34	0,2812	0,2441	0,2033	0,1383
2. Alcoholic beverages and tobacco	0,029	0,0339	0,0326	0,0291	0,0284	0,0254
3. Clothing and Footwear	0,0826	0,0709	0,0795	0,0804	0,0835	0,0899
4. Private Transport Goods	0,1537	0,0951	0,1194	0,1447	0,1686	0,1925
5. Furnishing and Appliances	0,0722	0,0614	0,0677	0,0715	0,0731	0,0791
6. Entertainment Goods	0,0774	0,0609	0,0737	0,077	0,0796	0,0851
7. Personal Goods	0,0168	0,0116	0,0132	0,0141	0,017	0,0224
8. Home Energy	0,0555	0,0785	0,067	0,0606	0,0532	0,0376
Services	0,2909	0,2476	0,2659	0,2784	0,2933	0,3295
9. Food and beverages away from home	0,0851	0,0703	0,0747	0,0808	0,0844	0,1004
10. Holiday Services	0	0	0	0	0	0
12. Household Services	0,0174	0,0098	0,0147	0,0194	0,0192	0,0197
14. Personal Services	0,0205	0,0119	0,0145	0,0162	0,021	0,0298
15. Public Transport Services	0,0168	0,0123	0,0124	0,0128	0,0176	0,0231
16. Private Transport Services	0,0972	0,0967	0,1018	0,0993	0,0987	0,0925
17. Communication Services	0,0223	0,0259	0,0236	0,0219	0,0224	0,0202
19. Entertainment Services	0,022	0,0172	0,0195	0,0225	0,0213	0,0256
20. Miscellaneous goods and services	0,0096	0,0035	0,0047	0,0055	0,0087	0,0182

Table 6a3.

TABLE 6a3	1995					
	ALL	Quintile				
	All	1	2	3	4	5
(a) Household characteristics						
No job (% of all)	0,3482	0,2387	0,3088	0,3797	0,3820	0,3627
One job (% of all)	0,3252	0,3886	0,2958	0,2511	0,3063	0,4041
Two jobs (% of all)	0,3015	0,3373	0,3655	0,3408	0,2958	0,2217
Retired, no earners (% of all)	0,0250	0,0354	0,0299	0,0284	0,0159	0,0115
total	0,9999	1,0000	1,0000	1,0000	1,0000	1,0000
Average number persons	2,58	3,86	2,89	2,43	2,09	1,72
Average number children<14	0,51	1,24	0,62	0,37	0,25	0,10
Average number children<25	0,81	1,8	0,99	0,65	0,43	0,22
Average age reference person	50,3	45,76	49,76	51,11	50,44	50,67
Average after-tax income (FF current)	150 089	132869,9	140384,37	146472,41	150347,2	179796,03
(b) Share of expenditures in total expenditures (DEMPATEM "restricted" definitions)						
Goods	0,6751	0,7168	0,6867	0,6863	0,6697	0,6457
1. Food and non-alcoholic beverages	0,2040	0,2966	0,2473	0,2202	0,1876	0,1363
2. Alcoholic beverages and tobacco	0,0344	0,0438	0,0378	0,0360	0,0330	0,0280
3. Clothing and Footwear	0,0710	0,0701	0,0703	0,0691	0,0721	0,0721
4. Private Transport Goods	0,1341	0,0973	0,1061	0,1253	0,1488	0,1629
5. Furnishing and Appliances	0,0669	0,0463	0,0577	0,0692	0,0646	0,0824
6. Entertainment Goods	0,0904	0,0715	0,0839	0,0895	0,0928	0,1021
7. Personal Goods	0,0198	0,0176	0,0186	0,0186	0,0196	0,0226
8. Home Energy	0,0545	0,0736	0,0650	0,0584	0,0512	0,0393
Services	0,3248	0,2831	0,3132	0,3139	0,3304	0,3543
9. Food and beverages away from home	0,0901	0,0715	0,0825	0,0835	0,0927	0,1056
10. Holiday Services	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
12. Household Services	0,0177	0,0106	0,0165	0,0177	0,0188	0,0209
14. Personal Services	0,0170	0,0109	0,0141	0,0148	0,0190	0,0215
15. Public Transport Services	0,0282	0,0225	0,0254	0,0263	0,0283	0,0339
16. Private Transport Services	0,1093	0,1136	0,1178	0,1138	0,1093	0,0994
17. Communication Services	0,0226	0,0263	0,0225	0,0227	0,0216	0,0217
19. Entertainment Services	0,0344	0,0257	0,0308	0,0315	0,0349	0,0421
20. Miscellaneous goods and services	0,0055	0,0020	0,0036	0,0036	0,0058	0,0092

Table 6b. Budget shares by quintile of per capita equivalent net income quintiles

		1979	1990	1995	change
goods	total	0,7552	0,7092	0,6751	-8,01
services	total	0,2447	0,2909	0,3248	+8,01
goods	Q1	0,8156	0,7523	0,7168	-9,88
services	Q1	0,1844	0,2476	0,2831	+9,87
goods	Q2	0,7857	0,7343	0,6867	-9,9
services	Q2	0,2142	0,2659	0,3132	+9,9
goods	Q3	0,7654	0,7215	0,6863	-7,91
services	Q3	0,2347	0,2784	0,3139	+7,92
goods	Q4	0,7472	0,7067	0,6697	-7,75
services	Q4	0,2527	0,2933	0,3304	+7,77
goods	Q5	0,7024	0,6703	0,6457	-5,67
services	Q5	0,2979	0,3295	0,3543	+5,64

Table 4.3.4

Expenditures	beta coef (non instrumented	budget elasticity (non instrumented	beta coef (Instrumented)	budget elasticity (instrumented)
Food and non-alcoholic beverages	-0,12	0,55	-0,10	0,61
Alcoholic beverages and tobacco	-0,01	0,66	-0,02	0,64
Clothing and Footwear	0,02	1,24	0,01	1,14
Private Transport Goods	0,09	1,82	0,03	1,23
Furnishing and Appliances	-0,01	0,87	0,02	1,25
Entertainment Goods	0,03	1,33	0,03	1,32
Personal Goods	0,01	1,27	0,01	1,23
Home Energy	-0,05	0,39	-0,03	0,65
Food and beverages away from home	0,01	1,26	0,02	1,38
Holiday Services	0,02	1,89	0,03	2,08
Household Services	0,01	1,77	0,02	2,03
Personal Services	0,00	1,19	0,00	1,30
Public Transport Services	0,00	1,14	0,00	1,05
Private Transport Services	0,02	1,34	0,01	1,13
Communication Services	-0,02	0,54	0,00	0,86
Entertainment Services	0,01	1,91	0,00	1,82
Miscellaneous goods and services	-0,03	0,72	0,00	1,00
Total services	0,02	1,08	0,06	1,21

Table 4.3.5

	Total 1995-1980	total demo	total empl	total budget	Theil	total	Baumol	Substitution and prefer
1. Food and non-alcoholic beverages	-5,46	-0,71	0,15	-4,00	-0,01	-4,57	-3,09	2,22
2. Alcoholic beverages and tobacco	0,02	-0,16	0,05	-0,58	0,00	-0,70	0,82	-0,10
3. Clothing and Footwear	-2,90	-0,14	0,04	0,30	0,00	0,21	0,07	-3,17
4. Private Transport Goods	-0,07	-0,35	-0,20	0,83	0,00	0,27	-1,20	0,85
5. Furnishing and Appliances	-1,47	-0,08	0,15	0,78	0,00	0,84	-0,16	-2,15
6. Entertainment Goods	1,62	0,11	0,04	0,93	0,00	1,09	-1,19	1,72
7. Personal Goods	0,19	-0,02	0,03	0,22	0,00	0,23	-0,13	0,10
8. Home Energy	0,05	0,30	-0,08	-1,10	0,00	-0,88	-0,31	1,24
9. Food and beverages away	1,11	0,23	0,05	1,51	0,00	1,79	2,23	-2,91
10. Holiday Services	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
12. Household Services	-0,09	0,24	-0,03	0,69	0,00	0,90	0,50	-1,49
14. Personal Services	-0,02	0,20	0,01	0,23	0,00	0,45	0,35	-0,82
15. Public Transport Services	1,26	0,00	0,09	0,08	0,00	0,16	0,12	0,98
16. Private Transport Services	3,92	0,20	-0,25	-0,15	0,00	-0,20	2,77	1,35
17. Communication Services	0,68	0,15	0,02	-0,21	0,00	-0,04	-0,62	1,35
19. Entertainment Services	1,39	-0,02	-0,04	0,37	0,00	0,30	-0,33	1,41
20. Miscellaneous goods and services	-0,24	0,07	0,00	0,08	0,00	0,15	0,19	-0,58
Total	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Total services	8,01	1,05	-0,17	2,61	0,01	3,51	5,20	-0,70
Total non durable goods	-8,01	-1,05	0,17	-2,61	-0,01	-3,51	-5,20	0,70

Table 4.3.6

		NL	US	France
1	Food and non-alcoholic beverages	0,266	0,425	0,608
2	Alcoholic beverages and tobacco	0,725	0,516	0,644
3	Clothing and Footwear	1,240	1,200	1,145
4	Private Transport Goods	1,383	0,963	1,232
5	Furnishing and Appliances	1,457	-0,242	1,245
6	Entertainment Goods	1,177	1,413	1,315
7	Personal Goods	0,995	0,794	1,227
8	Home Energy	0,447	0,681	0,646
9	Food and beverages away from home	1,420	1,322	1,383
10	Holiday Services	2,112	1,979	2,081
12	Household Services	2,098	1,723	2,031
14	Personal Services	1,299	1,138	1,304
15	Public Transport Services	0,416	-0,349	1,047
16	Private Transport Services	1,371	1,319	1,131
17	Communication Services	0,718	0,666	0,858
19	Entertainment Services	1,014	1,426	1,822
20	Miscellaneous goods and services	1,434	1,648	1,004
	total services			1,209

Table 5.1. Budget Elasticities by poverty groups (SIPR index)

	Total	poor	q-poor	medium	q-rich	rich
food at home	0,535	0,9087	1,228	0,9328	0,849	0,7057
Services	1,278	1,0772	1,0043*	1,1902*	1,4461	1,2722
goods	0,722	0,9228	0,9958	0,8098	0,554	0,7277

- not significant at 95% level

Table 5.2. Budget Elasticities computed using Static and Dynamic Engel curves

Expenditure	Static EC	Dynamic EC
Food away	1.430	3.540
food at home	0.530	0.317
Total Services	1.210	1.618
Total goods	0.925	0.788

Table 7.2. Relative Income Elasticity of Food Expenditures

	PSID (U.S.)		Polish panel	
Period	1984-87		1987-90	
N	2430		3630	
Prices	no		by region and social category	
Income Elasticity	cross section	time series	cross section	time series
Food at home (FH)	0.19	0.38	0.49	0.76
Food away (FA)	1.00	0.39	1.22	0.36
Direct Price Elasticity	-0.19	-0.19	-0.38	-0.18
Elasticity of the Shadow F.H.	1.00	0.71		
Price Relative to Income F.A.		−3.13		-4.78

Reference: Gardes, Duncan, Gaubert, Starzec, 2002, tables 1 and 2. Price elasticities are calibrated as the half of T.S. income elasticities.

Table 7.3. Income and price –elasticities

	Income elasticity*	Comp. Price elasticity*	L.T. Income elasticity**	S.T. Income elasticity**	Income elasticity***	Comp. Price elasticity***
Durables	1.851 (0.154)	-0.096 (0.181)	1.231 (0.064)	5.347 (0.783)	1.917 (0.102)	0.326 (0.338)
Semi-Durable	0.648 (0.073)	-1.225 (0.118)	0.954 (0.019)	3.489 (0.449)	0.600 (0.039)	-1.693 (0.079)
Non-Durables	0.777 (0.025)	-0.583 (0.050)	0.957 (0.014)	0.260 (0.222)	0.815 (0.022)	-0.670 (0.054)
Services	1.107 (0.043)	-0.796 (0.091)	1.000 (0.012)	0.712 (0.187)	1.085 (0.023)	-1.031 (0.053)

Source : *Aggregate time-series, 1960-2000.*

Specification : * *Linearized Almost Ideal D.S., with Stone price index. Price Elasticities corrected by Pashardes formula.*

** Idem, with partial adjustment on total expenditures , beta=0.208 (0.046).

*** Quadratic Almost Ideal D.S with Stone price index., 15th iteration on the integrability parameter.

Variances corrected for instrumentation.

APPENDIX I: INSEE AGGREGATE TIME-SERIES, 1959-2000

I. La consommation dans le nouveau système de comptabilité nationale SEC 95

Les comptes nationaux français en base 95 sont établis selon le système européen de comptabilité SEC 95. Dans ce nouveau système de comptabilité nationale, qui remplace le système élargi de comptabilité nationale (adapté du SEC 79) de la base 80, deux concepts de consommation finale sont distingués : la dépense de consommation finale et la consommation finale effective. La dépense de consommation finale des ménages recouvre les dépenses consacrées par les ménages résidents à l'acquisition de biens et services utilisés pour la satisfaction directe des besoins humains « individuels ». Alors que la dépense de consommation se limite aux dépenses que les ménages supportent directement, la consommation finale effective des ménages recouvre l'ensemble des biens et services qu'ils utilisent effectivement (ou consomment) quelle que soit la manière dont ils sont financés. L'écart entre les deux notions, les « transferts sociaux en nature des administrations », correspond aux remboursements de sécurité sociale, aux aides aux logements, aux dépenses de la collectivité en éducation, en santé, etc.

En SEC 79, les dépenses de consommation finale des différents pays n'étaient pas toujours comparables. Les raisons étaient économiques ou institutionnelles : parts respectives des secteurs marchands et non marchands dans la prestation de services d'éducation ou de santé (gratuité des soins ou remboursements de la sécurité sociale), importance relative des transferts en espèces ou en nature, existence éventuelle et taux divers de subventions sur les produits, etc.. Un concept de consommation effective, visant à mesurer les biens et les services à la disposition des ménages, indépendamment de la manière dont ceux-ci y accèdent, paraissait de nature à remédier à cet inconvénient.

La notion de dépense de consommation finale des ménages est plus restreinte que l'ancienne consommation finale des ménages de la base 80 : cette dernière comprenait une partie des transferts sociaux en nature, en l'occurrence les remboursements de sécurité sociale et les allocations logement. La consommation effective des ménages correspondrait plutôt à l'ancienne notion de consommation « élargie » de la base 80. Cette dernière incluait la consommation finale individualisée des administrations publiques et privées, qui comprenait les services non marchands produits par ces administrations bénéficiant directement et (quasi) gratuitement aux ménages.

L'évaluation de la consommation des ménages en base 95 diffère de celle de la base 80 en raison de changements conceptuels, de modifications de champ et de réévaluations des niveaux de consommation. Plus précisément, la consommation en base 95 recouvre :

- l'intégration des DOM ;

- le classement en dépense des ménages de certaines taxes et impôts de la base 80 ;

- un traitement différent des compensations des réductions tarifaires ;

- le retrait de la consommation des antiquités et objets d'art ;

- la réévaluation des niveaux de la base 80 à partir des sources disponibles (enquêtes auprès des ménages, panels...), y compris l'ajout de nouveaux produits.

La dépense de consommation des ménages...

La consommation des ménages qui doit être évaluée est celle des ménages résidents, qu'elle ait lieu dans ou hors du territoire économique national. Selon le SEC 95, « on considère comme unités résidentes les ménages qui ont un centre d'intérêt économique dans le pays, même s'ils se rendent à l'étranger pour une courte durée (moins d'un an) ». Le territoire économique français inclut désormais les départements d'outre-mer (Guadeloupe, Guyane, Martinique, Réunion), mais exclut toujours Monaco et les territoires d'outre-mer.

Pour des raisons statistiques, on ne peut évaluer dans un premier temps, par produits, qu'une consommation territoriale, représentant l'ensemble des achats effectués sur le territoire par des ménages résidents ou non. La consommation est obtenue en retranchant la consommation des non-résidents sur le territoire et en additionnant la consommation des résidents hors du territoire. Les données nécessaires sont obtenues par un traitement particulier de la balance des paiements.

Les biens et services marchands constituent l'essentiel de la **dépense des ménages** ; ils correspondent aux achats de biens neufs (sauf les logements mais y compris les achats en leasing pour les automobiles), aux achats de véhicules d'occasion (passant par le commerce), et aux achats de services marchands. Ils comprennent aussi l'autoconsommation de produits alimentaires, les avantages en nature fournis par les employeurs à leurs salariés ou par l'armée aux militaires, les loyers « imputés » des logements occupés par leurs propriétaires, qui, tous, viennent en contrepartie des revenus de même montant inclus dans le revenu disponible des ménages.

Quand ces biens et services marchands sont utilisés par des entrepreneurs individuels pour leur activité productive, on ne les prend pas en compte dans la consommation finale des ménages. Pour les biens et services à usage mixte, on ne retient ici qu'une partie de leur valeur, proportionnelle à l'utilisation domestique qui en est faite.

Les services non marchands pris en compte dans la dépense de consommation finale des ménages comprennent tout d'abord les paiements partiels des ménages aux administrations publiques (APU) (hôpitaux, enseignement, musées, théâtres) ou aux institutions sans but lucratif au service des ménages (ISBLSM) (séances de ciné-club, spectacles amateurs, offices religieux). S'y ajoutent les services domestiques fournis par le personnel salarié employé par les ménages (employés de maison, nourrices, concierges et gardiens d'immeubles), qui ont leur contrepartie en production pour compte propre des ménages.

Pour passer de la dépense de consommation des ménages à la **consommation effective**, il faut ajouter les transferts sociaux en nature versés par les APU et ISBLSM, qui constituent une dépense de consommation pour celles-ci.

Les dépenses de consommation finale des administrations publiques sont subdivisées entre dépenses de consommation finale individualisable (celles dont le consommateur effectif est identifiable), santé et éducation pour l'essentiel, et dépenses de consommation collective correspondant aux fonctions régaliennes des administrations : justice, défense, police, administration générale….

Les transferts sociaux en nature des administrations publiques aux ménages correspondent aux dépenses de consommation finale individualisable de ces administrations.

La consommation effective des administrations publiques ne comprend plus alors que les biens et services inclus dans les dépenses de consommation finale collective.

L'ensemble de la dépense de consommation des ISBLSM, qui est considéré comme individualisable, constitue une consommation effective des ménages. Il n'y a donc pas de consommation finale effective pour les ISBLSM.

	MENAGES	**ADMINISTRATIONS PUBLIQUES**	**ISBLSM**
Dépenses de consommation	Dépenses de consommation des ménages	Dépenses collectives et individuelles des administrations publiques	Dépenses de consommation des ISBLSM
Consommation effective	Dépenses de consommation des ménages + Dépenses individuelles des APU + Dépenses de consommation des ISBLSM	Dépenses collectives des administrations publiques	

... se distingue de la dépense des ménages...

La dépense de consommation des ménages définie par la comptabilité nationale est

différente de la dépense qui ressort des enquêtes auprès des ménages. Elle comprend en effet l'autoconsommation, les avantages en nature, les loyers imputés.

Pourtant, comme la dépense, elle n'inclue pas la valeur ajoutée domestique (préparation des repas, travail ménager, aide aux enfants dans leurs devoirs scolaires, bricolage).

Mais c'est par ailleurs une notion plus restreinte que la dépense, car la comptabilité nationale ne classe pas en consommation l'achat et les gros travaux d'amélioration du logement, les intérêts liés à ceux-ci, les impôts. Elle ne retrace pas non plus les achats de ménages à d'autres ménages : seules les marges commerciales des revendeurs sont prises en compte. C'est notamment le cas pour le poste « voitures d'occasion ».

Si elles couvrent des champs différents et satisfont à des contraintes particulières, ces deux notions ont aussi des utilisations complémentaires. La consommation mesurée par les comptes nationaux est à privilégier pour l'analyse des séries temporelles ou l'analyse économétrique faisant intervenir de nombreuses variables des comptes, qui respectent les contraintes de comparabilité. La dépense saisie par les enquêtes auprès des ménages est plus apte à mettre en évidence les disparités internes aux populations enquêtées (socio-professionnelles, démographiques ou géographiques), et permet d'introduire des données autres que comptables, plus qualitatives, dans une étude.

... et peut être rapprochée du chiffre d'affaires du commerce.

Une partie des achats des ménages est effectuée auprès du commerce, essentiellement de détail. On peut ainsi rapprocher le chiffre d'affaires des commerçants de la consommation des ménages telle qu'elle vient d'être définie. Ce rapprochement ne porte en fait que sur la partie dite « commercialisable » des achats des ménages, celle susceptible de transiter par un commerçant. En sont exclus l'eau, le gaz naturel, l'électricité et tous les services.

Les statistiques de chiffre d'affaires apportent des informations complémentaires par rapport aux données de la comptabilité nationale. Elles permettent en particulier de décrire de façon détaillée le système de distribution (commerce spécialisé ou non, types de commerces tels qu'hypermarché, magasin populaire, supérette en succursales, tranche de chiffre d'affaires ou d'effectif salarié).

II. Methodology:

De nombreuses sources entrent dans l'évaluation de la consommation des ménages ; parmi celles-ci les enquêtes auprès des ménages et les statistiques d'entreprises tiennent une place importante. Mais d'autres informations sont utilisées, et plusieurs acteurs interviennent, à différents stades du processus d'évaluation.

Une proposition confrontée à des évaluations indépendantes

Le chiffrage de la dépense de consommation d'une année donnée se fait en trois étapes. Dans la première étape, une « proposition » à un niveau de nomenclature très fin est élaborée au sein de la division « Synthèses des Biens et Services » par la section « Consommation des ménages ». Une synthèse de sources variées est réalisée : enquêtes périodiques (exemple : budgets de famille) ou de conjoncture auprès des ménages, enquêtes de branches, statistiques de syndicats professionnels, commerce extérieur, exploitation de panels de ménages ou de commerçants. L'optique comportement des ménages est privilégiée ici. Cette première synthèse conduit :

- soit, le plus souvent, à retenir un indice d'évolution en valeur, utilisé pour obtenir une consommation en valeur courante. Celle-ci est ensuite déflatée par l'évolution annuelle moyenne des prix à la consommation (IPC) observée par l'Insee pour obtenir la consommation évaluée aux prix de l'année précédente ;
- soit, dans les autres cas, à retenir un indice d'évolution en volume, qui, appliqué à la consommation en valeur de l'année précédente, permet d'obtenir la consommation évaluée aux prix de l'année précédente. A cette dernière, on applique l'évolution annuelle moyenne des prix à la consommation pour obtenir la consommation en valeur courante.

Cette proposition initiale est confrontée dans la deuxième étape à d'autres évaluations : les comptes du commerce, élaborés dans une optique de distribution, sur le champ « consommation commercialisable » ; les « équilibres ressources-emplois » par produits (dans lesquels la consommation constitue un emploi), où prédomine l'optique production. Des arbitrages sont alors nécessaires ; ils peuvent toucher la consommation des ménages. Le plus souvent, à l'issue de cette étape, l'évaluation de la consommation est arrêtée.

Enfin, dans la phase de synthèse générale des comptes, la consommation équilibrée par produits, et l'agrégat dépense de consommation finale des ménages sont confrontés aux grands équilibres du tableau économique d'ensemble et aux agrégats du compte des ménages. Des arbitrages sont effectués, qui peuvent concerner la consommation finale des ménages.

La partie concernant les dépenses individualisables des administrations publiques (transferts sociaux en nature) est issue de leur compte élaboré par la direction de la Comptabilité Publique ou la Direction de la Prévision. Les dépenses individualisables des ISBLSM sont évaluées par la division « Synthèse Générale des Comptes ».

Périodiquement, une nouvelle base
Jusqu'à présent tous les dix ans environ, et à l'avenir tous les cinq ans, les statisticiens font une révision approfondie des méthodes et des évaluations de la comptabilité nationale : cette rénovation constitue une nouvelle base. Les changements de base s'accompagnent de révisions des concepts ou des nomenclatures. Les données contenues dans ce document appartiennent à la base 95 des comptes.

Des révisions annuelles
Les chiffres des années 1959 à 2000 sont publiés dans les concepts et nomenclatures de la base 95. La consommation des années 1959-1998 l'est dans sa version définitive. Les chiffres relatifs à l'année 1999 sont des estimations susceptibles d'être révisées en 2002. La consommation de l'année 2000 est publiée ici dans sa première version dite provisoire ; elle est susceptible d'être révisée en 2002, puis en 2003.

III. Classification:

Les séries de consommation finale des ménages sont présentées dans trois nomenclatures. Chacune d'elles est adaptée à un usage particulier.

La première, la plus détaillée, est une nomenclature de *produits*, comprenant 304 postes élémentaires. Elle classe les produits selon une optique de processus de fabrication et matière de l'objet consommé (textile, bois, chimie,...). Elle distingue les biens des services, le marchand du non marchand.

Elle s'articule avec les regroupements plus agrégés utilisés dans les comptes nationaux : niveau 118 ou niveau G, 40 ou niveau F, 16 ou niveau E et 5 ou niveau D. Ces codes sont indiqués en première colonne des tableaux.

Cette nomenclature est à privilégier quand on se réfère à la production, pour des études de marché, ou lors de comparaisons avec des chiffres d'affaires.

La deuxième est une nomenclature de *fonctions*. Elle correspond à un classement selon les besoins auxquels la consommation répond. Alimentation, boissons alcoolisées et tabac, articles d'habillement et chaussures, logement chauffage éclairage, équipement du logement, santé, transport, communications, loisirs-culture, éducation, hôtels cafés et restaurants, autres biens et services constituent les douze grandes fonctions. La fonction 13 représente les dépenses de consommation des institutions sans but lucratif au service des ménages (ISBLSM) et la 14ème regroupe les dépenses de consommation individuelle des administrations publiques (APU).

Cette nomenclature regroupe, aux prix de quelques conventions, les produits, biens et services, complémentaires c'est-à-dire simultanément nécessaires à la satisfaction d'un même besoin, ou substituables c'est à dire alternatifs pour satisfaire un même besoin. Par exemple, la fonction « transport » regroupe les achats de véhicules, leurs frais d'entretien et de réparation, la consommation de carburants, les dépenses de transports ferroviaires, routiers, et enfin les transports aériens.

Une telle présentation se prête à l'étude du comportement des ménages. Pour cette raison, elle est utilisée dans les modèles de consommation, et dans les calculs d'élasticité de la consommation par rapport au revenu aussi bien qu'aux prix. Le plus souvent, les projections sont faites selon cette nomenclature. On retiendra cette présentation en particulier pour l'analyse de la consommation sur le long ou moyen terme.

De plus, la nomenclature de *fonctions* présente l'avantage d'être la nomenclature internationale COICOP. C'est pourquoi elle convient tout à fait aux comparaisons entre pays. Elle est ainsi utilisée dans les publications de l'ONU, de l'OCDE et d'Eurostat.

La troisième nomenclature se fonde sur le critère de *durabilité*, et oppose les biens durables aux biens fongibles. Elle distingue les biens des services. Elle classe les biens en trois groupes : biens durables importants (véhicules, meubles, équipement ménager ou de loisir), biens semi-durables (textile, habillement) et biens non durables (alimentation, énergie). Cette nomenclature est très utile pour l'analyse conjoncturelle. A court terme, l'évolution du revenu des ménages, notamment, a des conséquences différentiées sur la consommation classée par durabilité.

APPENDIX II: TABLES

Table A1. Reference periods

REFERENCE PERIOD	MODULES SOUS-MODULES
12 MONTHS	MAIN RESIDENCE, SECONDARY RESIDENCE, OTHER RESIDENCE FOR OWNERS AND NEW HOME OWNERS: LOANS PAY OFF MAINTENANCE CHARGES WATER SUPPLY, ELECTRICITY, GAZ, PHONE BILLS HEATING INSURANCES LOCAL TAXES GARAGES AND CAR PARK
	HOME RENOVATION
	TRANSPORTS CARS BICYCLES TWO-WHEELED VEHICLES CARAVANS OTHERSS
	DURABLES HOME APPLIANCES AUDIOVISUAL GARDENING AND DO-IT-YOURSELF
	FURNITURES
	VALUABLES
	SERVICES SCHOOL AND UNIVERSITY FEES
	TRANSPORTS EXPENDITURES
	CULTURE AND LEISURE EXPENDITURES LEISURE AND CULTURE
	MISCELLANEOUS EXPENDITURES INSURANCES LOANS INSTALMENTS INCOME TAX BANKING EXPENDITURES EXPENDITURES CAUSED BY A PERSON LIVING AWAY FROM HOME AT LEAST ONE DAY PER WEEK ESXCEPTIONAL EXPENDITURES TV LICENCE FEE
	AIDS AND PRESENTS OFFERED OR RECEIVED BY THE HOUSEHOLD
	INCOME, SAVINGS INCOME, EXCEPTIONAL INCOME
6 MONTHS	HOLIDAYS AWAY FROM HOME
	HEALTH EXPENDITURES ONGOING TREATMENT HOSPITALIZATIONS PURCHASE OR RENTAL OF MEDICAL APPLIANCES
2 MONTHS	CLOTHES AND SHOES
1 MONTHS	SERVICES CHILD CARE HOME AND AWAY FROM HOME DOMESTIC SERVICES ATHOME
	EXPENDITURES LINKED TO FOOD TAKEN AT WORK OR AT SCHOOL
	EXPENDITURES LINKED TO LEISURE AND CULTURE AUDIOVISUAL
	MISCELLANEOUS EXPENDITURES DEDUCTIONS MADE BY THE EMPLOYER
LAST RECEIPT	MAIN, SECONDARY OR OTHER RESIDENCE TENANTS: RENT

For daily expenditures *diaries are preferred. Each person aged 14 years old or more is asked to fill a diary during fourteen days. Two extra questionnaires are filled in: The checking questionnaire and the quality questionnaire. The first one was asked during the second and third visit and checked that the household did not forget expenditures. The second one is filled in by the interviewers. It records 1 the interviewer's point of view on the quality of answers given by the household in the questionnaire, and the reliability of diaries,.*

Table A2. Dempatem full goods classification

1. Food and non-alcoholic beverages (an1)=bread and cereals(111) + meet(112)+ fish(113)+ milk, cheese, eggs(114), oils, fats(115)+ vegetables, fruits(116)+ potatoes(117)+ sugar(118)+ tee, coffe(119)+other(11a)+exceptional food expenditure(151) + non alc baverages(121);
2. **Alcoholic beverages and tobacco (an2):** wines (131) + alc beverages (132)+tobacco (141)
3. **Clothing and Footwear** : an3=Cloths(211-216)+and shoes(221)
4. Private Transport Goods an4=cars(611)+cycles,motocycles,caravans (612)+ spare parts and accessories(621)+gas,oils ,other(622,623)
5. **Furnishing and Appliances**: an5=furniture and accessories(411 -413,415)+ appliances(431-434,441,442,451)
6. **Entertainment Goods** an6=books,newsp(731)+audio, video,computers (n711,712,713)+ toys,hobby,leisure goods(721,722,723,725)
7. Personal Goods: an7=Health care goods (812) + jewellery, other(821-823)
8. Home Energy : an8=heating,lighting- gas, electricity, other(321 -325)
Services
9. **Food and beverages away from home** an9=(833+n834)
10. **Holiday Services** : an10=(832,831)
11. **Housing** an11= rent and home related charges(311,312)+imputed gross rent(loyfb), + house repairs(931-935,937,938)
12. **Household Services**: an12=home services(462)+child care(461)+repairs(414,435,452)
13. **Health Goods and Services:** an13a=payments to doctors(531,541)+ drugs and other medical goods (511,521)
14. **Personal Services** : an14=811
15. **Public Transport Services** : an15=(631-633)
16. **Private Transport Services** :an16=repairs (621)+car insurance,road tax,(914)+ driving lessons (623)
17. Communication Services : an17=communication services 641,642+ education and training services (741)+entertainment services (724)
18. **Education and Training Services**: an18= 741; 19. **Entertainment Services** an19=724
20. **Miscellaneous Goods and Services**: an20= financial and insurance services(851,911-916)+ contributions(925)+other services and taxes (926)

Reference codes from: INSEE Documentation, , Enquête Budget de famille, 1995 Vol III, Nomenclature de Dépenses.

Table A3. Dempatem restricted goods classification

1. **Food and non-alcoholic beverages** (an1)=bread and cereals(111) + meet(112)+ fish(113)+ milk, cheese, eggs(114), oils, fats(115)+ vegetables, fruits(116)+ potatoes(117)+ sugar(118)+ tee, coffe(119)+other(11a)+exceptional food expenditure(151) + non alc baverages(121);
2. **Alœholic beverages and tobacco (an2):** wines (131) + alc beverages (132)+tobacco (141)
3. **Clothing and Footwear** : an3=Cloths(211-216)+and shoes(221)
4. Private Transport Goods an4=cars(611)+cycles,motocycles,caravans (612)+ spare parts and accessories(621)+gas,oils ,other(622,623)
5. **Furnishing and Appliances**: an5=furniture and accessories(411 -413,415)+ appliances(431-434,441,442,451)
6. **Entertainment Goods** an6=books,newsp(731)+audio, video,computers (n711,712,713)+ toys,hobby,leisure goods(721,722,723,725)
7. Personal Goods: an7=Health care goods (812) + jewellery, other(821-823)
8. Home Energy : an8=heating,lighting- gas, electricity, other(321 -325)
Services
9. **Food and beverages away from home** an9=(833+n834)
10. **Holiday Services** : an10=(832,831)
12. **Household Services**: an12=home services(462)+child care(461)+repairs(414,435,452)
14. **Personal Services** : an14=811
15. **Public Transport Services** : an15=(631-633)
16. **Private Transport Services** :an16=repairs (621)+car insurance,road tax,(914)+ driving lessons (623)
17. **Communication Services** : an17=communication services 641,642+ education and training services (741)+entertainment services (724)
19. **Entertainment Services** an19=724
20. **Miscellaneous Goods and Services**: an20= financial and insurance services(851,911-916)+ contributions(925)+other services and taxes (926)

Reference codes from: INSEE Documentation, , Enquête Budget de famille, 1995 Vol III, Nomenclature de Dépenses.

Table A4. Zero expenditures

(b) Zero expenditure proportion (DEMPATEM full expenditure)			
Goods	1980	1990	1995
1. Food and non-alcoholic beverages	0,0044	0,0037	0,0024
2. Alcoholic beverages and tobacco	0,1658	0,2258	0,1342
3. Clothing and Footwear	0,1397	0,1365	0,1382
4. Private Transport Goods	0,2742	0,2572	0,1949
5. Furnishing and Appliances	0,2406	0,2137	0,1893
6. Entertainment Goods	0,0926	0,0631	0,0325
7. Personal Goods	0,5690	0,4325	0,2113
8. Home Energy	0,0296	0,0211	0,0153
Services			
9. Food and beverages away from home	0,2186	0,1967	0,1782
10. Holiday Services	1,0000	1,0000	1,0000
11. Housing	0,0000	0,0000	0,0000
12. Household Services	0,6568	0,6926	0,5278
13. Health Goods and Services	0,2739	0,3296	0,2448
14. Personal Services	0,6578	0,6217	0,5093
15. Public Transport Services	0,6209	0,5495	0,2174
16. Private Transport Services	0,0304	0,0197	0,0082
17. Communication Services	0,2671	0,0542	0,0293
18. Education and Training Services	0,6976	0,7644	0,6516
19. Entertainment Services	0,4736	0,3506	0,2395
20. Miscellaneous Goods and Services	0,8736	0,8625	0,7143

Tables A5. Engel Curves estimation Results

Results of Engel curves estimations France 1995, Part1

n=9633	Food and nonalc baverages		Alcoholic beverages and tobacco	
Variable	estimate	st error	estimate	st error
Constant	1,3371	0,03973	0,2309	0,01805
Log Household Size	0,07139	0,00485	0,01128	0,0022
Fraction Age 6-17	-0,02911	0,01603	-0,02029	0,00728
Fraction Age 18-30	-0,05824	0,01621	-0,00038124	0,00737
Fraction Age 31-64	-0,01277	0,01758	0,01491	0,00799
Fraction Age 65-99	0,01299	0,01867	0,014	0,00848
age head of household	0,00209	0,00066035	-0,0004724	0,00029999
age squared head of household	-0,00000819	0,00000624	-0,00000207	0,00000284
Number of Employed	0,00167	0,00318	-0,00244	0,00144
All adults employed	-0,01859	0,00481	-0,00043723	0,00219
All adults employed & kids<6	-0,00993	0,00662	-0,0129	0,00301
Log Expenditures	-0,10327	0,00324	-0,015	0,00147
R-Squared		0.2283		0,0297

Results of Engel curves estimations France 1995, Part2

Estimation Results AI-Demand Model

n=9633	Clothing and Footwear		Private Transport Goods	
Variable	estimate	st error	estimate	st error
Constant	-0.03183	0.02548	-0.25347	0.04727
Log Household Size	-0.00271	0.00311	0.03247	0.00577
Fraction Age 6-17	0.00803	0.01028	-0.03237	0.01907
Fraction Age 18-30	-0.00721	0.01040	0.05778	0.01929
Fraction Age 31-64	-0.02231	0.01128	0.06454	0.02092
Fraction Age 65-99	-0.03042	0.01197	0.05917	0.02221
age head of household	0.00037040	0.00042349	0.00045707	0.00078556
age squared head of household	-0.00000553	0.00000400	-0.00001475	0.00000743
Numver of Employed	-0.00278	0.00204	0.00460	0.00378
All adults employed	0.00561	0.00309	0.00976	0.00573
All adults employed & kids<6	-0.00270	0.00425	-0.00892	0.00788
Log Expenditures	0.01051	0.00208	0.02621	0.00386
	0,0321		0,1677	
R-Squared	-0.03183	0.02548	-0.25347	0.04727

Results of Engel curves estimations France 1995, Part3

Estimation Results AI-Demand Model

n=9633	Furnishing and Appliances		Entertainment Goods	
Variable	estimate	st error	estimate	st error
Constant	-0.16079	0.05010	-0.21667	0.02647
Log Household Size	0.00320	0.00611	-0.01878	0.00323
Fraction Age 6-17	-0.02497	0.02022	0.03870	0.01068
Fraction Age 18-30	-0.00756	0.02045	0.04103	0.01080
Fraction Age 31-64	-0.00152	0.02217	0.02322	0.01171
Fraction Age 65-99	-0.00155	0.02354	0.02080	0.01244
age head of household	0.00076846	0.00083275	0.00006007	0.00043993
age squared head of household	-0.00001099	0.00000787	-0.00000478	0.00000416
Numver of Employed	-0.00386	0.00401	-0.00331	0.00212
All adults employed	-0.00307	0.00607	-0.00111	0.00321
All adults employed & kids<6	0.00696	0.00835	0.00742	0.00441
Log Expenditures	0.02161	0.00409	0.02625	0.00216
R-Squared	0,0047		0,0547	

Results of Engel curves estimations France 1995, Part4

Estimation Results AI-Demand Model

n=9633	Personal Goods		Home E nergy	
Variable	estimate	st error	estimate	st error
Constant	-0.04325	0.01233	0.44642	0.01915
Log Household Size	-0.00114	0.00151	-0.01566	0.00234
Fraction Age 6-17	0.01870	0.00498	-0.01732	0.00773
Fraction Age 18-30	0.01121	0.00503	-0.06707	0.00781
Fraction Age 31-64	0.00630	0.00546	-0.05492	0.00847
Fraction Age 65-99	0.00644	0.00580	-0.06002	0.00900
age head of household	0.00020658	0.00020498	-0.00115	0.00031823
age squared head of household	-0.00000331	0.00000194	0.00002130	0.000 00301
Numver of Employed	-0.00199	0.00098597	0.00600	0.00153
All adults employed	0.00217	0.00149	-0.00864	0.00232
All adults employed & kids<6	-0.00185	0.00206	-0.00616	0.00319
Log Expenditures	0.00505	0.00101	-0.02693	0.00156
R-Squared	0,0211		0,3031	

Results of Engel curves estimations France 1995, Part5

Estimation Results AI-Demand Model

n=9633	Food and beverages away from home		Holiday Services	
Variable	estimate	st error	estimate	st error
Constant	-0.11534	0.02452	-0.30480	0.01832
Log Household Size	-0.02875	0.00299	-0.01542	0.00224
Fraction Age 6-17	0.03759	0.00989	0.03424	0.00739
Fraction Age 18-30	0.02079	0.01001	0.01622	0.00748
Fraction Age 31-64	0.00909	0.01085	0.01488	0.00811
Fraction Age 65-99	0.00146	0.01152	0.02146	0.00861
age head of household	-0.00159	0.00040750	0.00057773	0.00030455
age squared head of household	0.00001044	0.00000385	0.00000644	0.00000288
Number of Employed	0.00092251	0.00196	-0.00525	0.00146
All adults employed	0.00969	0.00297	0.00124	0.00222
All adults employed & kids<6	0.00661	0.00409	0.00450	0.00305
Log Expenditures	0.01911	0.00200	0.02769	0.00150
R-Squared		0,0728		0,0541

Results of Engel curves estimations France 1995, Part6

Estimation Results AI-Demand Model

n=9633	Household Services		Personal Services	
Variable	estimate	st error	estimate	st error
Constant	-0.10552	0.01596	-0.03268	0.01027
Log Household Size	-0.01674	0.00195	-0.00606	0.00125
Fraction Age 6-17	-0.02006	0.00644	0.00434	0.00414
Fraction Age 18-30	-0.04754	0.00651	-0.00342	0.00419
Fraction Age 31-64	-0.04779	0.00706	-0.00215	0.00454
Fraction Age 65-99	-0.04772	0.00750	-0.00268	0.00483
age head of household	-0.00207	0.00026520	0.00008786	0.00017068
age squared head of household	0.00002643	0.00000251	0.00000379	0.00000161
Number of Employed	0.00340	0.00128	0.00000282	0.00082099
All adults employed	-0.00149	0.00193	-0.00139	0.00124
All adults employed & kids<6	0.03162	0.00266	0.00318	0.00171
Log Expe nditures	0.01770	0.00130	0.00410	0.00083842
R-Squared		0,1118		0,0362

Results of Engel curves estimations France 1995, Part7

Estimation Results AI-Demand Model

n=9633	Public Transport Services		Private Transport Services	
Variable	estimate	st error	estimate	st error
Constant	0.00312	0.01693	-0.06680	0.02421
Log Household Size	0.00055517	0.00207	0.01164	0.00295
Fraction Age 6-17	0.02626	0.00683	-0.01603	0.00977
Fraction Age 18-30	0.04771	0.00691	0.03168	0.00988
Fraction Age 31-64	0.02585	0.00749	0.02096	0.01071
Fraction Age 65-99	0.01753	0.00796	0.01784	0.01137
age head of household	-0.00029557	0.00028145	0.00092362	0.00040233
age squared head of household	1.938491E-7	0.00000266	0.00001242	0.00000380
Number of Employed	-0.00917	0.00135	0.00322	0.00194
All adults employed	0.00992	0.00205	-0.00262	0.00293
All adults employed & kids<6	0.00010348	0.00282	-0.00562	0.00403
Log Expenditures	0.00117	0.00138	0.00696	0.00198
R-Squared		0,0527		0,0525

Results of Engel curves estimations France 1995, Part8

Estimation Results AI-Demand Model

n=9633	Communication Services		Entertain services	
Variable	estimate	st error	estimate	st error
Constant	0.12512	0.01017	-0.05022	0.009
Log Hous ehold Size	-0.01802	0.00124	-0.00197	0.001
Fraction Age 6-17	-0.00760	0.00410	0.01795	0.003
Fraction Age 18-30	-0.02062	0.00415	0.00211	0.003
Fraction Age 31-64	-0.03060	0.00450	0.00173	0.004
Fraction Age 65-99	-0.03097	0.00478	0.00164	0.004
age head of household	0.00019798	0.00016903	0.00002456	0.000158
age squared head of household		0.00000160	-6.31441E-7	0.000001
Number of Employed	-0.00115	0.00081307	-0.00176	0.000764
All adults employed	-0.00464	0.00123	0.00176	0.001
All adults employed & kids<6	-0.00412	0.00169	0.00353	0.001
Log Expenditures	-0.00478	0.00083032	0.00482	0.000780
R-Squared		0,165		0,0232

Results of Engel curves estimations France 1995, Part9

Estimation Results AI-Demand Model

n=9633	Miscell		All services	
Variable	estimate	st error	estimate	st error
Constant	0.07794	0.02230	-0.35386	0.04306
Log Household Size	-0.00208	0.00272	-0.04809	0.00525
Fraction Age 6-17	-0.04303	0.00900	-0.00392	0.01737
Fraction Age 18-30	-0.02407	0.00910	0.00207	0.01757
Fraction Age 31-64	-0.01096	0.00987	-0.02808	0.01905
Fraction Age 65-99	-0.00155	0.01048	-0.02444	0.02023
age head of household	0.00074701	0.00037059	0.00001814	0.00071560
age squared head of household	-0.00000275	0.00000350	0.00000689	0.00000677
Number of Employed	0.00803	0.00178	-0.00268	0.00344
All adults employed	-0.00123	0.00270	0.00154	0.00522
All adults employed & kids<6	-0.00475	0.00372	0.02843	0.00718
Log Expenditures	0.00038821	0.00182	0.05806	0.00352
R-Square d		0,0884		0,024

Table A6. Variable descriptive characteristics

average characteristics 1995	France 1995
Constant	1
Log Household Size	0,7963249
Fraction Age 6-17	0,1108736
Fraction Age 18-30	0,1862434
Fraction Age 31-64	0,4491255
Fraction Age 65-99	0,2070198
age head of household	49,342952
age squared head of household	2716,09
Number of Employed	1,0353955
All adults employed	0,4509031
All adults employed & kids<6	0,0783683
Log Expenditures	11,4917242

average budget shares 1995	
Food and non-alcoholic beverages	20,4
Alcoholic beverages and tobacco	3,44
Clothing and Footwear	7,1
Private Transport Goods	13,41
Furnishing and Appliances	6,69
Entertainment Goods	9,04
Personal Goods	1,98
Home Energy	5,45
Food and beverages away from home	9,01
Holiday Services	0
Household Services	1,77
Personal Services	1,7
Public Transport Services	2,82
Private Transport Services	10,93
Communication Services	2,26
Entertainment Services	3,44
Miscellaneous goods and services	0,55
Total services	20,4

Table A7. Comparison of beta estimates for impact of outliers and selection zero response bias

	Outliers		Selection bias	
	basic estimation	robust estimation	Heckman 2step	Mills ratio significant?
Food and non-alcoholic beverages	-0,1033	-0.09676	-0,1037	no
Alcoholic beverages and tobacco	-0,0150	-0.01112	-0,0244	yes
Clothing and Footwear	0,0105	0.01377	0,0135	yes
Private Transport Goods	0,0262	0.02590	-0,0006	no
Furnishing and Appliances	0,0216	0.02106	0,0169	no
Entertainment Goods	0,0263	0.02674	0,0262	yes
Personal Goods	0,0051	0.00402	0,0000	no
Home Energy	-0,0269	-0.02291	-0,0356	yes
Food and beverages away from home	0,0191	0.02020	0,0038	no
Holiday Services	0,0277	0.02368	0,0157	no
Household Services	0,0177	0.01423	0,0433	no
Personal Services	0,0041	0.00544	-0,0207	no
Public Transport Services	0,0012	0.00667	-0,0451	yes
Private Transport Services	0,0070	0.00864	-0,0066	no
Communication Services	-0,0048	-0.00363	-0,0066	no
Entertainment Services	0,0048	0.00308	0,0017	no
Miscellaneous goods and services	0,0004	-0.00115	-0,0079	yes
total services	0,0581	0.05452		

Table 4bis. Restricted budget shares by quintile of equivalent total expenditure (per capita)

		1979	1990	1995
goods	total	0,7552	0,7092	0,6751
services	total	0,2447	0,2909	0,3248
goods	Q1	0,8156	0,7523	0,7168
services	Q1	0,1844	0,2476	0,2831
goods	Q2	0,7857	0,7343	0,6867
services	Q2	0,2142	0,2659	0,3132
goods	Q3	0,7654	0,7215	0,6863
services	Q3	0,2347	0,2784	0,3139
goods	Q4	0,7472	0,7067	0,6697
services	Q4	0,2527	0,2933	0,3304
goods	Q5	0,7024	0,6703	0,6457
services	Q5	0,2979	0,3295	0,3543

Table 4ter. Restricted budget shares by quintile of equivalent total expenditure (sqrt of size)

	1979	1990	1995
total			
goods	0,7552	0,7092	0,6751
services	0,2447	0,2909	0,3248
Q1			
goods	0,8323	0,7633	0,7213
services	0,1677	0,2367	0,2787
Q2			
goods	0,7997	0,7395	0,7007
services	0,2002	0,2604	0,2991
Q3			
goods	0,7784	0,7215	0,6812
services	0,2217	0,2786	0,3189
Q4			
goods	0,7535	0,7074	0,6812
services	0,2464	0,2927	0,3189
Q5			
goods	0,7087	0,6819	0,6568
services	0,2916	0,3181	0,3432

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Output

Ronald Schettkat and Lara Yocarini (Jan. 2003)

DEMPATEM in Perspective. State of the Art in the Analysis of Structural Changes.

Book in preparation:

The US-European gaps in Demand and Employment

Wiemer Salverda and Ronald Schettkat, ed.

Working Papers: (See list below)

LIST OF WORKING PAPERS

Working papers are downloadable at http://www.uva-aias.net/lower.asp?id=194

1. **John Schmitt,** Estimating Household Consumption Expenditures in the United States using the Interview and Diary Portions of the 1980, 1990, and 1997 Consumer Expenditure Surveys
2. **Laura Blow,** Household Expenditures Patterns in the UK
3. **Adriaan Kalwij & Wiemer Salverda,** Changing Household Demand Patterns in the Netherlands: Some Explanations
4. **Javier Ruiz-Castillo & María José Luengo-Prado,** Demand Patterns in Spain
5. **Marijke van Deelen & Ronald Schettkat,** Household Demand Patterns in West Germany:1978-1993*
6. **Francois Gardes & Christophe Starzec,** Household Demand Patterns in France 1980-1995
7. **Francois Gardes & Christophe Starzec,** Income Effects on Services Expenditures
8. **Adriaan Kalwij & Steve Machin,** Changes in Household Demand Patterns: A Cross-Country Comparison
9. **Laura Blow, Adriaan Kalwij & Javier Ruiz-Castillo**, Methodological issues on the analysis of consumer demand patterns over time and across countries
10. **Mary Gregory & Giovanni Russo,** The Employment Impact of Differences in Demand and Production Structures
11. **Ronald Schettkat (Research Assistance: Joep Damen)** Demand Pattterns and Employment Structures, An Aggregate Analysis
12. **Andrew Glyn, Wiemer Salverda, Joachim Möller, John Schmitt, Michel Sollogoub** Employment differences in services the role of wages, productivity and demand
13. **Ronald Schettkat & Wiemer Salverda,** Demand Patterns and Employment Growth Consumption and Services in France, Germany, the Netherlands, the United Kingdom and the United States Concluding Summary