Population Review

Private Households in Turkey: Big Changes Ahead

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Abstract

The average size, number and distribution by size of private households in Turkey are projected based on the official population projection and an extension of the headship rates method. Our results imply the plausibility of a quadrupled number of single-person households along with almost a doubling of the overall number of households in 2000-2025. Appreciating these changes is essential for evaluating housing needs, socio-economic developments and environmental issues in Turkey. Under current consumption patterns, change in households' composition is potentially more important for economic growth prospects than the population growth.

Keywords

Turkey, household projection, headship rates method, household size

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Introduction

Turkey has witnessed various intensive socio-economic and cultural changes in the last century. These ongoing alterations, which can be seen as "modernisation" of state, institutions and society, continue to shape the social structure. Since the proclamation of the Turkish Republic in 1923 significant changes have taken place in the some basic demographic measures. In the late 1920s, Turkey's population was 13.6 millions, while it currently exceeds 70 millions (HUIPS 2010). The fertility rate has declined over the past five decades. In the early 1960s, the Total Fertility Rate (TFR) was around 6 children per woman, whereas, current TFR is below replacement level (2.06 children per woman in 2009) (TSI 2011a). Life expectancy at birth considerably increased from 43.6 to 71.8 years between 1950 and 2010 periods for both sexes (UN 2011).

Research has shown that in spite of the substantial regional and ethnic variations in fertility levels, Turkey entered into the last phase of demographic transition during the 1980s (Yüceşahin and Özgür 2008). It is expected the last period of demographic transition will be completed by the mid 21st century (Koray 1997; Ünalan 1997; Yüceşahin 2009; HUIPS 2010).

Turkey has a young population structure due to high fertility and growth rates of the recent past. On the other hand, prevailing demographic forces of the population have been changing in new directions. The growth rates of young age groups have been declining as older age groups have been rapidly increasing. Currently 7.2% of the total population (5.3 millions) is in 65 and above ages. It is expected that within 15 years the elderly population will constitute 10% of the total population (8.4 millions) (TSI 2011b). Thus, the changes in age structure of the population, especially increase in the share and size of older population, will have profound implications on families and households in the country.

An ongoing change of household composition in Turkey has been reported based on survey results (Yavuz 2004 and 2005; Canpolat 2008; Koç, Özgören and Şirin 2010). This kind of rapid increase in the sheer number of households has been attributed to demographic dynamics (Eghbal 2007). Here, we contribute to studying this link by considering effects of population age composition and presenting implications for the dynamics of Turkish households until 2025. Household projections are important for appreciating and studying the socio-economic, environmental and other implications of population dynamics (MacKellar et al. 1995; O'Neill and Chen 2002; Perz 2001; Prskawetz, Jiang and O'Neill 2004). In some areas, such as housing and urban planning, projections of the distribution of households by size are of key importance (Hoque 2008; Jarosz 2008).

The official population projection by Turkish Statistical Institute (TSI)[4] (2011b) is the basis for our study. According to this projection, Turkey's population will increase by 18% in 2008-2025 with a predominant increase of the population at older ages (i.e. 30 years and above). This suggests a fast increase of the number of households together with a decrease in their average size and a significant evolution of household composition (with smaller households gaining in proportion). We undertake a quantitative assessment of these prospects.

In the following, we describe the data and assumptions, the projection methodology and results and conclude with the discussion. In the Appendices, we present the calculation procedures and detailed tabulations of the results.

Data and assumptions

Data, assumptions and approximations for the projections are presented below.

Population and households: The TSI provides data and estimates in dynamics for the total number of households and their average size (TSI 2011b; see also Table 1).

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Table 1. Total population and number of households in Turkey

Year	Population total, persons	Households total
1955	24 064 763	4 237 176
1960	27 754 820	4 885 325
1965	31 391 421	5 536 116
1970	35 605 176	6 261 949
1975	40 347 719	6 982 505
1980	44 736 957	8 522 499
1985	50 664 458	9 730 018
1990	56 473 035	11 188 636
2000	67 803 927	15 070 093

Source: TSI (2011b).

Institutional population: We do not possess data on Turkey's institutional population (neither data nor projections are officially available). However, the institutional population, even though potentially important in itself, has only a limited effect on the results for the private households. In our projections, we use proportions of the institutional population averaged over Southern European populations (Italy, Spain, and Greece) available from the Eurostat (2011) database. As discussed next, these proportions were subject to adjustments.

Majority of elderly in Turkey lives in private households, whereas only small part of them lives in nursing homes. According to the latest figures, as the total number of elderly population (65 and above) is 5.3 millions in 2010 (TSI 2011b) the total capacity of all nursing homes in the country is only 23,182 (SSCPA 2011).

Led by these observations, we assume no institutional population at ages 50 and older in Turkey in 2000. In the modernisation scenario, we allow the proportions of the institutional population at ages 50 and older to increase to 0.5% by 2025; in the baseline scenario all proportions are fixed at the year 2000 estimates (the assumed proportions are presented further down in Table 3).

Headship rates: Headship rates, the ratios of the number of household heads of a certain age to the total population of the same age, are an important part of the projection, as they allow estimating the number and average size of households based on the projected population composition by age, i.e. making the household projection consistent with the assumptions about fertility and ageing of population composition. The headship rates (see Table 2) are estimated from the Turkey Demographic and Health Surveys (TDHSs) for the years 1993, 1998, 2003, and 2008 (MEASURE DHS 2010a, 2010b, 2010c; HUIPS 2011).

Looking at headship rates we realise that problems with data quality affect the survey rates to some extent. The age heaping, for instance, seems to push the headship rates down at ages 50-54 and 65-69 (apparently, due to different strength of the age heaping for head- and non-head- members of the households). The effect varies significantly from one survey year to another. It might also be noticed that the TDHSs indicate the headship rates at ages 35-39 to decline in 1993-2008, which is against intuition and may reflect problem with data or mere random variation of sample rates. In the presence of the patterns observed in the sample headship rates, we take average over all TDHS waives, smooth it at ages 45-69 by a moving average over three adjacent age groups and use the result as an approximation to the headship rates in 2000, which is approximately an average of the years of the four TDHSs (see results in Table 3).

We cross-checked validity of our headship rates' approximation applying these rates (and also the proportions of the institutional population) to the Turkish population age composition in 2000. This yields 15,108 thousands households in total, which corresponds very well with the official number of 15,070 thousands of households in 2000.

The remarkable downward deviation of Turkish headship rates from those observed in the European countries may be a signal for increasing headship and, therefore, for an additional factor of decrease in

average household sizes in Turkey. Such prospects may of course be preconditioned by the spread of modernisation in Turkey. On the other hand, surveys do indicate a decreasing prevalence of extended families and increasing singlehood (Yavuz 2004; Koç, Özgöre and Şirin 2010). We examine this possibility by considering two scenarios of headship rates in the projection period. In the baseline scenario, we assume headship rates to remain at the levels estimated for 2000, while in the 'modernisation' scenario we assume them to linearly increase up, by 2025, to the levels observed in Italy, Spain and Greece (see Table 2). Reasons for this particular choice are explained next.

Modernization within the context of 'familistic' social structure and family-oriented value systems are the common features of the southern-European countries (Reher 1998). Some of the comparable characteristics, designating households and families in these southern-European countries and Turkey, can be mentioned as follows: late home leaving; rare premarital cohabitation and out-of-wedlock fertility; late but nearly universal marriage; slower change towards gender equity in familial institutions compared to advancements in education and market employment; high intensity of material and non-material exchange with the parental generation and other relatives; the lack of support to combine paid employment and childrearing; family centered welfare state policies that gives preeminence to male-bread winner model (Yavuz 2009).

Although the choice of 2025 as the year of convergence to target levels under the modernization scenario is rather arbitrary, it is plausible in view of the recent dynamics of headship rates in Turkey. The mean quadratic deviation of TDHS's headship rates from the current Spain-Greece-Italy average rates went down from 0.18 in 1993 to 0.09 in 2008, which indicates convergence. This tendency, if extrapolated, suggests full convergence in 2020. Alternatively, the difference in the total sum of headship rates has changed from -0.35 in 1993 to -0.25 in 2008, which, again, indicates convergence. This tendency suggests full convergence by 2034. Erratic patterns of the survey headship rates do not allow taking the convergence years above at their face value, they do, however, show that our choice for 2025 is reasonable.

Our assumptions for the headship rates and for the proportions of the institutional population are summarized in Table 3.

Table 2. Data on headship rates by age (both sexes combined) (%)

| | Turkish Demographic and Health Surveys | | | | Italy-Spain-Greece- |
Age	1993	1998	2003	2008	average (2001)
<15	0.0	0.0	0.0	0.0	0.0
15-19	0.7	0.5	0.9	0.6	1.4
20-24	5.5	6.5	6.3	5.6	8.3
25-29	25.3	24.9	22.7	22.9	23.4
30-34	37.2	37.5	38.8	36.5	39.8
35-39	46.6	43.0	44.1	43.9	47.2
40-44	48.8	50.2	48.7	48.1	50.3
45-49	52.0	52.0	51.5	52.1	52.0
50-54	47.5	50.7	50.1	50.8	53.1
55-59	51.6	52.5	55.2	55.0	54.2
60-64	54.2	57.9	54.0	54.9	55.4
65-69	54.1	52.7	55.6	53.9	56.9
70-74	57.6	55.1	57.8	57.0	58.9
75+	45.5	44.7	54.0	55.8	61.0

Source: Authors' own calculations from MEASURE DHS (2010a, 2010b, 2010c); HUIPS (2011) and Eurostat (2011).

Table 3. Assumed headship rates and proportions of institutional population in Turkey in 2000 and 2025 (%)

Age	Headship rate		Proportion of institutional population	
	Year 2000	Year 2025, modernization scenario	Year 2000	Year 2025, modernization scenario
0-5	0.0	0.0	0.3	0.3
5-9	0.0	0.0	0.3	0.3
10-14	0.0	0.0	0.3	0.3
15-19	0.7	1.4	0.8	0.8
20-24	6.0	8.3	1.1	1.1
25-29	24.0	23.4	0.9	0.9
30-34	37.5	39.8	0.7	0.7
35-39	44.5	47.2	0.6	0.6
40-44	49.0	50.3	0.6	0.6
45-49	50.2	52.0	0.5	0.5
50-54	51.7	53.1	0.0	0.5
55-59	52.8	54.2	0.0	0.5
60-64	54.3	55.4	0.0	0.5
65-69	55.4	56.9	0.0	0.5
70-74	56.9	58.9	0.0	0.5
75+	49.6	61.0	0.0	0.5

Source: Authors' own calculations based on data from MEASURE DHS (2010a, 2010b, 2010c); HUIPS (2011) and Eurostat (2011).

Table 4. Distribution of households in Turkey by size in 2000

Size, persons	Total	1	2	3	4	5	6 and more
Households	**15,070,093**	803,120	2,097,823	2,578,281	3,534,911	2,302,818	3,753,140
Population	**67,803,927**	803,120	4,195,646	7,734,843	14,139,644	11,514,090	29,416,584

Source: Eurostat (2011)

Distribution by size. Apart from the number of households, we also project their distribution by size. Relevant data are available for 2000 Turkish census (Eurostat 2011; see Table 4).

Population projection is the starting point for the headship-rates-based household projection. Our projection is built on the official population projection by TSI (2011b), which provides necessary details about the prospective size of the population and its composition by age in 2008-2025. Population figures available from the register for 2008-2010 indicate increasing discrepancy between the projected and actual population (see TSI 2011c for discussing the sources and implications of those differences). In 2008, the projection underestimated the population by 438,000; in 2009 by 654,000, and in 2010 by 959,000. Underestimation of the total population was combined by overestimation of the number of births. This discrepancy has had a minor effect on the projected institutional population and more sizable effect on the projected number of households. In 2010, register data would imply by 2% more households than the projected population and by 0.04 persons less per household on average. Significant as they may be, these differences are small as compared to the sheer magnitude of the projected change in household number and composition. In our study, we use the official projection numbers and not the register data on population prior to 2011.

Projecting methodology

Projections for typology of households are often based on a simulation approach involving a number of assumptions regarding the probabilities of various life events such as leaving the parental home, marriage, cohabitation, etc. In many instances, however, including ours, deriving such assumptions would require too much subjective judgement and suffer from problems concerning data availability and consistency with the population projection assumptions. Linke (1983) and Leiwen and O'Neill (2004, 2009) propose an extension of the headship rates method by introducing age- and household size-specific headship rates (membership rates). Such an approach is promising, as it demands less data and fewer model assumptions compared to the micro-simulation approach. In applications like ours, however, there might still not be enough data to parameterise the model and the method may be overcomplicated due to reconciliation procedures and use of volatile parameters with non-trivial correlations between them and with projected fertility levels.

To overcome such problems, Gisser (1986a, 1986b) proposed to derive the distribution of households by size from the overall average household size which, in turn, is derived from the conventional age-specific headship rates (United States National Resources Planning Committee 1938; UN 1973; Kono 1987). This approach has been used in Austrian household projections ever since. One advantage of the approach is that the average household size indirectly reflects demographic developments, such as fertility change and population ageing, even though headship rates might be less sensitive to those developments. Unfortunately, like many other extensions of the headship rates method, the approach may eventually result in inconsistent projections. For example, the sum of the proportions of households of different sizes may deviate from one, and the population totals obtained directly from the age structure or from the distribution of households by size may differ considerably.

Those problems may be resolved and the merits of the approach may be used in a wider context based on models for conditional shares of households among households of the same or larger size (Ediev 2007), which is what we use here. The method was developed within the EU Technical Aid to the Commonwealth of Independent States (TACIS) project "System of current estimation, analysis and forecasting of number and structure of households in the periods between censuses" and is currently being used by statistical agencies in Austria and Russia.

Detailed calculation procedures of the method may be found in Ediev (2007) and also in Appendix 1, below. Following in this section, we outline the procedures in general.

The method starts, as the common headship rates method, by assessing the institutional population by age applying the age-specific proportions of the institutional population to the projected population by age.

The population in private households by age is obtained, then, as the total population net of the institutional population. Applying the age-specific headship rates to the population in private households by age yields the overall number of households H, their distribution by the age of the head and the average household size n.

Once the average size of private households is obtained, the *alfa*-model (Ediev 2007; Appendix 1) is applied iteratively to calculate number of households of size k from the number and average size of household with k or more members.

All in all, the method uses the projected population by age, proportions of the institutional population and headship rates as inputs and produces projected institutional population, population in private households and numbers of households of different sizes as outputs.

Projection results

The number and average size of households

Both the baseline and modernisation scenarios for headship rates imply a rapid increase of the number and a decrease of the average size of households in Turkey (Figure 1; Appendix Table A2.1). In the baseline scenario, the number of households increases from 15.1m to 24.6m in 2000-2025, i.e. by 63%. This is accompanied by a decline of the average household size from 4.5 to 3.4 persons. In the modernisation scenario, the changes are more rapid: the number of households increases from 15.1m to 25.8m in 2000-2025 (by 71%) and the average household size declines from 4.5 to 3.2 persons.

Projection results for the average size of private households indicate prospects for a dramatic change of the typology of households in Turkey under both the baseline and modernisation scenarios (see further down).

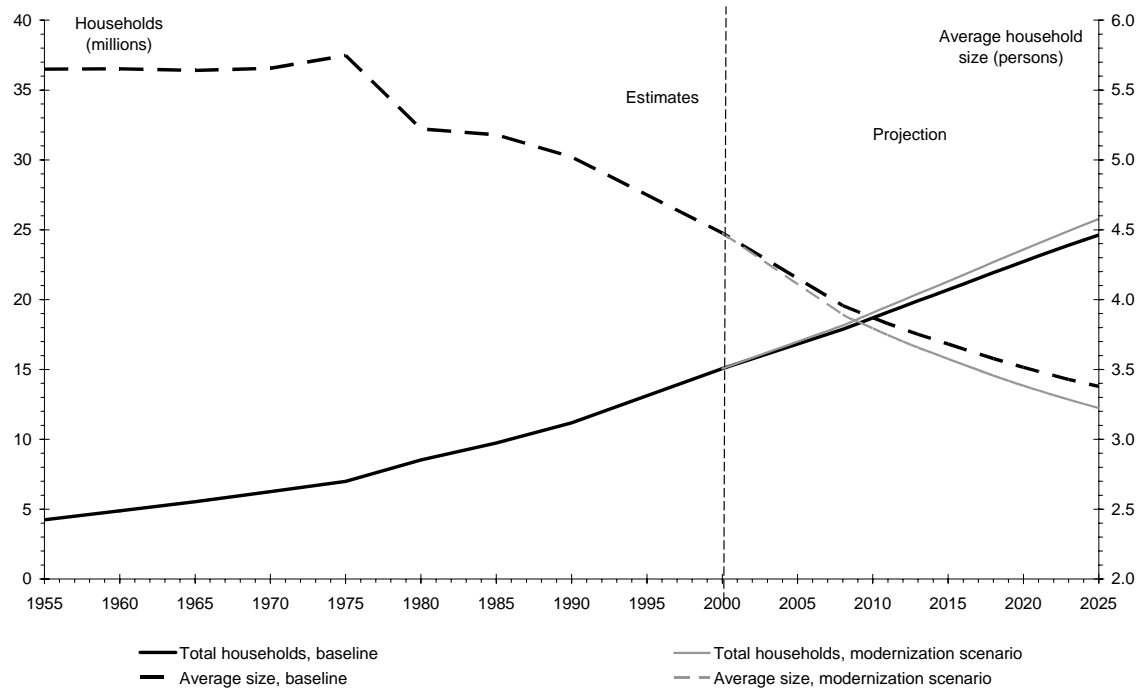*Distribution of households by age of household head*

The application of age-specific headship rates provides interesting insights into the current and future structure of households according the age of the household head (Figure 2). The rapid population ageing implies an approximate doubling of households headed by persons of age over 40. In the modernisation scenario, this is accompanied by a rapidly increasing number of younger household heads as well.

Distribution of households by size

Our projections of households by size indicate that spectacular developments in household composition are to be expected in Turkey (Appendix 2 Tables A2.2 and A2.3, Figures 3 and 4). The most significant feature is the rise in smaller households. The single-person households are projected to increase in number by four to five times in 2000-2025. Two-person households (second least prevalent in 2000) are projected to increase in number by about two to three times and either prevail by 2025 (in the modernisation scenario) or become the second most dominant type (in the baseline scenario). The number of three-person households nearly doubles in both scenarios. Large households, on the contrary, are expected to decrease in number. Larger households (with four and more persons), while dominating (64%) in 2000, will turn into a minority by 2025 (46% to 42% depending on the scenario). Particularly, the number of households of six or more persons decreases by 35-45% in 2000-2025 despite population growth in the same period.

The baseline and modernisation scenarios differ considerably in terms of the distribution of the population by types of household (Appendix 2 Table A2.4). The former scenario implies that large (6+) households will be the second most prevalent form in terms of the share of the total population (though their share in the total population drops from 43% in 2000 to 20% in 2025). The modernisation scenario yields dominant shares of population residing in four-person households (28%) followed by three- and five-person households (19% and 17%) by 2025. Altogether, more than one third the household population belongs to households of three or less persons in 2025 (as compared to 19% in 2000).

Figure 1. Data prior to 2000 and projected number and average size of households (number of persons) in Turkey in 2008-2025

Source: TSI (2011b); authors' own calculations

Figure 2. Distribution of household heads in Turkey by age: estimated (2000) and projected by 2025 in two alternative scenarios
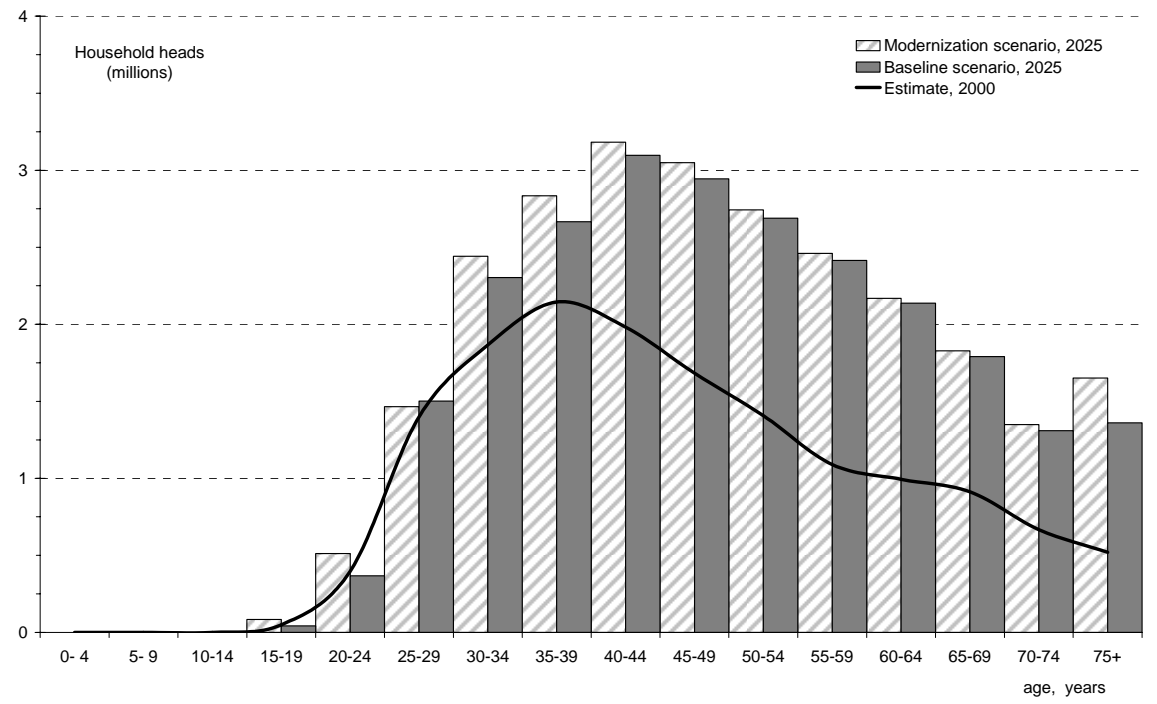
Source: TSI (2011b); authors' own calculations

Figure 3. Estimated (2000 and before) and projected (2008-2025) distribution of households in Turkey by size. Baseline scenario
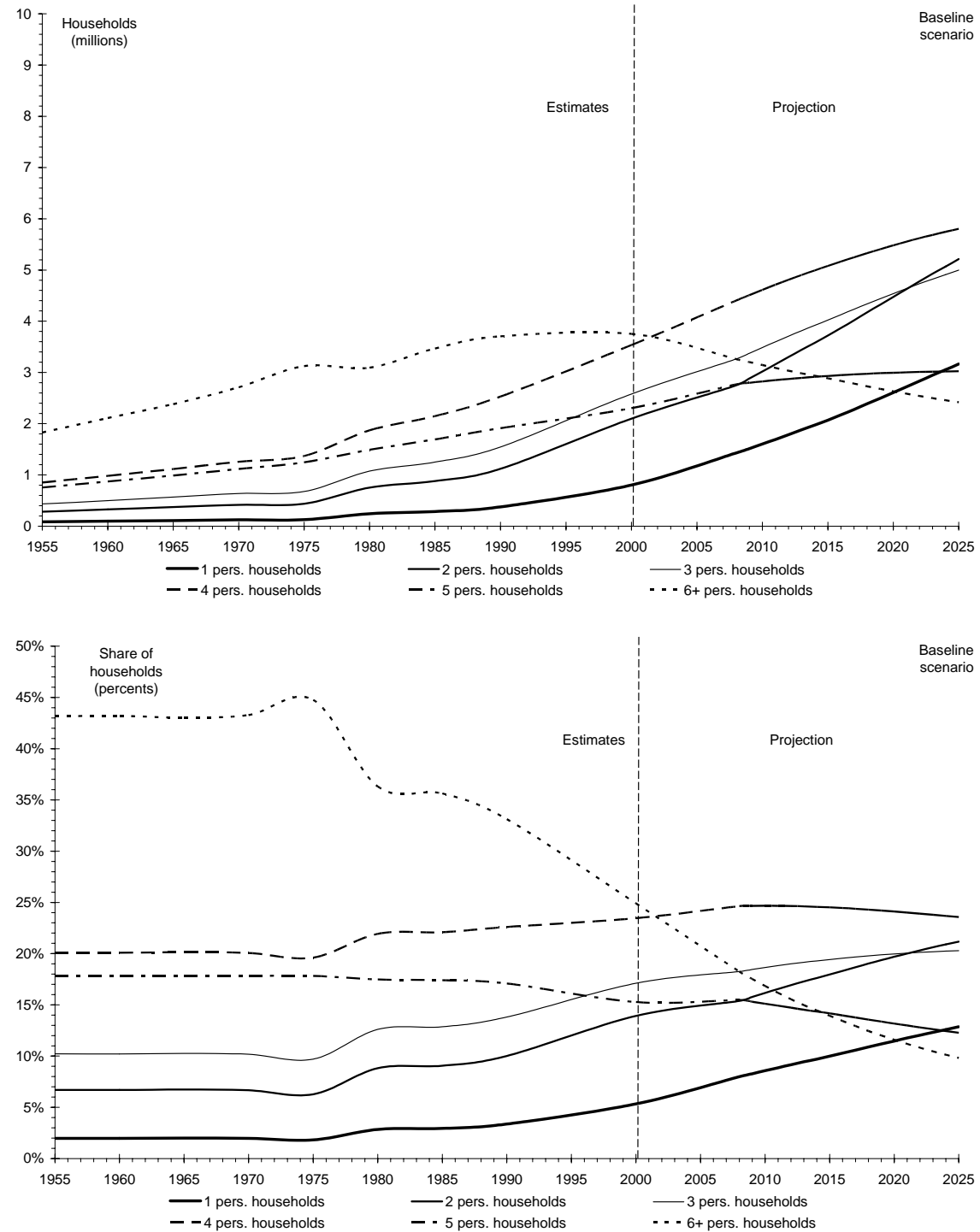
Figure 4. Estimated (2000 and earlier) and projected (2008-2025) distribution of households in Turkey by size. Modernisation scenario

Source: SIS (2003);TSI (2011b); Eurostat (2011), authors' own calculations

Discussion

Changes in the number and composition of households as profound as presented above indicate social, economic and perhaps even political changes to come. Even assuming no future change in headship prevalence in Turkey, we come up with an almost quadrupled number of single-person households and a more than halved proportion of households with six or more members in 2000-2025. These prospects of household dyn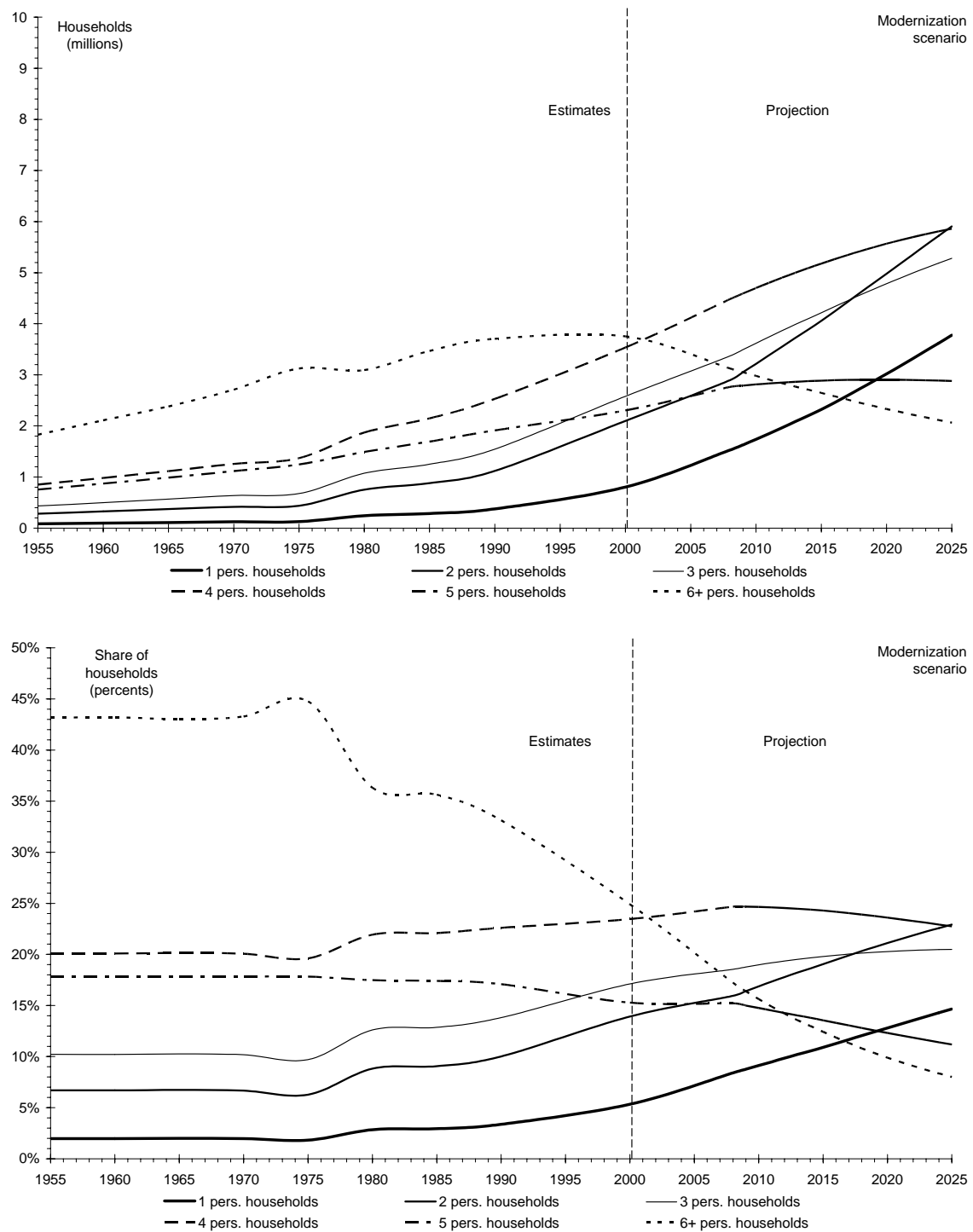amics are astonishing as such and also when comparing them to the population increase of 'merely' 23% in 2000-2025 projected by TSI.

There are considerable differences between the conservative baseline and modernisation scenarios. In particular, the modernisation scenario indicates 20% more single-person households as compared to the conservative scenario. Yet, those differences are small as compared to the projected quantitative and structural change of Turkish households. Spectacular growth and grand redesign of households in Turkey seems to be close to certain. Considering that the rate of increase of the elderly population is higher than of other age groups in Turkey in our projection period, we can assume that the majority of these single-person households will be constituted by the elderly.

Population and household growth may have significant consequences for planning both public and private sector activities in Turkey. Demand for many consumer goods is determined not only by the number of individuals in a population, but also by the number of households (Plane and Rogerson 1994). In both the public and private sectors, changing in household characteristics is clearly needed to plan for housing. For example, demand for electricity, gas, water, and household durable goods are all closely related to the size distribution and number of households in the future.

To pick an example, both the quantity of housing and its composition according to size and typology have to accommodate the forthcoming changes. According to the 2000 census (TSI 2011c), about 1.6% of households were residing in single-room housing, 10% in two rooms, 37% in three rooms, 41% in four rooms and 11% in five or more rooms. Meanwhile, households with five or more members constituted over 40% of the total, indicating a huge shortage of larger housing as of 2000. According to our projections, the shortage of large housing will persist until 2025. The proportion of single- and two-rooms-dwellings is also already smaller than that of single- or two-person households. Given the rapid increase in the number of such households, it seems plausible to assume a corresponding increase in the proportion of smaller housing at the expense of reducing shares of three- and four-room dwellings.

Smaller households' consumption is, usually, higher in per capita terms. Hence, the projected decline in average household size and increase in the share of small households will contribute to increasing consumption and economic development in Turkey. A rough estimate may be based on current household consumption patterns. According to the available statistics (Eurostat 2011), Turkish households represent an extreme case of consumption behaviour, where total household consumption barely depends on the household size: it is reported to be 104 PPS (Eurostat's Purchasing Power Standards) for households with one active member, 111 PPS for households with two active members and 103 PPS for households with three or more active members. Under such conditions, private households' consumption would increase, in 2008-2025, by 38% (baseline scenario) or 42% (modernisation scenario) of which population growth alone would only contribute about 19% and the rest would be due to changing household composition. Hence, the household dynamics might be more important a demographic factor of economic growth in Turkey than the overall population growth.

Apart from the consequences for enterprises, changes in consumption patterns due to household dynamics may well have environmental implications. Specific differentials by household size in per capita consumption and emissions found in numerous works (e.g., MacKellar et al. 1995, Perz 2001, O'Neill and Chen 2002, UK Office for National Statistics 2004) may also apply to the case of Turkey. Our results show that, apart from the population and economic growth, change in the household composition may be another key factor of population-environment interactions in Turkey.

Our results might also be relevant for other developing countries undergoing transformation of households' composition and the method may be used in other research contexts.

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Appendix 1. Calculation procedures

Here, we provide a detailed description of projection procedures. We follow Ediev (2007), where more details on the method may be found.

For each projection year, proportions of the institutional population $i(x)$ are applied to the projected population by age $P(x)$ (for simplicity of notation, we omit the year variables):

$$I(x) = i(x) \cdot P(x). \tag{A1}$$

(We do not differentiate proportions of the institutional population for males and females due to absence of data and auxiliary character of the projection of the institutional population.)

The population residing in private households is obtained as the total population (of any given age) minus the institutional population:

$$N(x) = P(x) - I(x). \tag{A2}$$

Applying the age-specific headship rates $h(x)$ to the projected population in private households gives distribution of the households by the age of the head:

$$H(x) = h(x) \cdot N(x). \tag{A3}$$

From (A2), (A3), we sum up the total number and the total population in private households:

$$N = \sum_x N(x), \qquad\qquad H = \sum_x H(x) \tag{A4}$$

(the summation is over all age categories) and calculate their average size:

$$n = \frac{H}{N}. \tag{A5}$$

From the average size, the distribution of households by size is generated using the α -*method* (Ediev 2007) applied to size after size:

$$v_{k/k+} = e^{-\alpha_k \cdot (n_{k+} - k)}, \ k = 1,2,..., \tag{A6}$$

here $v_{k/k+}$ is the proportion of households with k members among households of the same or larger size, n_{k+} is the average size of such households, α_k are model parameters. (Ediev 2007 shows consistency constraints to be imposed in the projection: $v_{k/k+} \geq 1 - (n_{k+} - k)$; in our example these constraints are secured by the fact that none of α_k's exceeds unity.)

The iterative procedure (A6) starts with single-person households, ($k = 1$ in Eq. (A6)), for which $n_{1+} = n$ and, therefore, the proportion of the single-person households is $v_{1/1+} = e^{-\alpha_1 \cdot (n-1)}$. The conditional average size $n_{(k+1)+}$ for the next size $k+1$ is obtained recurrently from the results for the preceding size:

$$n_{(k+1)+} = k + \frac{n_{k+} - k}{1 - v_{k/k+}}. \tag{A7}$$

Once all the conditional shares (A6) are calculated, the absolute proportions of households of different sizes are obtained by a recurrent procedure:

$v_1 = v_{1/1+}$;
$$v_k = v_{k/k+}\left(1 - v_1 - ... - v_{k-1}\right), \ k = 2,3,.... \tag{A8}$$

Finally, the numbers of households by size H_k are derived from proportions (A8):

$$H_k = v_k \cdot H . \tag{A9}$$

Population residing in households of a given size is obtained as

$$P_k = k \cdot H_k \tag{A10}$$

for all size categories, except for the largest one:

$$P_{6+} = n_{6+} \cdot H_{6+} . \tag{A11}$$

Concluding, a note on *alfa*-parameters in (A6) is due here. The starting values for the parameters α_k are obtained from 2000 census data on distribution of households by size (Table A1) using an evident relation following from (A6) applied to the census year:

$$\alpha_k = -\frac{\ln(v_{k/k+})}{n_{k+} - k}, \ k = 1,2,.... \tag{A12}$$

An analysis of the Eurostat (2011) database on households at the NUTS-3 geographical level—which contains data for both Turkey and other European countries with smaller household sizes—implies that parameters α_k may evolve in the future following the change in the average size of Turkish households. We take this prospect into account by applying, in 2008-2025, quadratic regression relations obtained from the Eurostat database; coefficients of the regression polynomials are presented in Table A1.

Table A1. Parameters for the model of distribution of households by size

Household size, k	1	2	3	4	5	6+
α_k, 2000	0.838	0.711	0.718	0.573	0.550	-
Regression coefficients for α_k in 2008-2025 as polynomials of the average household size (*n*)						
a (intercept)	0.794	0.645	1.255	1.146	0.840	-
b (x *n*)	0.0497	0.1106	-0.1062	-0.1430	-0.0144	-
c (x n^2)	-0.0087	-0.0175	0.0019	0.0097	-0.0021	-

Source: Eurostat (2011); authors' own calculations

Appendix 2. Tabulations
Table A2.1. Data prior to 2008 and projected number and average size of households in Turkey in 2008-2025

Year	Baseline scenario		Modernisation scenario	
	Households, millions	Average size, persons	Households, millions	Average size, persons
1955	4.2	5.65	4.2	5.65
1960	4.9	5.65	4.9	5.65
1965	5.5	5.64	5.5	5.64
1970	6.3	5.66	6.3	5.66
1975	7.0	5.75	7.0	5.75
1980	8.5	5.22	8.5	5.22
1985	9.7	5.18	9.7	5.18
1990	11.2	5.02	11.2	5.02
2000	15.1	4.48	15.1	4.48
2008	17.9	3.96	18.2	3.89
2009	18.3	3.91	18.6	3.84
2010	18.7	3.87	19.1	3.79
2011	19.1	3.83	19.5	3.75
2012	19.5	3.79	20.0	3.70
2013	19.9	3.75	20.4	3.66
2014	20.3	3.72	20.9	3.62
2015	20.7	3.68	21.3	3.58
2016	21.1	3.65	21.8	3.53
2017	21.5	3.61	22.2	3.49
2018	21.9	3.58	22.7	3.46
2019	22.3	3.55	23.1	3.42
2020	22.7	3.51	23.6	3.38
2021	23.1	3.48	24.0	3.35
2022	23.5	3.46	24.5	3.32
2023	23.9	3.43	24.9	3.28
2024	24.3	3.40	25.3	3.25
2025	24.6	3.38	25.8	3.22

Source: TSI (2011b); authors' own calculations

Table A2.2. Estimated (prior to 2008) and projected (2008-2025) distribution of households in Turkey by size, millions (average size of 6+ households is in persons).

	Baseline scenario							Modernisation scenario						
	Households by size (millions):							Households by size (millions):						
Year	1	2	3	4	5	6+	Average size of 6+ house-holds	1	2	3	4	5	6+	Average size of 6+ house-holds
1955	0.084	0.284	0.433	0.852	0.756	1.829	**8.16**	0.084	0.284	0.433	0.852	0.756	1.829	**8.16**
1960	0.097	0.327	0.498	0.981	0.871	2.111	**8.16**	0.097	0.327	0.498	0.981	0.871	2.111	**8.16**
1965	0.111	0.373	0.568	1.115	0.987	2.382	**8.16**	0.111	0.373	0.568	1.115	0.987	2.382	**8.16**
1970	0.123	0.418	0.637	1.256	1.117	2.710	**8.16**	0.123	0.418	0.637	1.256	1.117	2.710	**8.16**
1975	0.127	0.438	0.677	1.369	1.245	3.126	**8.19**	0.127	0.438	0.677	1.369	1.245	3.126	**8.19**
1980	0.242	0.752	1.075	1.870	1.490	3.094	**8.03**	0.242	0.752	1.075	1.870	1.490	3.094	**8.03**
1985	0.287	0.882	1.251	2.149	1.694	3.467	**8.02**	0.287	0.882	1.251	2.149	1.694	3.467	**8.02**
1990	0.377	1.120	1.545	2.528	1.912	3.706	**7.97**	0.377	1.120	1.545	2.528	1.912	3.706	**7.97**
2000	0.803	2.098	2.578	3.535	2.303	3.753	**7.84**	0.803	2.098	2.578	3.535	2.303	3.753	**7.84**
2008	1.428	2.749	3.262	4.404	2.767	3.261	**6.92**	1.526	2.895	3.367	4.479	2.763	3.126	**6.89**
2009	1.513	2.883	3.374	4.509	2.797	3.204	**6.90**	1.630	3.054	3.493	4.591	2.789	3.052	**6.88**
2010	1.602	3.020	3.486	4.612	2.825	3.146	**6.89**	1.738	3.216	3.618	4.698	2.811	2.979	**6.86**
2011	1.693	3.161	3.598	4.712	2.850	3.089	**6.87**	1.851	3.383	3.743	4.802	2.831	2.906	**6.84**
2012	1.786	3.301	3.707	4.808	2.873	3.034	**6.86**	1.965	3.551	3.865	4.901	2.848	2.837	**6.83**
2013	1.881	3.443	3.816	4.902	2.894	2.981	**6.84**	2.083	3.720	3.985	4.997	2.863	2.770	**6.81**
2014	1.972	3.578	3.917	4.989	2.915	2.935	**6.83**	2.198	3.884	4.099	5.086	2.877	2.710	**6.80**
2015	2.069	3.720	4.022	5.077	2.933	2.885	**6.82**	2.323	4.057	4.215	5.174	2.887	2.646	**6.79**
2016	2.171	3.867	4.128	5.163	2.949	2.834	**6.81**	2.454	4.237	4.333	5.260	2.895	2.581	**6.77**
2017	2.278	4.018	4.233	5.247	2.963	2.782	**6.80**	2.591	4.421	4.449	5.343	2.900	2.516	**6.76**
2018	2.388	4.173	4.338	5.328	2.974	2.729	**6.79**	2.733	4.610	4.565	5.421	2.903	2.451	**6.75**
2019	2.496	4.323	4.439	5.405	2.985	2.680	**6.78**	2.874	4.794	4.675	5.495	2.904	2.391	**6.74**
2020	2.608	4.476	4.539	5.480	2.995	2.632	**6.77**	3.019	4.980	4.784	5.565	2.904	2.332	**6.72**
2021	2.719	4.626	4.636	5.551	3.003	2.587	**6.76**	3.166	5.166	4.889	5.632	2.902	2.276	**6.71**
2022	2.832	4.777	4.731	5.619	3.009	2.542	**6.75**	3.316	5.352	4.991	5.695	2.899	2.221	**6.70**
2023	2.945	4.926	4.823	5.684	3.015	2.498	**6.74**	3.469	5.539	5.091	5.754	2.894	2.167	**6.69**
2024	3.054	5.069	4.910	5.745	3.020	2.459	**6.73**	3.620	5.721	5.186	5.808	2.888	2.116	**6.69**
2025	3.166	5.213	4.997	5.805	3.023	2.419	**6.72**	3.777	5.907	5.280	5.860	2.880	2.065	**6.68**

Source: Household size figures for 1955-2000 are from TSI (2011b) and Eurostat (2011); 2008-2025 are based on authors' own calculations

Table A2.3. Estimated (prior to 2008) and projected (2008-2025) distribution of households in Turkey by size, percents of the total number of households

	Baseline scenario						Modernisation scenario					
	Households by size (in percents):											
Year	1	2	3	4	5	6+	1	2	3	4	5	6+
1955	2.0	6.7	10.2	20.1	17.8	43.2	2.0	6.7	10.2	20.1	17.8	43.2
1960	2.0	6.7	10.2	20.1	17.8	43.2	2.0	6.7	10.2	20.1	17.8	43.2
1965	2.0	6.7	10.3	20.1	17.8	43.0	2.0	6.7	10.3	20.1	17.8	43.0
1970	2.0	6.7	10.2	20.1	17.8	43.3	2.0	6.7	10.2	20.1	17.8	43.3
1975	1.8	6.3	9.7	19.6	17.8	44.8	1.8	6.3	9.7	19.6	17.8	44.8
1980	2.8	8.8	12.6	21.9	17.5	36.3	2.8	8.8	12.6	21.9	17.5	36.3
1985	2.9	9.1	12.9	22.1	17.4	35.6	2.9	9.1	12.9	22.1	17.4	35.6
1990	3.4	10.0	13.8	22.6	17.1	33.1	3.4	10.0	13.8	22.6	17.1	33.1
2000	5.3	13.9	17.1	23.5	15.3	24.9	5.3	13.9	17.1	23.5	15.3	24.9
2008	8.0	15.4	18.3	24.6	15.5	18.2	8.4	15.9	18.5	24.7	15.2	17.2
2009	8.3	15.8	18.5	24.7	15.3	17.5	8.8	16.4	18.8	24.7	15.0	16.4
2010	8.6	16.2	18.7	24.7	15.1	16.8	9.1	16.9	19.0	24.6	14.8	15.6
2011	8.9	16.5	18.8	24.7	14.9	16.2	9.5	17.3	19.2	24.6	14.5	14.9
2012	9.2	16.9	19.0	24.6	14.7	15.5	9.8	17.8	19.4	24.5	14.3	14.2
2013	9.4	17.3	19.2	24.6	14.5	15.0	10.2	18.2	19.5	24.5	14.0	13.6
2014	9.7	17.6	19.3	24.6	14.4	14.5	10.5	18.6	19.7	24.4	13.8	13.0
2015	10.0	18.0	19.4	24.5	14.2	13.9	10.9	19.0	19.8	24.3	13.6	12.4
2016	10.3	18.3	19.6	24.5	14.0	13.4	11.3	19.5	19.9	24.2	13.3	11.9
2017	10.6	18.7	19.7	24.4	13.8	12.9	11.7	19.9	20.0	24.0	13.1	11.3
2018	10.9	19.0	19.8	24.3	13.6	12.4	12.0	20.3	20.1	23.9	12.8	10.8
2019	11.2	19.4	19.9	24.2	13.4	12.0	12.4	20.7	20.2	23.8	12.6	10.3
2020	11.5	19.7	20.0	24.1	13.2	11.6	12.8	21.1	20.3	23.6	12.3	9.9
2021	11.8	20.0	20.1	24.0	13.0	11.2	13.2	21.5	20.3	23.4	12.1	9.5
2022	12.0	20.3	20.1	23.9	12.8	10.8	13.5	21.9	20.4	23.3	11.8	9.1
2023	12.3	20.6	20.2	23.8	12.6	10.5	13.9	22.2	20.4	23.1	11.6	8.7
2024	12.6	20.9	20.2	23.7	12.4	10.1	14.3	22.6	20.5	22.9	11.4	8.4
2025	12.9	21.2	20.3	23.6	12.3	9.8	14.7	22.9	20.5	22.7	11.2	8.0

Source: SIS (2003);TSI (2011b); Eurostat (2011), authors' own calculations

Table A2.4. Estimated (prior to 2008) and projected (2008-2025) distribution of household population in Turkey by the household size, percents of the total household population

	Baseline scenario						Modernisation scenario					
	Population in private households, by household size (in percents):											
Year	1	2	3	4	5	6+	1	2	3	4	5	6+
1955	0.3	2.4	5.4	14.2	15.7	62.0	0.3	2.4	5.4	14.2	15.7	62.0
1960	0.3	2.4	5.4	14.1	15.7	62.1	0.3	2.4	5.4	14.1	15.7	62.1
1965	0.4	2.4	5.4	14.2	15.7	61.9	0.4	2.4	5.4	14.2	15.7	61.9
1970	0.3	2.3	5.4	14.1	15.7	62.1	0.3	2.3	5.4	14.1	15.7	62.1
1975	0.3	2.2	5.0	13.6	15.4	63.5	0.3	2.2	5.0	13.6	15.4	63.5
1980	0.5	3.4	7.2	16.7	16.7	55.5	0.5	3.4	7.2	16.7	16.7	55.5
1985	0.6	3.5	7.4	17.0	16.7	54.9	0.6	3.5	7.4	17.0	16.7	54.9
1990	0.7	4.0	8.2	17.9	16.9	52.3	0.7	4.0	8.2	17.9	16.9	52.3
2000	1.2	6.2	11.4	20.9	17.0	43.4	1.2	6.2	11.4	20.9	17.0	43.4
2008	2.0	7.8	13.8	24.9	19.6	31.9	2.2	8.2	14.3	25.3	19.5	30.5
2009	2.1	8.1	14.2	25.2	19.6	30.9	2.3	8.5	14.7	25.7	19.5	29.3
2010	2.2	8.4	14.5	25.5	19.5	30.0	2.4	8.9	15.0	26.0	19.4	28.3
2011	2.3	8.6	14.8	25.8	19.5	29.0	2.5	9.3	15.4	26.3	19.4	27.2
2012	2.4	8.9	15.0	26.0	19.4	28.1	2.7	9.6	15.7	26.5	19.3	26.2
2013	2.5	9.2	15.3	26.3	19.4	27.3	2.8	10.0	16.0	26.8	19.2	25.3
2014	2.6	9.5	15.6	26.4	19.3	26.6	2.9	10.3	16.3	27.0	19.1	24.4
2015	2.7	9.8	15.8	26.6	19.2	25.8	3.0	10.7	16.6	27.2	19.0	23.6
2016	2.8	10.0	16.1	26.8	19.2	25.1	3.2	11.0	16.9	27.4	18.8	22.7
2017	2.9	10.3	16.3	27.0	19.1	24.3	3.3	11.4	17.2	27.5	18.7	21.9
2018	3.0	10.6	16.6	27.2	19.0	23.6	3.5	11.8	17.5	27.7	18.5	21.1
2019	3.2	10.9	16.8	27.3	18.9	22.9	3.6	12.1	17.7	27.8	18.4	20.4
2020	3.3	11.2	17.0	27.4	18.7	22.3	3.8	12.5	18.0	27.9	18.2	19.7
2021	3.4	11.5	17.3	27.6	18.6	21.7	3.9	12.8	18.2	28.0	18.0	19.0
2022	3.5	11.8	17.5	27.7	18.5	21.1	4.1	13.2	18.5	28.1	17.9	18.3
2023	3.6	12.0	17.7	27.8	18.4	20.5	4.2	13.5	18.7	28.1	17.7	17.7
2024	3.7	12.3	17.8	27.8	18.3	20.0	4.4	13.9	18.9	28.2	17.5	17.2
2025	3.8	12.5	18.0	27.9	18.2	19.6	4.5	14.2	19.1	28.2	17.3	16.6

Source: SIS (2003); TSI (2011b); Eurostat (2011), authors' own calculations