Household Demand Patterns in West Germany: 1978-1993

Consumption patterns and Demand for Services

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Working paper No 5

February 2004

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*We thank the members of the 'DEMPATEM consumption group' for many hints and discussions and we are especially indebted to Laura Blow, Adriaan Kalwij, Maria Jose Luengo-Prado, Giovanni Russo and John Schmitt. Holdger Bonin (IZA) kindly provided some GSOEP data to us.

DEMPATEM working papers are published on behalf of the DEMPATEM research project by the project coordinators, Wiemer Salverda and Ronald Schettkat.
The DEMPATEM working papers are available online as PDF-files at http://www.uva-aias.net/lower.asp?id=186; exceptionally paper copies will be made available on request (see address below). The DEMPATEM working papers are intended to make the results of the DEMPATEM–research available to all persons interested. They aim to stimulate discussion. Comments are welcome.

The DEMPATEM research project (2001-2004) addressed *Demand Patterns and Employment Growth: Consumption and Services in France, Germany, the Netherlands, Spain, the United Kingdom and the United States.* It was a joint undertaking of the Universities of Amsterdam, Utrecht, Oxford and Paris-I Sorbonne, and the University Carlos III in Madrid, University College London and 17th Street Economics, Washington DC. The project was financially supported by the Socio-economic Key Action of the Fifth Framework Programme of the European Commission (HPSE-CT-2001-00089). List of the full project membership and all working papers can be found at the end of the paper.

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INTRODUCTION

The overall goal of the DEMPATEM project is to study the relationship between employment patterns and household demand. This study is part of the consumption part of this project and it will address the German household consumption patterns as they occurred in 1978, 1983, 1988 and 1993, using the "Einkommens und Verbrauchsstichprobe"[1] (EVS) from the Statistisches Bundesamt[2]. It aims to examine whether changes in household demand for services have occurred over these past two decades and explores possible explanations for these changes following the methodology described in Blow/ Kalwij/ Ruis-Castillo (2003).

Changes in the demand for services can be related to changes in household composition (demographics and employment structure), household budget, prices and preferences. An empirical analysis using Engel Curve estimations will provide insights into the importance of the various explanatory variables.

The DEMPATEM project focuses on the dichotomy between the US service-sector employment share and that of five European countries (UK, France, Spain, the Netherlands and West-Germany). In line with this, counterfactual expenditure patterns will be calculated for the United States using German prices and preferences. These results can then be decomposed into different explanations.

This paper will proceed as follows: firstly an overview of the German budget survey is presented. This is followed by a comparison of expenditures as they are reported in the EVS and the German National Accounts. The fourth section of the paper focuses on the restrictions that have been imposed on our data in order to improve cross-country comparability. To legitimize these restrictions, an in-depth overview of the excluded categories will be presented. The paper continues in section 5 by exploring long-run expenditure trends, both in current and constant prices, and by examining patterns of household structure in section 6. Next, the Engel curve estimations will be presented in section 7. The final two sections of this paper discuss the decomposition of the change in service-demand over time, and between West Germany and the US, after which several conclusions will be drawn.

[1] German Income and Expenditure Survey.

[2] German Statistical Office.

1 DATA SOURCES AND THE MEASUREMENT OF HOUSEHOLD INCOME AND EXPENDITURES

Information on income and expenditures of households in Germany is collected every 5 years in the so-called 'EVS' (Einkommens- und Verbrauchs-Stichprobe)[3]. Sample sizes are fairly large (about 35,000 households in West Germany), but vary slightly between years.[4] The major purpose of the EVS is to record all income sources and expenditures, as well as the stock of household durables, the housing situation and the financial situation of households (using savings, financial assets and insurances).[5] At the beginning of the survey period the household's socio-demographic characteristics are recorded and for the following four months[6] households are asked to report their expenditures. To capture more frequent and smaller expenditures (such as expenditures on food, beverages, etc.) about a fifth of the households is given a diary and is asked to report such detailed expenditures for one month. The monthly figures reported in these diaries are then multiplied by 12 to achieve annual figures, which may lead to under- or over-estimation of actual expenditures.[7]

To receive reliable information, the Statistisches Bundesamt first informs households of the survey procedure and only then actually recruits them. This procedure reduces the non-response, but because of the substantial time required to fill in the questionnaires, households of entrepreneurs and very high-income households[8] are underrepresented. Also very low income households and households who receive unemployment benefits are underrepresented, while households of civil servants and other white-collar employees are overrepresented.[9] To receive reliable data, the survey over-samples certain socio-demographic groups and some regions. Weights are then calculated to try and make the EVS representative of the socio-demographic and regional structure of the Mikrozensus (an annual 1% survey of the German population) and thus the German population as a whole.[10]

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3 ……

4 Households of foreigners are included in the EVS only since 1993. The institutional population is never included.

5 The EVS is also used to analyze trends in the German income distribution (Hauser/Becker, 2000).

6 In 1998 four three-month sampling periods were introduced (Statistisches Bundesamt, 2001).

7 Statistisches Bundesamt, 1997-7.

8 These are households with more than 35,000 DM [EUR 17,500] net income per month; the average household net income according to EVS in West Germany in 1993 was 4,821 DM [EUR 2,410] (Statistisches Bundesamt, 1997-4: 31).

9 Statistisches Bundesamt, 1997-7: 11, 21.

10 Weights are calculated as: (number of households in Mikrozensus) / (number of EVS households). Criteria are household size, household net income, social position of head of the household (usually the main bread winner) (Statistisches Bundesamt, 1997-7).

The income and expenditure definitions used in DEMPATEM are aimed at maximum international comparability and may therefore differ slightly from the original concepts used in the EVS. For example, contributions to churches, although voluntary, are collected as taxes in Germany, whereas these are considered voluntary contributions to NGOs in other countries and consequently are part of private expenditures. Thus, in DEMPATEM, contributions to churches are treated as private household expenditures. Similarly, DEMPATEM includes road taxes and car insurance premiums as expenditures for private transport services. Furthermore, DEMPATEM, as well as the EVS, do not include statutory health insurance premiums in private expenditures. Voluntary premiums, however, are included. For a detailed overview of the included expenditure categories see Appendix A.

All figures presented refer to West Germany for reasons of international comparability and to ensure time consistency in the data. For 1993 we have access to individual micro data, while for other years we rely on published but detailed tables, which we adjusted to the DEMPATEM categories (as described in Appendix A). In minor cases, however, the data derived from the published material slightly differs from the exact DEMPATEM definitions. **Table 2.1** shows a detailed comparison of the published data and the individual data for 1993. Most differences -if any- are small. Two exceptions are the differences in entertainment services (the budget survey reports 0.9 %-points lower) and household services (the budget survey reports 0.5 %-points higher). However, when considering the aggregate service share it can be stated that our aggregations of the categories hold fairly well: the difference is only 0.2 %-points.

2 EXPENDITURE STRUCTURE COMPARED: HOUSEHOLD SURVEYS VS. NATIONAL ACCOUNTS

The most important reference data for the EVS are, of course, the National Income and Product Accounts (NIPA). These are based on various data sources and are therefore considered more comprehensive and reliable for aggregate figures.[11] The EVS concepts differ conceptually from the NIPA, especially with respect to employers' contributions to social insurances (pension, health, unemployment), which are counted as income in the NIPA, but not in the EVS.[12] As expected, the difference in income between the EVS and NIPA is smallest for wage and salary incomes (about 2.5 % difference), but more substantial for the income of the self-employed (about 7.5 % underestimation in the EVS) and for transfer incomes (about 5.5 % underestimation in the EVS).[13]

When comparing expenditures between NIPA and EVS for an internal evaluation, the Statistisches Bundesamt found that food and rent (including energy) were almost in perfect accordance. For other items, such as alcohol and tobacco, but also for less frequent purchases such as expenditures during holidays, durables (furniture and appliances) and expenditures for education, leisure, culture and health, the differences were substantial.[14]

Table 3.1 shows a detailed comparison of the German National Accounts and the DEMPATEM budget shares for 1988.[15] Overall the differences in %-points are small, especially for communication services, furniture and entertainment goods. With respect to holiday services, health and food away from home the differences are substantially larger. For 'food and beverages away from home' DEMPATEM seems to underestimate the expenditure share, whereas for health and holiday services the reverse is true.

11 Hertel, 1997.
12 For a comprehensive overview of the concepts see Euler, 1985.
13 Hertel, 1997.
14 Ibid.
15 1988 was chosen, because the NIPA data better fitted the EVS data than in later years.

3 INTERNATIONAL COMPARISON

When analyzing household expenditures across countries, one runs into the standard problem of international comparability. Most obviously, the different institutional frameworks in various countries affect household expenditures. These may not affect the actual consumption of the good or service, but they can affect the expenditures of a household on that good or service substantially. In addition, institutional differences also affect disposable income. The health sector illustrates this point: in countries with a roughly general coverage of the population by compulsory health insurance, private expenditures for health and disposable income will be lower, whereas in countries with a voluntary, privatized health sector, household expenditures on these services and disposable income will be higher. Thus, the institutional framework of a country may substantially influence disposable income and expenditures.

In order to achieve cross-country comparability the DEMPATEM project decided to limit the comparison to those items that do not depend on the national institutional frameworks. Consequently housing (category 11), health (category 13) and education (category 18)[16] were excluded from the expenditures and hence from a part of the empirical analysis. In this paper expenditures excluding these three categories, as well as durables, will be referred to as 'restricted' expenditures.[17]

However, restricting the international comparison to the comparable items does not mean that these expenditures are irrelevant. Therefore, we give a brief description of the German institutional arrangements for these three categories and show the magnitude of these three items in German household expenditure.

3.1 HOUSING IN GERMANY

From an international perspective the rate of home ownership is low in Germany. Most households (about 60 %) are tenants.[18]

Table 4.1.1 shows that home-ownership is very unevenly distributed across income-groups. Whereas two-thirds of the households with a monthly net income of 5,000 DM [EUR 2,500] or more own their house or apartment, the share is less than a quarter for

16 For an overview of all consumption categories see Appendix A.

17 However, these categories are included in those tables, which instead attempt to give the 'complete' picture

households earning less than DM 2,500 [EUR 1,250]. The low rate of homeownership is partly due to the conservative lending policies of German banks, which usually require down payments of 25 % or more of the house's value[19]. Table 4.1.1 also points out that home-ownership is a positive function of age: only 7.8 % of the households with a head of the household under 30 years old own a house. Between 30 and 59 years this percentage shows an enormous increase to 42.7 % and it rises even further once the head of the household is above 60.

Table 4.1.2 displays home-ownership across different household types. Homeownership is lowest among single parents and 'other' households. Also, couples with one child are less likely to own a house than childless couples or couples with more than one child. Two-earner couples are more likely to own a house than one-earner couples.

Renters are protected against dismissal and rent-increases are regulated. Social housing is promoted in two ways. Firstly, the government subsidizes housing corporations under the condition that they offer housing at a specified rent to a selected group of low-income households. Secondly, the government provides a so-called housing-allowance (Wohngeld) to tenants themselves. Access to subsidized housing and the housing-allowance is generally means-tested. In 2000 2,8 million households received a housing allowance.[20]

Table 4.1.3 shows what share of their budget homeowners and tenants spend on housing.[21] There is only a small difference between the budget shares: homeowners spend 22 % of their budget on housing and tenants 21 %. The difference is mainly caused by the larger expenditures for house-repairs that homeowners have to deal with. Usually tenants do not have to pay for such repairs, because they are either covered by the housing corporation or by the landlord.

3.2 THE GERMAN HEALTH SECTOR

Although Germany's health expenditures as a share in GDP (10.6% in 1998)[22] are among the highest in the world, the actual household expenditures for medical goods and services are relatively low. Only 0.3 % of the German population is not covered by some kind of health

18 Statistisches Bundesamt, 2002 –website.
19 MacLennan et al., 1996.
20 Statistisches Bundesamt, 2002 –website.
21 The EVS already computed imputed rent.

insurance.[23] 92 % of the Germans are insured through the statutory health insurance (personally or as the partner or child of an insured individual). The remaining 7.7 % of the German population are insured through private insurance. The latter group consists mainly of the self-employed, Beamte (civil servants with a special status) or employees with an income higher than EUR 4,542 in West Germany. Below that income-level (which rises over time with average income) health insurance is compulsory for all employees. Contributions are shared to even proportions between employers and employees[24] and in 2003 they constituted 14 percent of the employees' gross income (7 % covered by employers, 7 % covered by employees).[25] Employees with earnings above the threshold and the self-employed can become voluntary members of the statutory health insurance. This is an attractive option especially for larger families, because contributions to the statutory health insurance are independent of the number of insured persons and depend on income only. This is one of the reasons why the statutory health insurance is unattractive for high-income singles or two-earner couples. Usually they can get better coverage for a lower premium in the private insurance sector, where premiums are computed on a strict actuarial basis without any redistributional elements.

Disposable income is computed net of contributions to the statutory health insurance. Hence expenditures on health cover only actual expenditures on medical goods and services and contributions to voluntary health insurance. Over time, the individual contributions to pharmaceuticals on top of the insurance premium have gone up.

Table 4.2.1 provides further information on the composition of voluntary health expenditures over time. It shows that the largest contributors to higher health expenditures are the voluntary contributions to health insurance.

3.3 CHILDCARE AND EDUCATION IN GERMANY

Education in Germany is basically public: except for books and other learning materials German education in schools and universities is free. The mother is the main caretaker especially for children up to 3 years of age, because for children below the age of 3 only 2

22 Only the US commands a higher share of health expenditures in GDP (13.6%) whereas most European countries show figures around 8.5% (see Schmitt, 2003).

23 Altenstetter, 2002.

24 Therefore, gross income as perceived by a German employee would not include social security contributions of employers, which amount to about 21% (health, unemployment and pension insurance) of the 'gross income'. For international comparative purposes the employers would need to be added to the perceived gross income.

25 Grant, S. "Healthcare in Germany".

slots per 100 children are available in childcare (see **Table 4.3.1**). The situation is better for children between 3 and 6. Since August 1996 when a struggle between various political and religious parties about abortion legislation was resolved with a compromise, half-day childcare is provided for children between 3 and 6 years old. However, from the age of 6 onwards childcare (or rather the lack of it) forms a real problem. Childcare facilities are hardly available for school-aged children. German schools educate pupils only until about lunchtime, so in the afternoon childcare rests mainly on the shoulders of the mother again. For children between 6 and 10 years old only 5 slots per 100 children are available for after school childcare.[26] Thus, mothers are the main caretakers of children, making their labor force participation difficult if not impossible. Support for this claim comes from detailed time use data showing that a German mother with a child below 6 years old spends about 20 hours per week on childcare compared to an American mother who spends only about 11 hours per week on it.[27]

Providers of childcare are either public institutions or non-profit organizations such as churches, which get compensated by the government. So essentially childcare is publicly financed. Fees for childcare depend on income and vary substantially between the Länder (states). An estimate for 1996 derived from the GSOEP (German Socio-economic Panel) suggests that on average the monthly fee for all-day childcare was about DM 150 [EUR 75], whereas US parents have to pay an average monthly fee of $ 240.[28] Thus, whenever and wherever childcare in Germany is available, it is quite affordable. A private market for childcare hardly exists, which is due to a combination of skill-requirements for running childcare facilities and relatively high non-wage labor costs. Because taxes and social security are still aimed at one-earner families, the wedge between net wages and the gross costs of services is big.[29]

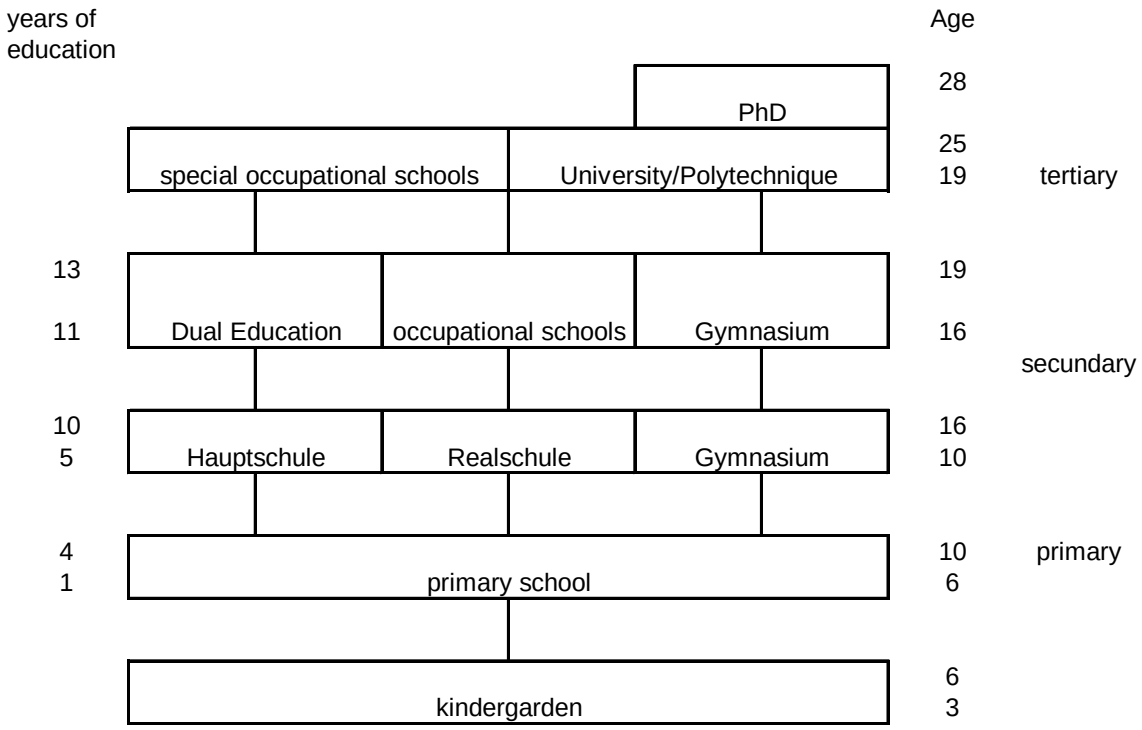
Currently the German government is undertaking an initiative to provide full-day education in schools with the intention to improve education and to create possibilities for increased female labor force participation. This initiative has only started in a small number of schools though; the vast majority of schools still do not provide any meals or offer after school daycare or education.

26 Bauereiss/ Bayer/ Bien, 1997.
27 Freeman/Schettkat, 2002.
28 Anderson/Levine (1999) according to Kreyenfeld/ Hank, 1999.
29 Schettkat, 2002a.

Usually at the age of 6 children leave kindergarten and start school for a minimum of 10 years (see **Figure 4.1**). After 4 years of primary education (in some "Lander" after 6 years) pupils are channeled into the three main tracks: Hauptschule and Realschule, which both usually lead to occupational education and the Gymnasium, which prepares for university education. In 2000 30 % of the 13-year-olds participated in Gymnasium, 23 % in Realschulen and 20 % in Hauptschulen. The rest attended private schools or so-called integrated schools where the different tracks are combined.[30] Although there are possibilities to switch between the various tracks, this is extremely difficult. The PISA study shows that Germany has one of the highest levels of variation of pupil performance between schools.[31]

30 Statistisches Bundesamt, 2002.
31 OECD, 2001.

Figure 4.1. The German education system



A special feature pertaining to Germany is the dual education system, which combines theoretical education in public schools with one or two days a week of practical training in a firm. Roughly two-thirds of the German population received an occupational degree from the dual education system and only about 15 % of the population did not receive any degree. Those who obtain a degree and have some work experience can continue education and achieve the degree of 'Meister', an advanced occupational degree allowing them to train apprentices and to establish a crafts firm. Courses for 'Meister' are not free of charge and the students themselves usually cover the costs.[32] Some of these private expenditures on education are even higher than in the US.

The limited availability of sufficiently flexible childcare arrangements reduces the female labor supply and public provision (or subsidization) seems to be necessary to overcome the high costs of this service in the private market.[33] Hence there is a vicious circle of low provision of childcare, low female labor force participation and consequently low incentives to start private childcare facilities. German mothers face a 'thin market' in which little trading occurs and where variety is low.

32 Schmidt, 2001.
33 Schettkat, 2002a.

3.4 DURABLES

Durables are also excluded from the DEMPATEM analysis.[34] This is mainly because purchases of durables are usually infrequent and may therefore result in many zero expenditures in the survey. Nevertheless, when they are purchased, durables have a huge influence on overall expenditures and the household budget.[35] **Table 4.4.1** shows the ownership of durables in West Germany for 1993.

Of particular interest to the DEMPATEM project are timesaving durables that can be used in the household for substituting household production time. Hence, we would expect two-earner households to make more use of timesaving equipment, such as dishwashers and microwaves. **Table 4.4.2** shows the percentage of owners of certain timesaving durables according to employment status and parenthood.[36] Couples with children seem to make more use of timesaving household equipment and two-earner households obviously trade as well. Remarkably, these differences do not occur with other equipment such as TVs.

3.5 THE IMPACT OF THE EXCLUDED CATEGORIES

It is interesting to take a closer look at the expenditure-shares of the excluded categories in total household expenditures. **Table 4.5.1** shows the development of housing, health, education and durables both in current and constant prices for West Germany in the period 1978 to 1993.

From 1978 to 1993 the share of restricted DEMPATEM expenditures in total expenditures declined by about 2.5 %-points. Health and housing-expenditures increased (by 2.2 and 4.3 %-points respectively), but expenditures on durables fell by 3.9 %-points, leaving a net expansion of the excluded categories of 2.4 %-points.[37] These trends are confirmed using constant 1993 prices instead of current prices.

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34 In the German data all expenditures on Private transport goods (category 4) and Furnishing and appliances (category 5) are classified as durables.

35 Ironmonger, 1973; Lancaster, 1991; Becker, 1965.

36 Since two-earner households usually command a higher income than a comparable one-earner household income should be controlled for.

37 For 1978-1993 we cannot clearly separate education expenditures from entertainment service expenditures, which explains the missing numbers in Table 3.5.1.

The lower panel also shows that over the fifteen-year period the share of total expenditures in disposable income dropped by about 1.3 %-points, but the share of restricted expenditures in total expenditures was constant at about 60 %, meaning that over time the share of restricted DEMPATEM expenditures in disposable income somewhat declined.[38] This trend is more strongly visible in the cross-section across different income groups. In 1993, restricted DEMPATEM expenditures constituted about 64 % of overall expenditures for the first income quintile, but only 57 % of total expenditures for the fifth quintile. Therefore, one may conclude that the restricted expenditure categories, which allow for a 'clean' international comparison, represent mainly necessities and lack income-elastic luxuries.

Table 4.5.2 provides rough information on the budget elasticities of the internationally comparable categories. It shows the budget shares of these items by expenditure quintiles. We can see that households in the upper quintile spend about 11 %-points more on services (as a share of their budget) than do households in the lowest quintile. The cause for this can be traced back to three types of commodities: miscellaneous services (including financial services and charity), holiday services and household services. The budget shares of most other service commodities actually decline with expenditures. This gives a first indication that some service items are budget-inelastic. This point will be addressed in more detail in section 7 when the results of the Engel-curve estimations are discussed.

38 Accoridng to the EVS the average disposable household income in current prices was DM 2,868 monthly in 1978 and DM 5,014 in 1993 (West-Germany). In 1993 prices the value is DM 4,588 [EUR 2,294] for 1978.

4 LONG-RUN TRENDS IN EXPENDITURES

The upper panels of **Tables 5.1 and 5.2** show the developments of the internationally incomparable items in absolute numbers and of disposable net household income for 1973 to 1998 in current and constant prices. They also show the developments of the budget shares of the restricted categories.

The categories in the upper panel of Tables 5.1 and 5.2 show that housing expenditures more than doubled in current prices and rose by 26% in constant prices. This may have various reasons: housing may be a 'luxury', but the trend to smaller households may also cause housing expenditures to rise. An analysis of housing expenditures (in constant 1993 prices) shows that these rose within the various household categories and that the changing household composition (the structural effect) contributed only marginally to the overall change (**Table 5.3**). Thus, the rise in housing expenditures seems to be mainly caused by an upgrading of housing standards.

Average disposable household income in constant 1993 prices increased by about 9 % in the 15-year period between 1978 and 1993. This is the result of a 10.4 % increase in total disposable income and a 31.1 % increase in the number of households. Total expenditures (including housing, health, durables and education) rose by about 8.6 %, but the aggregate consumption rate decreased slightly from 83 % of disposable income to about 82 %. The restricted DEMPATEM expenditures rose with 8.7 %, less than proportionally, resulting in a 1 %-point decline in the 'restricted consumption rate' from 50 % in 1978 to 49 % in 1993. The share of 'restricted' DEMPATEM expenditures in overall consumption expenditures has remained roughly constant (around 60 %).

Within 'restricted' DEMPATEM expenditures the share of services rose by 8.4 %-points when measured in current prices and 6.2 %-points when measured in constant 1993 prices. The expenditures on non-durables fell accordingly. Thus, there is a clear trend, even in real terms, to consume more services confirming the results derived from NIPA data (Statistisches Bundesamt, 2002). German households actually spend a higher share of their expenditures on services. And this shift is not just nominal, but real.

The lower panel of Table 5.1 shows that within 'restricted' DEMPATEM goods the negative trend in expenditures is most pronounced with food (a drop in the share by 4.3 % points) and clothing/footwear (a 1.8 %-points drop) whereas expenditures on non-durable transport and entertainment goods as well as home energy remained roughly unchanged as a share in 'restricted' DEMPATEM expenditures. Amongst service expenditures, the sharpest rises occurred in holiday and entertainment services. Next to these categories private transport services also shows a remarkable increase of 3 %-points.[39] Comparing the changes in constant prices to those in current prices, the service categories show slightly higher changes in current prices.

Table 5.4 shows the price-trends for DEMPATEM expenditure categories from 1978 to 1993 based on detailed data from the Statistisches Bundesamt, setting 1978 equal to 1.[40] Holidays, housing, health and miscellaneous services have witnessed the largest price-increases. Overall, the prices of services have increased more than those of goods. This partly explains the increase in the budget share for services, although Table 5.2 already pointed out that the service-share rise is also apparent in a constant-price scenario, suggesting that other explanations for the service share increase need to be explored.

Table 5.5 reports the difference between Table 5.1 in current prices and the shares of the restricted categories in constant 1978 prices. This difference is what DEMPATEM calls the Baumol-effect, i.e. a change in shares due to diverging price-trends. It shows that price-changes can explain about 2.7 %-points out of a total change of 8.4 %-points. In other words, almost one third of the change in service-share is attributable to the Baumol-effect.[41]

Tables 5.6 and 5.7 include expenditures on housing, health, education and durables. In these 'complete' DEMPATEM expenditure tables it can be observed that the share of services in overall current price expenditures has increased from 41.6 % in 1978 to 52.2 % in 1993, an increase of more than 10 %-points. This resembles the increase in the service share in 'restricted' DEMPATEM expenditure. Again the increase in the service share is higher in the current prices than in constant prices, but the positive trend is still very pronounced.

39 For a detailed overview of what each category includes see Appendix A.
40 For the original price-indices as provided by the Statistisches Bundesamt see Appendix table.
41 The price-effect for 'restricted services' in Table 7.1 (last row) is only 2.2 %-points because the base year for constant prices in that decomposition is 1993.

5 HOUSEHOLD STRUCTURE

Which factors are responsible for changing demand patterns? In principle two factors can play a role: households may change their spending behavior due to, for instance, price, preference and/or income changes or the weights of households in the total household population change. The second factor necessitates taking a closer look at the demographic trends in West Germany over the last few decades.

The distribution of the household population in West Germany has undergone some major changes in the period from 1978 to 1993. In **Table 6.1**, based on the EVS data, two trends are apparent: the share of single households increased by about 9 %-points over the fifteen-year period. The largest part of this rise is attributable to an almost 6 %-points increase in the share of single men. GSOEP data shows that mainly the share of single households below 65 years old increased, while the share of singles above 65 has stayed roughly constant.

The rising share of single households is counterbalanced by a dramatic decrease in the share of couples-households, which declined by 9 %-points. This decrease is largely concentrated amongst couples with children.

Table 6.2, based on data from the GSOEP, also presents a frequency distribution of different household types including detailed information about the age of children and about the employment status of household members but only for the period 1984-1998. The two trends discussed above are confirmed: the increase in the share of singles in the household population is concentrated among working singles (4.3 %-points for the period 1984-1993, 6.1 %-points for 1984-1998) and the declining share of couples with children is concentrated among the traditional one-earner families. The number of working single parents almost doubled but since it is a comparatively small group the share rose by only 1.3%-points.

6 ENGEL CURVE ESTIMATIONS

In order to determine how different demographic characteristics and different levels of expenditure influence consumer demand patterns, an empirical analysis of consumer demand based on the Almost Ideal Demand System of Deaton and Muellbauer (1980b) has been carried out.[42] For the estimations covering both 1978 and 1993 we were relying on data distinguishing 11 household types, several income classes and 2 years (1978 and 1993) aggregated into a total of 173 cells. With this dataset we estimated the income, demographic and distributional effects. For 1993 we had access to actual micro data and our cross-section estimates for 1993 fit the DEMPATEM household types exactly.[43] In other years however, data-limitations restricted our analysis to household types close to but not identical to the DEMPATEM types: it was for instance impossible to distinguish by the employment status of the household.[44] Otherwise the basic methodology is similar to other consumption studies of DEMPATEM.[45]

The model estimated for Germany is:

$$w_{k,h}^{t} = \alpha_k^t + \gamma_k^t z_h^t + \beta_k^t \ln\left(x_h^t\right) + \varepsilon_{k,h}^t \qquad h \in \{1,..,H_t\}, t \in \{1,2\}, k \in \{1,..,K\}$$ [46]

Where $w_{k,h}^{t}$ denotes the budget share of good k for an individual household h in year t as a function of total household expenditures x_h^t and a vector of household characteristics z_h^t, containing demographic and employment variables.[47]

- The explanatory variables included in the cross-section are in detail:
- The natural log of restricted expenditures;[48]
- The natural log of the household size;
- Share of persons in household under the age of 6;

42 See Blow et al., 2003.

43 The 1993 individual micro dataset was used for the US-GE decomposition; the cell-data of 1978 and 1993 were used for the German decomposition over time.

44 To 'repair' for the lack of employment information in the longitudinal data, we used the coefficient for employment characteristics the 1993 individual micro dataset and applied these information on the GSOEP data.

45 Blow et al., 2003.

46 Ibid.

47 For the individual data we could perform estimations for 1993 only: in this case the time-superscripts drop.

48 Restricted expenditures were instrumented on disposable income.

- Share of persons in household between 6 and under the age of 18;
- Share of persons in household between 18 and under the age of 31;
- Share of persons in household between 31 and under the age of 65;
- Share of persons in household of age 65 and older;
- Age of the head of the household;
- Age squared of the head of the household;
- Number of employed persons in the household;
- A binary variable equal to 1 if all adults are employed, 0 otherwise, and;
- A binary variable equal to 1 if all adults are employed, and a person under 6 years of age is present in the household, 0 otherwise.

For the decomposition over time the explanatory variables are:

- The natural log of restricted expenditures;[49]
- Household type binary variables for:
    - single women;
    - single men;
    - single parents;
    - couples no children;
    - couples with one child;
    - couples with two children;
    - couples with three children, and;
    - couples with four or more children.

Table 7.1 summarizes the budget elasticities for both the published data (1978 and 1993) and the individual data (1993). Adhering to the conventional distinction of products into necessities and luxuries by their budget elasticities (items with an elasticity <1 are classified as a necessity, items with an elasticity of >1 are classified as a luxury) aggregated restricted services are -throughout time and across datasets- clearly luxuries and aggregated restricted

[49] Restricted expenditures were instrumented on disposable income.

goods are clearly necessities. Although at the aggregate level there is evidence that higher expenditures will result in a more than proportional rise in the service share, the individual categories within restricted goods and services show more ambiguous patterns. Food, alcohol and energy are necessities, but clothing, entertainment goods and personal goods are luxuries. Similarly, five out of nine service categories turn out to be necessities, which comes as a surprise, especially in the case of personal and entertainment services. Luxury services are holiday services, household services and private transport. For the individual data the highest budget elasticity occurs for miscellaneous services, which includes items such as insurances (not health- and car-related), lotto and charity contributions. Comparing the individual and the published data for 1993 the differences are fairly small. In most cases elasticities estimated with the individual data are slightly lower. Over the period 1978 to 1993 a slight drop in the budget elasticities for both aggregated goods and services can be observed.

Table 7.2 tests the robustness of the budget elasticities presented in table 7.1 by experimenting with two alternative specifications of the basic DEMPATEM model. The first "trimmed" alternative excludes any observations for which the budget share was six times the standard deviation above or below the mean budget share for that expenditure category. Except for "food and beverages away from home' the difference between the two specifications is small. The second alternative incorporates two extra variables: firstly, a binary variable for whether the household owns its house; the second being an interaction variable between restricted expenditures and the binary variable whether all adults in the household are employed. This employment-expenditures interaction variable can account for the fact that a one-earner household may have a totally different spending behavior than a two-earner household earning the same income. Except for public transport and communication services, all budget elasticities for restricted services are 2 to 9 % higher using the "EMP-EXP" alternative specification. The alternative budget elasticity of aggregated restricted services is almost 5 % higher than when the basic DEMPATEM specification is used. Restricted goods do not show any uniform differences.

7 DECOMPOSING THE CHANGES IN SERVICE SHARES OVER TIME

As set out in the introduction, this paper aims to assess explanations for the change in service share as it occurred in West Germany between 1978 and 1993. Using equation (1) we can decompose this change into several variables: demographics, employment, budget level and budget distribution. Furthermore, the Baumol effect addressed in Section 5 has been included in **Table 8.1**. This table shows that the 8.4 %-point increase in the West-German current-price service share in restricted DEMPATEM expenditures can be attributed to 1.5%-points (18% of the overall raise in the service share) to 'demographics' (household structure) and to roughly a similar amount (1.4%-points) to the increase in the budget level. Relative rise of service prices (the Baumol effect) also resulted in Germans spending relatively more of their budget on services (4.6 %-points). The employment status of the household (i.e., 'all adults employed') as well as the distribution of the expenditures did not affect the service share severely in the model used. The residual, which includes among others changes in preferences, contributed 38% to the overall rise in the service share.

Since the model assumes symmetry, the share of goods declined, which is a uniform trend visible in all 8 subcategories although 'food', alcoholic beverages', and 'clothing' contributed the lion share to the decline. Within the detailed service categories the picture is more diverse: two out of the 9 service-categories ('food away from home', 'household services') declined as a share in overall DEMPATEM expenditures and the biggest increases in shares occurred in 'holiday services' and 'private transport services', which together contributed 73% of the overall increase in the service share.

8 DECOMPOSING THE DIFFERENCES IN SERVICE SHARES BETWEEN COUNTRIES: UNITED STATES AND WEST GERMANY

Most explanations advanced in the previous section can also be used to gain more insight in the differences in service shares between two countries. **Table 9.1** shows the cross-country decomposition of the current price budget share differences between the United States (1997) and West Germany (1993) into a demographic, employment, budget level and budget distribution effect using the 'standard DEMPATEM model'. Due to the restrictions that have been imposed on our data in order to achieve cross-country comparability, the difference in the service share is remarkably small (-.7 %-points).[50] Decomposing this difference using the German coefficients shows that the small overall difference is the result of compensating effects. The strongest effect is the budget level (2.4 %-points): since Americans have a larger budget to spend, a higher proportion of their budget is devoted to services. The employment structure of the US also results in a higher service share than that of West Germany, although the effect is small (slightly less than .05 %-points). The budget distribution and demographic structure and the residual, on the other hand, are in favor of the West Germans.

Among the goods categories 'food' contributes positively to the difference in budget share indicating that Americans spend a larger share of their DEMPATEM budget on 'food' whereas in 'alcoholic beverages', 'furnishing and appliances', and 'entertainment goods' the German budget share is higher. However, budget shares are influenced by quantities and prices. Relative prices for goods, however, are lower in the US than in Germany (see Schettkat/ Damen 2003 for a discussion). The major differences within the service-subcategories are in 'food away from home', 'household services', and 'communication services' where Americans spend all together about 8%-points more than Germans. These expenditures, however, are balanced by 'holiday services' where Germans spend about 8%-points more of their budgets than Americans.

To assess the robustness of these results two alternative decompositions were performed, using the specifications advanced in Section 7. The results of the "trimmed" alternative in Table 9.2 deviate only slightly from the basic DEMPATEM decomposition. The other alternative specification includes an interaction term between employment and restricted

expenditures. The "EMP-EXP interaction" specification (last row of Table 9.2) shows a substantial deviation from the basic DEMPATEM cross-country decomposition. The effect of the employment structure is now more than hundred times bigger than in the original DEMPATEM specification (5.4 rather than slightly less than .05 %-points) and strongly in favor of the Americans. In addition, the budget level effect contributes another 3%-points to the US-German difference in the service expenditure share. However, households in which all adults are employed (the definition of the 'employment' variable) spent more on services but their increase in the service share is less than otherwise. I.e., the coefficient of the interaction terms is negative reducing the US-German difference in the service share.

[50] If we use the "complete" service definition (including health, housing, education and durables), the difference is about 7 %-points in favor of the service share in the United States.

9 CONCLUSION

The analysis based on the German 'Income and Expenditure Survey' (Einkommens und Verbrauchsstichprobe) for the period 1978 to 1993 showed that only a small fraction of the overall increase in service demand can be explained by structural variables such as household composition. However, the analysis presented here is driven by the highest achievable degree of international comparability in household expenditure data. Large expenditure categories like health or housing have been excluded. The institutional differences between countries result in a very different mix of public and private expenditures (health, education) and differences in imputation methods of owner-occupied housing do not allow for a comparison based on household expenditures. This needs to be kept in mind, when interpreting the results; they are internationally comparable but restricted.

There are theoretical reasons why disposable income as derived from household surveys cannot easily be compared internationally. To give an example, disposable income (gross income net of social security contributions and taxes) will be lower in a country with a large public health sector compared to another country where the provision of health services is privately organized. Also, household income may be rather volatile and expenditure therefore be made according to expectation on permanent income rather than current income. Thus, for international comparability the DEMPATEM consumption analysis has been restricted to expenditures, which are hardly influenced by institutional variables. However, in Germany the share of restricted DEMPATEM expenditures in overall expenditures declined from 62.3% in 1978 to 59.9% in 1993 but within these expenditures services rose by 8.4%-points from 35.6% to 44%. These shares match the US share surprisingly well (35% in 1980, 43.4 in 1997, see Schmitt, 2003). In the complete expenditures the service shares for Germany are 41.6% in 1978 and 52.3% in 1993 but 50.0% (1980) and 59.4 (1997) in the US. These larger differences in overall private expenditures shares are, however, affected by the differences in public and private provision of mainly health and educational services (see Schettkat/ Damen, 2003).

Using the standard DEMPATEM model (Blow et al., 2003) we estimated that the share of services in DEMPATEM 'restricted' expenditures should have risen in Germany by 7.5%-points in the period 1978-1993, only about 1%-points less than the actual increase. Thus among other unspecified influences, changes in preferences to services seem to have

occurred in Germany as observed in the other European countries as well with the exception of the Netherlands where the 'residual' seems to be as high as in the US (see Kalwij/ Salverda 2003, Schmitt 2003).

The employment status ('all adults employed') shows only a neglectable effect on the changes in service share in restricted DEMPATEM expenditures, which is surprising since analysis which contrasts service expenditures between one-earner and two-earner couples usually ascribes a large effect to the second earner. However, a small effect of the variables 'all adults employment' does not mean that a second earner in the household does not affect expenditures on services. Income and expenditures of the household rises with the second earner and part of the 'second earner effect' is thus captured by the income variable. Analyzing the differences between the budget share in the US and in West Germany, we find with the DEMPATEM standard model (Table 9.1) that the small overall difference in the service share between the two countries hides huge differences in the individual components. Higher US budgets would predict a 2.4%-points higher service share in the US but demographics and the residual (the latter including behavior) are in favor of the service share in Germany. 'Employment' contributes almost nothing to the US-German difference in this model.

Using an otherwise similar model but including an interaction term between expenditures and employment status, however, produced very different results. This model suggests that a second earner substantially raises the service-expenditures share but at the same time the Engel curve is flatter. Using the model with an interaction term for the US-German decomposition predicts a 5.4%-point higher share of services in restricted DEMPATEM expenditures in the US than Germany but a less strong increase of service expenditures with income for the two-earner household. In other words, the second earner seems to push up service expenditures, which is then comparatively stable as a share in expenditures. Overall Americans spend relatively more on 'food away from home', 'household services', and 'communication services' (roughly 2.5%-points in each of the three categories) but Germans spend a massive 8.4%-points more on holiday services.

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Appendix A: CONTENTS OF MAIN DEMPATEM CATEGORIES

1. Food and non-alcoholic beverages: food, non-alcoholic beverages (consumed at home)

2. Alcoholic beverages and tobacco: alcoholic beverages, tobacco

3. Clothing and footwear: men's clothing, women's clothing, boys' clothing, girls' clothing, underwear, sports clothing, other clothing and accessories, shoes

4. Private transport goods: car, bike, motorbike, moped, semi-durables and non-durables used for car and bike, materials used for car and bike-repairs, fuel (not bought on holidays)

5. Furnishing and appliances: furniture, rugs, curtains and other textiles used at home, pillows, mattresses, cooking equipment, heating equipment, refrigerator, freezer, washing equipment, other electrical household equipment, other durables and non-durables used for in the household

6. Entertainment goods: television, radio, audio –and video equipment, photo-camera and accessories to the afore-mentioned goods, other expensive durables, toys, sports –and camping equipment, boat, trailer, books, brochures, newspapers and magazines, garden-expenditures, flowers, pets, expenditures on pets, other non-durable entertainment expenditures.

7. Personal goods: watches, jewelry, other goods for personal satisfaction, durables (electric and non-electric for personal care/hygiene), non-durables for personal care/hygiene

8. Home energy: electricity, gas, coals, heating, central heating, hot water

9. Food and beverages away from home: food consumed in cafeterias, bars, restaurants and hotels but not on holidays

10. Holiday services: all-in-holidays, hotel-expenditures, food consumed during holidays, other holiday-expenditures, expenditures on car during holidays, use of public transport during holidays

11. Housing: rent, expenditures on housing repairs

12. Household services: services for household, repairs on clothing and footwear

13. Health goods and services: durables and non-durables for health, health services, contributions to private health insurance, voluntary contributions to health insurance

14. Personal services: services for personal care/hygiene, hairdresser, beauty parlor.

15. Public transport services: use of public transportation (not on holidays)

16. Private transport services: repairs on car and bike, rent for garage, car-taxes, car-insurance

17. Communication services: communication expenditures for phone, fax, mail

18. Education and training services: /

19. Entertainment services: contributions to culture and sports, repairs of entertainment goods, other personal development costs

20. Miscellaneous services: other services and repairs, voluntary contribution to pension insurance, contributions to other private insurances and other expenditures, lotto, charity contributions

APPENDIX: TABLE

Table: West-Germany: Price-indices provided by Statistisches Bundesamt, 1978-1993.
In constant 1991 prices.

	1978	1983	1988	1991	1993
Food, beverages and tobacco	74.6	90.1	92.5	100.0	105.4
Clothing and footwear	69.6	86.7	94.9	100.0	105.9
Housing (rent)	63.6	79.7	90.1	100.0	111.6
Home energy	62.7	104.4	87.4	100.0	102.0
Furniture, household appliances and other goods and services for the household	70.4	87.7	93.6	100.0	106.2
Health goods and services	67.1	85.4	92.3	100.0	106.2
Transport and communication	64.6	85.1	88.5	100.0	108.5
Entertainment goods and services	76.4	89.0	95.2	100.0	106.5
Personal goods, holiday services and insurances	59.2	77.9	90.3	100.0	113.9
Car-insurance	63.9	76.2	90.8	100.0	115.9
Car-tax	83.8	83.8	93.4	100.0	141.9
CPI	68.0	86.3	91.4	100.0	107.7
Services	-	81.2	91.5	100.0	111.4

Source: Website Statistisches Bundesamt dd 07-02-2003

Note: The Statistisches Bundesamt provided much more detailed information for later years, but for 1978 these were the only useful categories available. In order to achieve perfect inter-year comparability we used these 12 categories also for later years in which more detailed information was available. The CPI and services price index were not taken form the SBA, but were calculated based on our own use of the data. The SBA indexes have been mentioned here for comparison.

Table 2.1 West Germany: Comparison between the published EVS data and the individual dataset for 1993.
Shares in percent of restricted expenditures.
Income and expenditures in DM.

	Published 1993	Individual 1993	Difference in %
Averages (in current prices)			
Expenditure on Durables	7034	7080	0.7
Housing Expenditures	9424	9437	0.1
Health Expenditures	3420	3452	1.0
Education Expenditures	-	-	-
Restricted expenditures	29705	29613	-0.3
Total Expenditures	49582	49708	0.3
Total Disposable Income	60168	60774	1.0
			Difference In %-points
Shares of Restricted Expenditures (%)			
1 Food and non-alcoholic beverages	19.3	19.3	0.0
2 Alcoholic beverages and tobacco	4.7	4.7	0.0
3 Clothing and Footwear	11.3	11.4	0.1
4 Private Transport Goods	-	-	-
5 Furnishing and Appliances	-	-	-
6 Entertainment Goods	9.1	9.2	0.0
7 Personal Goods	3.3	3.3	0.0
8 Home Energy	8.3	8.3	0.0
9 Food and beverages away from home	3.4	3.5	0.0
10 Holiday Services	11.7	11.8	0.1
12 Household Services	0.5	1.0	0.5
14 Personal Services	1.7	1.7	0.0
15 Public Transport Services	1.5	1.5	0.0
16 Private Transport Services	7.7	7.8	0.0
17 Communication Services	3.3	3.3	0.0
19 Entertainment Services	4.8	3.9	-0.9
20 Miscellaneous goods and services	9.3	9.3	0.0
All	100.0	100.0	0.0
Shares (%)			
Non Durable Goods	56.0	56.2	0.2
Services	44.0	43.8	-0.2

Source: Analysis of EVS Heft 4 and 5 tables 1993; EVS budget survey 1993.

Table 3.1 West Germany: Comparison of the budget shares of National Accounts and DEMPATEM for 1988.
Shares in % of total expenditures

Categories	NIPA	DEMPATEM	Difference in p-points
1. Food and non-alcoholic beverages	14.09	12.27	1.82
2. Alcoholic beverages and tobacco	4.28	3.03	1.25
3. Clothing and footwear	8.19	7.11	1.08
4. Private transport goods	8.63	8.71	-0.08
5. Furnishing and appliances	6.83	6.24	0.59
6. Entertainment goods	6.48	5.86	0.62
7. Personal Goods	2.17	1.91	0.26
8. Home energy	4.10	5.38	-1.29
9. Food and beverages away from home	5.08	2.62	2.46
10. Holiday Services	0.55	6.50	-5.95
11. Housing	17.87	18.00	-0.13
12. Household services	1.17	0.74	0.43
13. Health goods and services	3.26	5.52	-2.26
14. Personal services	1.49	0.76	0.73
15. Public transport services	1.77	0.72	1.05
16. Private transport services	2.67	4.26	-1.59
17. Communication services	1.93	1.87	0.06
18. Education and training services	0.58		
19. Entertainment services	3.41	2.02	1.39
20. Miscellaneous goods and services	5.46	6.48	-1.03

Table 4.1.1 West-Germany: Households by household structure and type of using the dwelling unit in 1998.
Total in 1000. Shares in %.

	Total	Owner-occupier	Main-tenant	Sub-tenant
Total # of households:	34,591.4	40.5	57.3	2.2
with 1 person	12,109.5	23.8	71.3	4.9
with 2 persons	11,535.5	46.3	52.7	1.0
with 3 or more persons	10,946.5	52.7	46.6	0.6
With reference person:				
under 30 years old	3,711.5	7.8	84.8	7.4
30 - 59 years old	19,009.4	42.7	55.7	1.7
60 years and older	11,870.5	47.1	51.3	1.6
With monthly household Net income:				
under DM 1000	1,327.7	17.6	70.9	11.5
DM 1000-2499	10,515.3	24.6	71.8	3.6
DM 2500-4999	14,571.3	41.4	57.4	1.2
DM 5000 and more	6,621.5	65.3	34.2	0.5

Source: Statistisches Bundesamt, 2002.

Table 4.1.2 West-Germany: Home-ownership for different household types in 1993. Shares in %.

Household type	Owners
Singles	24.2
Single parents	4.2
Childless couples	28.4
Couples, 1 child	15.4
Couples, 2 or more children	25.1
Other household types	2.7

Source: Analysis of 1993 EVS.

Sample-size is 31,774.

Table 4.1.3 West-Germany: Housing expenditures for home-owners and tenants in 1993. Shares in % of total expenditures.

	Owners	Tenants
Rent and home related service charges	0.7	19.7
Imputed rent for home-owners	19.7	0.3
House-repairs	1.9	0.7
Total housing	22.2	20.7

Source: Analysis of 1993 EVS. Sample-size is 31,774.

Table 4.2.1 West-Germany: Composition of voluntary health expenditures 1978-1993. Shares in %

	1978	1983	1988	1993
Durables for personal health	4.6	2.2	3.3	3.3
Non-durables for personal health	9.7	9.3	10.8	10.7
Services for personal health	32.6	22.7	25.3	29.5
Contributions to private health insurance	26.2	29.0	27.1	27.2
Voluntary contributions to health insurance	26.9	36.7	33.6	29.3
Share of health in overall expenditures	4.7	6.2	5.7	6.9

Source: Analysis of EVS data Heft 4 and Heft 5

Note: This table excludes health expenditures made through the compulsory health insurances.

Table 4.3.1 Childcare provision rates in East and West Germany. Shares in %.

Children in the age	East Germany	West Germany
0-3	41.3	2.2
3-6	116.8	85.2
3-6, all day including lunch	97.0	17.0
6-10	59.7	5.1

Source: Deutsches Jugendinstitut, 1998

Table 4.4.1 West-Germany: Ownership of durables in 1993. Shares in %.

Durables	All
New car	46.0
Second hand car	43.7
Motorbike	5.4
Bike	83.2
Color-TV	94.2
Video recorder	53.9
Video/camcorder	14.0
Stereo/radio	80.6
Record-player	64.9
CD-player	45.7
Personal computer	29.2
Camping van	3.5
Boat	1.4
Refrigerator	74.9
Freezer	59.3
Fridge & freezer combination	28.5
Dishwasher	48.8
Grill	21.7
Microwave	47.1
Washing machine	91.4
Dryer	30.0

Source: Analysis of 1993 budget survey. Sample-size is 31,774.

Note: The shares only reflect whether the durable is present in the household. It does not reflect the number of durables of that type there are in the household.

Table 4.4.2 West-Germany: Ownership of durables by employment status and parenthood for couples-households in 1993.
Shares in %.

	Childless couples		Couples with children	
Durables	One-earner	Two-earner	One-earner	Two-earner
Time-savers				
Microwave	46.5	54.5	60.1	67.1
Dryer	29.3	31.2	44.8	47.7
Dishwasher	48.8	56.2	68.4	75.0
Others				
Color-TV	96.7	96.3	96.0	97.3
Washing machine	96.7	94.7	98.6	98.5
Refrigerator	76.1	72.1	77.8	78.7

Source: Analysis of 1993 budget survey. Sample-size is 31,774.

Note: The shares only reflect whether the durable is present in the household. It does not reflect the number of durables of that type there are in the household.

Table 4.5.1 West-Germany: Shares of the excluded categories in total expenditures for the published EVS tables years 1978-1993.
Shares in percent of total expenditures.

	1978	1983	1988	1993
In current prices				
Housing	14.7	16.8	18.0	19.0
Health	4.7	5.6	5.5	6.9
Education	-	-	-	-
Durables	18.3	15.7	15.0	14.2
Restricted expenditures	62.3	61.9	61.5	59.9
Share of total expenditures in disposable income	84.3	84.3	84.9	82.4
In constant 1993 prices				
Housing	16.3	18.7	18.9	19.0
Health	4.7	6.2	5.7	6.9
Education	-	-	-	-
Durables	19.1	15.5	15.1	14.2
Restricted expenditures	59.9	59.6	60.3	59.9
Share of total expenditures in disposable income	83.7	84.8	85.3	82.4

Source: Analysis of EVS Heft 4 and 5 tables 1978, 1983, 1988 and 1993.

Note: Education cannot be separated from the data for West Germany.

Table 4.5.2 West-Germany: Budget shares by expenditure quintiles for 1993.
Shares in percent of 'restricted' expenditure.

	All	Q1	Q2	Q3	Q4	Q5
GOODS	***56.2***	***61.1***	***59.5***	***58.4***	***56.6***	***50.1***
1 Food and non-alcoholic beverages	19.3	22.9	21.8	20.9	19.3	15.0
2 Alcoholic beverages and tobacco	4.7	5.3	5.2	5.0	4.7	4.0
3 Clothing and Footwear	11.4	9.8	11.0	11.6	12.0	11.9
4 Private Transport Goods						
5 Furnishing and Appliances						
6 Entertainment Goods	9.2	7.6	8.4	9.0	9.7	10.1
7 Personal Goods	3.3	3.1	3.2	3.4	3.4	3.4
8 Home Energy	8.3	12.4	9.9	8.6	7.4	5.6
SERVICES	***43.8***	***38.9***	***40.5***	***41.6***	***43.4***	***49.9***
9 Food and beverages away from home	3.5	3.4	3.4	3.2	3.3	3.8
10 Holiday Services	11.8	8.1	10.0	11.5	12.9	14.0
12 Household Services	1.0	0.6	0.8	0.9	1.0	1.3
14 Personal Services	1.7	2.2	1.9	1.8	1.7	1.4
15 Public Transport Services	1.5	2.2	1.5	1.4	1.3	1.2
16 Private Transport Services	7.8	6.9	8.4	8.4	8.2	7.1
17 Communication Services	3.3	5.3	3.9	3.3	2.9	2.3
19 Entertainment Services	3.9	4.3	3.9	3.9	3.9	3.6
20 Miscellaneous goods and services	9.3	5.8	6.6	7.1	8.2	15.1
All	100.0	100.0	100.0	100.0	100.0	100.0

Source: Analysis of EVS 1993. Sample size is 31,774.

Table 5.1 West Germany: Average expenditures in current prices on durables, housing, health and education, and the allocation of "restricted" expenditure over non-durable goods and services. Shares in percent of restricted expenditures. Income and expenditures in DM.

	1978	1983	1988	1993	Change in %
Averages (in current prices)					
Expenditure on durables	5310	5510	5788	7034	32.5
Housing expenditures	4255	5874	6967	9424	121.5
Health expenditures	1368	1955	2137	3420	150.0
Education expenditures	0	0	0	0	
Restricted expenditures	18,095	21,705	23,814	29,705	64.2
Total expenditures	29,028	35,044	38,706	49,582	70.8
Total disposable income	34,422	41,566	45,567	60,174	74.8
					Change in %-points
Shares of restricted categories (%)					
1 Food and non-alcoholic beverages	23.6	22.0	19.9	19.3	-4.3
2 Alcoholic beverages and tobacco	6.4	5.8	4.9	4.7	-1.7
3 Clothing and footwear	13.1	11.5	11.6	11.3	-1.8
4 Private transport goods					
5 Furnishing and appliances					
6 Entertainment goods	9.5	9.1	9.5	9.1	-0.3
7 Personal goods	3.4	3.0	3.1	3.3	-0.1
8 Home energy	8.5	10.7	8.7	8.3	-0.2
9 Food and beverages away from home	4.2	3.1	4.3	3.4	-0.8
10 Holiday services	8.6	10.6	10.6	11.7	3.1
12 Household services	1.0	1.3	1.2	0.5	-0.5
14 Personal services	1.1	1.1	1.2	1.7	0.6
15 Public transport services	1.4	1.2	1.2	1.5	0.1
16 Private transport services	4.7	6.2	6.9	7.7	3.0
17 Communication services	2.9	3.0	3.0	3.3	0.4
19 Entertainment services	2.9	3.2	3.3	4.8	1.8
20 Miscellaneous services	8.8	8.1	10.5	9.3	0.5
All					
Shares (%)					
Non Durable Goods	64.4	62.2	57.8	56.0	-8.4
Services	35.6	37.8	42.2	44.0	8.4

Source: Analysis of EVS Heft 4 and 5 tables 1978, 1983, 1988 and 1993.

Table 5.2 West Germany: Average expenditures on durables, housing, health and education and the allocation of "restricted" expenditures over non-durable goods and services in constant prices (1993 DM).
Shares in percent of restricted expenditures.

	1978	1983	1988	1993	Change in %
Averages (in 1993 German Marks)					
Expenditure on Durables	8707	6843	6930	7034	-19.2
Housing Expenditures	7440	8234	8649	9424	26.7
Health Expenditures	2166	2709	2607	3420	57.9
Education Expenditures	0	0	0	0	
Restricted expenditures	27,334	26,245	27,607	29,705	8.7
Total Expenditures	45,646	44,030	45,793	49,582	8.6
Total Disposable Income	54,524	51,915	53,701	60,174	10.4
					Change in %-points
Shares of Restricted Categories (%)					
1 Food and non-alcoholic beverages	21.1	20.7	19.3	19.3	-1.8
2 Alcoholic beverages and tobacco	6.0	5.7	4.8	4.7	
3 Clothing and Footwear	13.2	11.6	11.1	11.3	-1.9
4 Private Transport Goods					
5 Furnishing and Appliances					
6 Entertainment Goods	8.9	8.8	8.9	9.1	0.2
7 Personal Goods	3.9	2.8	2.9	3.3	-0.6
8 Home Energy	9.1	8.7	8.8	8.3	-0.9
9 Food and beverages away from home	3.6	3.5	4.4	3.4	-0.2
10 Holiday Services	9.8	11.9	11.1	11.7	1.9
12 Household Services	1.0	1.6	1.3	0.5	-0.5
14 Personal Services	1.2	1.4	1.4	1.7	0.6
15 Public Transport Services	1.6	1.3	1.2	1.5	-0.1
16 Private Transport Services	5.4	7.6	7.7	7.7	2.4
17 Communication Services	3.2	2.6	2.8	3.3	0.1
19 Entertainment Services	2.7	3.5	3.5	4.8	2.1
20 Miscellaneous goods and services	9.4	8.6	10.8	9.3	-0.1
All	100.0	100.0	100.0	100.0	
Shares (%)					
Non Durable Goods	62.2	58.2	55.9	56.0	-6.2
Services	37.8	41.8	44.1	44.0	6.2

Source: Analysis of EVS heft 4 and 5 tables 1978, 1983, 1988 and 1993.

Table 5.3 West-Germany: Shift-share analysis for housing expenditures in constant 1993 prices.

	Share of households in t=0	Change in share of households (1993-1978)	Share of housing exp in t=0	Change in share of housing exp (1993-1978)
Single women	0.216	0.005	0.210	0.022
Single men	0.062	0.057	0.176	0.025
Single parents	0.031	0.017	0.181	0.030
Couples	0.643	-0.092	0.154	0.029
Other household types	0.047	0.013	0.162	0.019
Effects				
Behavioral	0.027			
Structural	0.002			
Interaction	0.000			
Total	0.028			

Source: Analysis of EVS data Heft 4 and Heft 5 for 1978 and 1993.

Note: This computation has been based on the following decomposition:

$$\Delta(h_{\bullet}) = \sum_i \Delta h_i * a_i^{t-1} + \sum_i h_i^{t-1} * \Delta a_i + \sum_i \Delta h_i * \Delta a_i$$

in which h *is share of housing expenditures,* α *is share of household type* i*,* h_i *is share of housing within household type and* Δ *is the change between two years.*

Table 5.4 West-Germany: Price-indices for the restricted categories, 1978-1993.
In 1978 prices.

	1978	1983	1988	1993
Durables	1.00	1.28	1.35	1.60
Housing expenditures	1.00	1.26	1.42	1.75
Health expenditures	1.00	1.28	1.45	1.76
Education expenditures	-	-	-	-
Expenditures on non-durables and services	1.00	1.27	1.32	1.55
Total expenditures	1.00	1.27	1.35	1.60
Total disposable income	1.00	1.27	1.35	1.60
Restricted goods	***1.00***	***1.28***	***1.30***	***1.48***
1 Food and non-alcoholic beverages	1.00	1.21	1.24	1.41
2 Alcoholic beverages and tobacco	1.00	1.21	1.24	1.41
3 Clothing and footwear	1.00	1.25	1.36	1.52
4 Private transport goods	-	-	-	-
5 Furnishing and appliances	-	-	-	-
6 Entertainment goods	1.00	1.17	1.25	1.40
7 Personal goods	1.00	1.31	1.46	1.75
8 Home energy	1.00	1.66	1.39	1.63
Restricted services	***1.00***	***1.27***	***1.38***	***1.68***
9 Food and beverages away from home	1.00	0.90	0.92	1.05
10 Holiday services	1.00	1.41	1.46	1.84
12 Household services	1.00	1.25	1.34	1.51
14 Personal services	1.00	1.27	1.38	1.58
15 Public transport services	1.00	1.32	2.35	1.68
16 Private transport services	1.00	1.23	1.36	1.74
17 Communication services	1.00	1.32	1.37	1.68
19 Entertainment services	1.00	1.17	1.25	1.40
20 Miscellaneous services	1.00	1.32	1.53	1.92

Source: Statistisches Bundesamt

Table 5.5 Baumol effects in West-Germany.

		1978	1983	1988	1993
Change in DM					
	Durables	0.0	1508.0	1849.6	3199.6
	Housing expenditures	0.0	1101.8	1770.8	3184.7
	Health expenditures	0.0	380.6	616.5	1043.9
	Education expenditures	.	.	.	.
	Restricted expenditures	0.0	4861.7	5869.9	9973.3
	Total expenditures	0.0	7725.8	10065.0	17401.4
	Total disposable income	0.0	9161.5	11935.4	20635.0
Change in %-points					
Restricted goods		**0.0**	**0.6**	**-1.7**	**-4.6**
1	Food and non-alcoholic beverages	0.0	-1.4	-2.0	-3.2
2	Alcoholic beverages and tobacco	0.0	-0.4	-0.5	-0.9
3	Clothing and footwear	0.0	-0.3	0.5	-0.4
4	Private transport goods				
5	Furnishing and appliances				
6	Entertainment goods	0.0	-1.0	-0.7	-1.5
7	Personal goods	0.0	0.1	0.5	0.7
8	Home energy	0.0	3.4	0.6	0.6
Restricted services		**0.0**	**-0.1**	**1.8**	**4.6**
9	Food and beverages away from home	0.0	-1.6	-1.7	-2.1
10	Holiday services	0.0	1.2	1.2	2.5
12	Household services	0.0	0.0	0.0	0.0
14	Personal services	0.0	0.0	0.1	0.0
15	Public transport services	0.0	0.1	1.4	0.2
16	Private transport services	0.0	-0.2	0.2	0.9
17	Communication services	0.0	0.1	0.1	0.4
19	Entertainment services	0.0	-0.3	-0.2	-0.5
20	Miscellaneous services	0.0	0.4	1.8	3.3

Source: Computations based on EVS and price information from Statistisches Bundesamt

Table 5.6 West-Germany: The "complete" table of budget shares.
Shares in percent of total expenditures.
Income and expenditures in DM.

	1978	1983	1988	1993	Change in %
All goods and services, in current prices	29,028	35,044	38,706	49,582	70.8
Gross Household Income	40,988	50,091	55,094	72,415	76.7
Disposable Net Income	34,422	41,566	45,567	60,174	74.8
All goods and services	100.0	100.0	100.0	100.0	
					Change in %.points
1. Food and non-alcoholic beverages	14.7	13.6	12.3	11.6	-3.1
1a. Food	-	-	11.4	10.4	-0.9
1b. Non-alcoholic beverages	-	-	0.9	1.1	0.2
2. Alcoholic beverages and tobacco	4.0	3.6	3.0	2.8	-1.2
2a. Alcoholic beverages	-	-	-	-	-
2b. Tobacco	-	-	-	-	-
3. Clothing and footwear	8.1	7.1	7.1	6.8	-1.4
3a. Clothing and footwear	7.4	6.4	6.5	6.3	-1.0
3b. Accessories	0.8	0.7	0.6	0.4	-0.3
4. Private transport goods	10.0	9.0	8.7	8.5	-1.5
4a. Durables: cars, bikes & motors	7.5	6.2	6.6	6.1	-1.5
4b. Fuel	2.5	2.8	2.1	2.4	-0.1
5. Furnishing and appliances	8.3	6.7	6.2	5.7	-2.6
5a. Durables: furniture & furnishing	-	-	-	-	-
5b. - Appliances, non-durables	-	-	-	-	-
- Appliances, durables	-	-	-	-	-
6. Entertainment goods	5.9	5.7	5.9	5.5	-0.4
6a. - Books, newspapers	-	-	-	-	-
- Durable: Computer	-	-	-	-	-
6b. – CDs & tapes	-	-	-	-	-
- Durables: Audio and video equipment	-	-	-	-	-
6c. - Toys and hobbies, non-durables	-	-	-	-	-
- Durables: instruments & pets	-	-	-	-	-
6d. - Holiday goods: sport-goods, rental of equipment	-	-	-	-	-
- Durables: boat, caravan & tents	-	-	-	-	-
7. Personal Goods	2.1	1.9	1.9	2.0	-0.1
- Non-durables	-	-	-	-	-
- Durables: hairdryer, electric shaver	-	-	-	-	-
8. Home energy	5.3	6.7	5.4	5.0	-0.3
9. Food and beverages away from home	2.6	1.9	2.6	2.1	-0.6

10. Holiday Services	5.3	6.6	6.5	7.0	1.6
10a. Package tours and travel insurance	-	-	-	-	-
10b. Holidays in other countries	-	-	-	-	-
10c. Holidays in the home country	-	-	-	-	-
11. Housing	14.7	16.8	18.0	19.0	4.3
11a. Rent and home related service charges	-	-	-	-	-
11b. Imputed rent for homeowners	-	-	-	-	-
11c. House repairs	-	-	-	-	-
12. Household services	0.6	0.8	0.7	0.3	-0.3
12a. Domestic help	-	-	-	0.3	-
12b. Childcare and babysitting	-	-	-	-	-
12c. Laundry services	-	-	-	-	-
12d. Repairs	-	-	-	0.0	-
13. Health goods and services	4.7	5.6	5.5	6.9	2.2
13a. Payment to Doctors	4.0	4.9	4.7	5.9	1.9
13b. Drugs and other medical goods	0.7	0.7	0.8	1.0	0.3
14. Personal services	0.7	0.7	0.8	1.0	0.3
15. Public transport services	0.9	0.7	0.7	0.9	0.0
16. Private transport services	3.0	3.8	4.3	4.6	1.7
16a. Repairs	-	-	-	-	-
16b. Car insurance, road-tax, license fees	-	-	-	-	-
16c. Driving lessons	-	-	-	-	-
17. Communication services	1.8	1.8	1.9	2.0	0.2
18. Education and training services	-	-	-	-	-
19. Entertainment services	1.8	2.0	2.0	2.9	1.0
20. Miscellaneous goods and services	5.5	5.0	6.5	5.6	0.1
20a. Financial and insurance services	-	-	-	-	-
20b. Contributions	-	-	-	-	-
20c. Other services such as passport fees	-	-	-	-	-
Total goods	58.4	54.2	50.5	47.7	-10.7
Total services	41.6	45.8	49.5	52.3	10.7

Source: Analysis of EVS Heft 4 and 5 tables 1978, 1983, 1988 and 1993.

Table 5.7 West-Germany: The "complete" table of budget shares in constant (1993) prices for 1978-1993.
Shares in percent of total expenditures.
Income and expenditures in 1993 DM

	1978	1983	1988	1993	Change in %
All goods and services	45,646	44,030	45,793	49,582	8.6
Gross Household Income	64,924	62,563	64,929	72,415	11.5
Disposable Net Income	54,524	51,915	53,701	60,174	10.4
All goods and services	100.0	100.0	100.0	100.0	
					Change in %-points
1. Food and non-alcoholic beverages	12.6	12.3	11.7	11.6	-1.1
1a. Food	-	-	10.8	10.4	-
1b. Non-alcoholic beverages	-	-	0.8	1.1	-
2. Alcoholic beverages and tobacco	3.6	3.4	2.9	2.8	-0.8
2a. Alcoholic beverages	-	-	-	-	-
2b. Tobacco	-	-	-	-	-
3. Clothing and footwear	7.9	6.9	6.7	6.8	-1.1
3a. Clothing and footwear	7.1	6.2	6.1	6.3	-0.8
3b. Accessories	0.7	0.7	0.6	0.4	-0.3
4. Private transport goods	11.1	9.3	9.3	8.5	-2.7
4a. Durables: cars, bikes & motors	-	-	-	6.1	-
4b. Fuel	-	-	-	2.4	-
5. Furnishing and appliances	7.9	6.3	5.9	5.7	-2.2
5a. Durables: furniture & furnishing	-	-	-	-	-
5b. - Appliances, non-durables	-	-	-	-	-
- Appliances, durables	-	-	-	-	-
6. Entertainment goods	5.3	5.2	5.4	5.5	0.1
6a. - Books, newspapers	-	-	-	-	-
- Durable: Computer	-	-	-	-	-
6b. – CDs & tapes	-	-	-	-	-
- Durables: Audio and video equipment	-	-	-	-	-
6c. - Toys and hobbies, non-durables	-	-	-	-	-
- Durables: instruments & pets	-	-	-	-	-
6d. - Holiday goods: sport-goods, rental of equipment	-	-	-	-	-
- Durables: boat, caravan & tents	-	-	-	-	-
7. Personal Goods	2.4	1.7	1.7	2.0	-0.4
- Non-durables	-	-	-	-	-
- Durables: hairdryer, electric shaver	-	-	-	-	-
8. Home energy	5.5	5.2	5.3	5.0	-0.5
9. Food and beverages away from home	2.2	2.1	2.6	2.1	-0.1

10. Holiday Services	5.9	7.1	6.7	7.0	1.1
10a. Package tours and travel insurance	-	-	-	-	-
10b. Holidays in other countries	-	-	-	-	-
10c. Holidays in the home country	-	-	-	-	-
11. Housing	16.3	18.7	18.9	19.0	2.7
11a. Rent and home related service charges	-	-	-	-	-
11b. Imputed rent for homeowners	-	-	-	-	-
11c. House repairs	-	-	-	-	-
12. Household services	0.6	0.9	0.8	0.3	-0.3
12a. Domestic help	-	-	-	0.3	-
12b. Childcare and babysitting	-	-	-	-	-
12c. Laundry services	-	-	-	-	-
12d. Repairs	-	-	-	0.0	-
13. Health goods and services	4.7	6.2	5.7	6.9	2.2
13a. Payment to Doctors	4.1	5.4	4.9	5.9	1.9
13b. Drugs and other medical goods	0.7	0.7	0.8	1.0	0.3
14. Personal services	0.7	0.8	0.8	1.0	0.3
15. Public transport services	0.9	0.7	0.7	0.9	-0.1
16. Private transport services	3.2	4.5	4.6	4.6	1.4
16a. Repairs	-	-	-	-	-
16b. Car insurance, road-tax, license fees	-	-	-	-	-
16c. Driving lessons	-	-	-	-	-
17. Communication services	1.9	1.6	1.7	2.0	0.1
18. Education and training services	-	-	-	-	-
19. Entertainment services	1.6	2.1	2.1	2.9	1.2
20. Miscellaneous goods and services	5.6	5.1	6.5	5.6	-0.1
20a. Financial and insurance services	-	-	-	-	-
20b. Contributions	-	-	-	-	-
20c. Other services such as passport fees	-	-	-	-	-
Total goods	56.3	50.2	48.8	47.7	-8.6
Total services	43.7	49.8	51.2	52.3	8.6

Source: Analysis of EVS heft 4 and 5 tables 1978, 1983, 1988 and 1993.

Table 6.1 West-Germany: Distribution of EVS household types 1978-1993

Household type	1978	1983	1988	1993	Change in p.points
Single women	21.6	22.8	23.9	22.2	0.5
Single men	6.2	8.7	10.2	11.9	5.7
Single parents: total	3.1	3.9	5.4	4.8	1.7
Single parents: 1 child	1.9	2.6	3.9	3.2	1.3
Couples, total	64.3	59.1	55.4	55.2	-9.2
Childless couples	26.6	25.3	25.1	25.0	-1.7
Couples with children	37.7	33.8	30.2	30.2	-7.5
Couple: 1 child	16.3	15.5	14.4	13.8	-2.5
Couple: 2 or more children	21.4	18.3	15.8	16.4	-5.0
Other household types	4.7	5.4	5.1	6.0	1.3
Total number of households	100.0	100.0	100.0	100.0	

Source: Analysis of EVS Heft 4 and 5 1978-1993.

Table 6.2 West-Germany: GSOEP frequency distribution of the different types of households. Shares in percent of total number of households

House-hold type	Marital status	Age reference person	Age youngest child	Number employed	share of all households 1984	1988	1993	1998	Change 1998-84 [%-points]
1	Single	16-64	None	0	6.6	6.1	6.8	6.4	-0.2
2	Single	16-64	None	1	12.6	16.0	16.9	18.7	6.1
3	Single	65+	None	0,1	14.7	16.1	15.9	16.1	1.4
4	Couple	16-64	None	0	3.0	2.7	3.6	2.7	-0.3
5	Couple	16-64	None	1	8.1	7.1	6.9	6.9	-1.3
6	Couple	16-64	None	2+	12.2	13.4	12.5	12.9	0.7
7	Couple	65+	None	0,1,2+	9.7	9.4	8.7	9.1	-0.7
8	Other	16+	None	0,1,2+	4.8	4.1	3.1	3.1	-1.7
9	Single	16+	0-17	0	1.0	0.9	1.4	1.3	0.3
10	Single	16+	0-17	1+	1.6	2.0	2.9	2.8	1.3
11	Couple	16+	0-5	0	0.4	0.5	0.3	0.3	0.0
12	Couple	16+	0-5	1	6.2	6.6	5.2	5.5	-0.7
13	Couple	16+	0-5	2+	2.0	2.7	2.7	2.1	0.1
14	Couple	16+	6-17	0	0.7	0.4	0.2	0.2	-0.5
15	Couple	16+	6-17	1	6.8	5.0	3.7	3.8	-3.0
16	Couple	16+	6-17	2+	8.2	6.0	7.5	6.3	-2.0
17	Other	16+	0-17	0,1,2+	1.6	1.2	1.9	1.9	0.3

Source: Computations based on GSOEP

Table 7.1 West-Germany: Estimated budget elasticities of the restricted expenditure categories for 1978-1993.

A good or service is a necessity if the budget elasticity<1 and a luxury if elasticity>1.

Restricted categories	1978	1993	BDS 1993
Restricted goods			
Food and non-alcoholic beverages	0.33	0.36	0.31
Alcoholic beverages and tobacco	0.62	0.49	0.30
Clothing and footwear	1.24	1.13	1.13
Entertainment goods	1.30	1.11	1.28
Personal goods	1.40	1.08	1.04
Home energy	0.39	0.44	0.39
Restricted services			
Food and beverages away from home	1.21	0.91	0.97
Holiday services	1.74	1.69	1.77
Household services	0.90	2.22	1.79
Personal services	1.24	0.77	0.65
Public transport services	0.86	0.43	0.16
Private transport services	1.48	1.27	1.31
Communication services	1.03	0.39	0.40
Entertainment services	1.05	1.01	0.85
Miscellaneous services	1.72	1.96	2.04
Restricted goods	0.75	0.70	0.69
Restricted services	1.45	1.38	1.40

Source: Analysis of EVS Heft 4 and Heft 5 for 1978 and 1993; EVS 1993 budget survey.

Table 7.2 West-Germany: Alternative estimates of 'restricted' budget elasticities for 1993.
A good or service is a necessity if the budget elasticity<1 and a luxury if elasticity>1.

Restricted categories	DEMPATEM	Trimmed	Emp-exp
Restricted goods			
Food and non-alcoholic beverages	0.31	0.35	0.22
Alcoholic beverages and tobacco	0.30	0.32	0.37
Clothing and footwear	1.13	1.15	1.14
Entertainment goods	1.28	1.27	1.28
Personal goods	1.04	0.99	1.10
Home energy	0.39	0.43	0.17
Restricted services			
Food and beverages away from home	0.97	1.37	1.00
Holiday services	1.77	1.80	1.93
Household services	1.79	1.61	1.96
Personal services	0.65	0.65	0.67
Public transport services	0.16	0.07	0.39
Private transport services	1.31	1.34	1.27
Communication services	0.40	0.41	0.33
Entertainment services	0.85	0.82	0.92
Miscellaneous services	2.04	2.10	2.13
Restricted goods	0.69	0.70	0.64
Restricted services	1.40	1.40	1.47

Source: Analysis of EVS 1993.

Notes: The left column displays the budget elasticities for the basic DEMPATEM model. The "trimmed" column shows the results when all observed budget shares six standard deviations below or above the mean budget share were taken out. The "emp-exp" column presents the budget elasticities when two extra variables were added to the model: a binary variable for whether the household owns its own house and an interaction variable between restricted expenditures and the binary variable whether all adults in the household are employed.

Table 8.1

West-Germany: DEMPATEM decomposition of change in current-price budget shares over time, 1978-1993
In %-points.

	Change in budget share 1993-1978	DECOMPOSITION					
		Demo-graphics	Employ-ment	Budget Level	Budget Distribution	Baumol effect	Residual
Restricted goods							
Food and non-alcoholic beverages	-4.3	-1.1	0.0	-1.4	0.0	-3.2	1.4
Alcoholic beverages and tobacco	-1.7	0.0	0.1	-0.2	0.0	-0.9	-0.6
Clothing and footwear	-1.8	-0.2	-0.1	0.3	0.0	-0.4	-1.3
Private transport goods	.	. .		.	.	.	.
Furnishing and appliances	.	. .		.	.	.	.
Entertainment goods	-0.3	0.1	0.0	0.2	0.0	-1.5	0.7
Personal goods	-0.1	0.0	0.0	0.1	0.0	0.7	-0.8
Home energy	-0.2	-0.2	0.0	-0.4	0.0	0.6	-0.2
Food and beverages away from home	-0.8	0.3	-0.2	0.1	0.0	-2.1	1.2
Holiday services	3.1	0.4	0.1	0.5	0.0	2.5	-0.5
Household services	-0.5	0.0	0.0	0.0	0.0	0.0	-0.5
Personal services	0.6	0.0	0.0	0.0	0.0	0.0	0.6
Public transport services	0.1	0.0	0.1	0.0	0.0	0.2	-0.2
Private transport services	3.0	0.0	0.1	0.2	0.0	0.9	1.8
Communication services	0.4	0.0	0.0	0.0	0.0	0.4	0.0
Entertainment services	1.8	0.0	0.0	0.0	0.0	-0.5	2.3
Miscellaneous services	0.5	0.7	-0.1	0.5	0.0	3.3	-3.9
Restricted goods	-8.4	-1.5	0.0	-1.4	0.0	-4.6	-0.8
Restricted services	8.4	1.5	0.0	1.4	0.0	4.6	0.9

Source: Analysis of EVS Heft 4 and 5 1978 and 1993; Analysis of 1993 budget survey; Analysis of GSOEP.

Table 9.1 United States' (1997) - German (1993) DEMPATEM decomposition of the difference in current-price Budget shares.
In %-points.

	Difference in budget share US (1997) - GE (1993)	DECOMPOSITION				
		Demo-graphics	Employ-ment	Budget Level	Budget Distribution	Residual
Restricted goods						
Food and non-alcoholic beverages	3.5	0.8	-0.1	-1.9	0.5	4.1
Alcoholic beverages and tobacco	-1.5	0.1	0.0	-0.5	0.1	-1.2
Clothing and footwear	-	-	-	-	-	-
Private transport goods	-	-	-	-	-	-
Furnishing and appliances	-5.4	0.1	0.2	0.2	-0.1	-5.9
Entertainment goods	-6.2	0.1	-0.2	0.4	-0.1	-6.4
Personal goods	1.6	0.0	0.1	0.0	0.0	1.6
Home energy	0.6	0.0	-0.1	-0.7	0.2	1.2
Restricted services						
Food and beverages away from home	2.5	0.1	0.3	0.0	0.0	2.2
Holiday services	-8.1	-0.5	-0.4	1.3	-0.4	-8.2
Household services	2.3	0.1	0.0	0.1	0.0	2.1
Personal services	0.0	-0.1	0.1	-0.1	0.0	0.1
Public transport services	0.3	0.0	0.0	-0.2	0.1	0.4
Private transport services	1.0	0.2	0.0	0.3	-0.1	0.5
Communication services	2.8	0.0	-0.1	-0.3	0.1	3.1
Entertainment services	-0.7	0.0	0.0	-0.1	0.0	-0.6
Miscellaneous services	-0.7	-0.8	0.1	1.4	-0.4	-1.0
Restricted services	-0.7	-1.1	0.0	2.4	-0.7	-1.3

Source: Analysis of EVS Heft 4 and 5 1978 and 1993; Analysis of 1993 budget survey; Analysis of GSOEP 1978 and 1993.

Table 9.2 United States' (1997) - German (1993) alternative decompositions of the difference in current-price budget shares.
In %-points.

	Difference in budget share US (1997) - GE (1993)	DECOMPOSITION						
		Demo-graphics	Employ-ment	Budget Level	Budget Distribution	Budget * Employment	House owner	Residual
DEMPATEM	-0.7	-1.1	0.0	2.4	-0.7	-	-	-1.3
Alternatives								
1. Trimmed	0.7	-1.1	0.1	2.4	-0.7	-	-	0.0
2. EMP-EXP interaction	-0.7	-1.2	5.4	2.8	-0.8	-4.6	-0.6	-1.7

Source: Analysis of 1993 German budget survey; Schmitt, 2003.

Notes: The upper row shows the results obtained by adhering to the basic DEMPATEM model. The "trimmed" alternative displays the results of the cross-country decomposition when all observations of which the budget share was six times below or above the mean budget share of a consumption category were left out. The "EMP-EXP" alternative includes the housing dummy and the interaction variable. The latter has been put under the employment effect.

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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