Department of Economic and Social Affairs
Population Division

Patterns and trends in household size and composition: Evidence from a United Nations dataset

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DESA

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The Population Division of the Department of Economic and Social Affairs provides the international community with timely and accessible population data and analysis of population trends and development outcomes for all countries and areas of the world. To this end, the Division undertakes regular studies of population size and characteristics and of all three components of population change (fertility, mortality and migration). Founded in 1946, the Population Division provides substantive support on population and development issues to the United Nations General Assembly, the Economic and Social Council and the Commission on Population and Development. It also leads or participates in various interagency coordination mechanisms of the United Nations system. The work of the Division also contributes to strengthening the capacity of Member States to monitor population trends and to address current and emerging population issues.

Notes

The designations employed in this report and the material presented in it do not imply the expression of any opinions whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The term "country" as used in this report also refers, as appropriate, to territories or areas.

This report is available in electronic format on the Division's website at www.unpopulation.org. For further information about this report, please contact the Office of the Director, Population Division, Department of Economic and Social Affairs, United Nations, New York, 10017, USA, by Fax: 1 212 963 2147 or by e-mail at population@un.org.

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The Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat prepares national, regional and global estimates and projections of populations, monitors levels and trends in demographic indicators, and collects and analyses information on the relationship between population and development. To complement its ongoing work in the area of population and development, the Population Division has produced an international dataset that describes the size and composition of households around the world. This *United Nations Database on Household Size and Composition 2018* builds on work previously carried out by the Population Division, published in: United Nations (2017) *Household Size and Composition Around the World 2017—Data Booklet*. It was developed by Sara Hertog, Yumiko Kamiya, Mun Sim Lai and Ivan Prlincevic of the Population Division, in collaboration with a team of researchers at the Center for Demographic Studies of the Universitat Autònoma de Barcelona led by Professor Albert Esteve and including: Marc Ajenjo, Joan Garcia, Pinar Koksel, Antonio López Gay, Antonio José Medina, Rocío Treviño and Anna Turu. Estimates describing the prevalence of extended family households were developed in collaboration with UNWomen, including Ginette Azcona and Antra Bhat.

The present report summarises key patterns and trends of household size and composition around the world by describing levels or trends in various indicators, such as the average number of persons per household, the prevalence of one-persons households and large households with 6 or more members, the characteristics of heads of household, and the prevalence of nuclear, extended-family households and multi-generation households, among others. A technical annex documents the procedures used in compiling the *United Nations Database on Household Size and Composition 2018*. This report was prepared by Sara Hertog and benefited from comments received from Bela Hovy, Karoline Schmid and Frank Swiazcny, as well as editorial support from Donna Culpepper and Guangyu Zhang.

This report, as well as the associated online interactive United Nations Database on Household Size and Composition 2018, can be accessed on the Population Division's website at www.unpopulation.org. For further information concerning this publication, please contact the office of the Director, Population Division, Department of Economic and Social Affairs, United Nations, New York, 10017, USA, telephone +1 (212) 963-3209, fax +1 (212) 963- 2147, email: population@un.org.

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PATTERNS AND TRENDS IN HOUSEHOLD SIZE AND COMPOSITION: EVIDENCE FROM A UNITED NATIONS DATASET

I. INTRODUCTION

Global demographic trends marked by transitions to low levels of fertility, smaller families and ageing populations, as well as increasing urbanization and international migration, are changing the household contexts in which people live. A new dataset from the United Nations Population Division provides a comprehensive and internationally comparable set of estimates of household size and composition, drawing on data sources for 163 countries or areas with reference years ranging from 1960 to 2016. This report summarises the key findings on the patterns and trends of household size and composition around the world.

A household is defined as a group of persons who make common provision of food, shelter and other essentials for living (United Nations, 2017). The size and composition of households are intertwined with multiple social and economic processes, such as childbearing, demand for education and health care, spending priorities and consumption patterns, including demand for housing, among other goods. Understanding the patterns and trends of household size and composition around the world is thus helpful towards identifying some of the challenges and opportunities towards the achievement of the stainable development goals (SDGs), in particular those related to poverty reduction, education, gender equality, sustainable cities and protecting the environment (General Assembly Resolution 70/1).

Smaller households tend to use more energy per capita, on average, than larger households, thus trends towards smaller household size could slow progress towards the achievement of SDG 12, to ensure sustainable consumption and production patterns (Bradbury and others, 2014; Kowsari and Zerriffi, 2011; Liddle, 2004; MacLellar and others, 1995; O'Neill and Chen, 2002; Prskawetz and others, 2001). Preparing for a growing number of households is also key to achieving SDG 7, to ensure access to affordable, reliable, sustainable and modern energy for all. Moreover, the increasing concentration of households in cities (United Nations, 2018) may challenge the achievement of SDG 11, to make cities and human settlements inclusive, safe, resilient and sustainable.

The composition or membership of households has important consequences for the well-being of families and individuals. For example, evidence from several developed countries indicates that households headed by women, including single-mother households, tend to be more vulnerable to poverty than two-parent households (Organisation for Economic Co-operation and Development, 2011; Brown and colleagues, 2015;). Other studies have linked older persons' material well-being, as well as their psycho-social health and life satisfaction to the composition of their households (Hughes and Waite, 2002; Raymo and others, 2008; McKinnon and others, 2013; Zimmer and Das, 2014; Guan and others, 2015; Henning-Smith, 2016). Understanding the differences between populations in patterns of household composition and associated changes over time are thus relevant for efforts to achieve SDG 1, to end poverty in all its forms everywhere, as well as SDG 3, to ensure healthy lives and promote well-being for all at all ages.

Until recently, there was no globally harmonized and comparable dataset on patterns and trends in household size and composition. Apart from country-specific data published by national statistical offices, estimates of household size and composition have been available through only a few limited datasets. For example, the Organization for Economic Cooperation and Development (OECD) Family

Database (http://www.oecd.org/els/family/database.htm) and Eurostat database from the European Commission (http://ec.europa.eu/eurostat/data/database), provide extensive information about households and families, but include data for only a limited number of countries. The Demographic Yearbook of the United Nations is more broadly representative of countries around the globe but provides less detail on the composition of households and reflects different countries' definitions of household types, thereby limiting comparability across countries. In 2017, the United Nations Population Division published its first *Database on Household Size and Composition*, with internationally comparable estimates of household size, female headship and the age-composition of household members. In 2018, that database has been extended to include more data sources, countries and time periods than previous and to present estimates of additional household indicators such as the prevalence of nuclear and multi-generational households.

This United Nations Database on Household Size and Composition 2018 presents a compilation of indicators on household size and membership composition around the world, estimated using both tabulated data and household roster micro-data from censuses and household surveys. Data sources include the census and survey microdata samples from the Integrated Public Use Microdata Samples – International (IPUMS-I), the household roster microdata from the Demographic and Health Surveys (DHS), and tabulated data from the United Nations Demographic Yearbook (DYB) and European Union Labour Force Surveys (LFS). In total, the estimates in the 2018 database update draw on 745 unique data sources from 162 countries or areas, representing approximately 97 per cent of the world's population in 2018, with reference dates ranging from 1960 to 2016.

This report summarises key patterns and trends of household size and composition around the world, based on the *United Nations Database on Household Size and Composition 2018*. Section two addresses patterns and trends in the number of members per household, including the average household size, as well as the prevalences of large households with six or more members and households consisting of only one person living alone. Section three addresses patterns across countries and regions in the demographic characteristics of the household member identified as the head of household, describing the prevalence of female-headed households as well as the percentages of households with a head under age 20 years, between ages 20 and 64 years and age 65 years or over. Section four describes the composition of households by age of members, focusing in particular on households with members under age 20 years or age 65 years or over. Section five details patterns and trends over time in the prevalence of different household types, such as one-person households, nuclear households, single-parent households and extended-family households, among others. Section six concludes with an assessment of similarities and differences across countries in the prevalence of various inter-genereational household types, including multigeneration households that have adult members from two or more generations, as well as those with three generations sharing a household, and skip-generation households consisting only of grandparents and their grandchildren.

A technical annex to this report describes the data sources and methods used to compile the estimates in the database. Interactive country profiles that present the estimates compiled in the database are accessible on the website of the Population Division available from https://population.un.org/Household/.

II. HOUSEHOLD SIZE

A. Patterns of household size

People who reside together in a household typically share not only a dwelling, but also a budget and responsibilities for supporting and maintaining the household unit. The average number of persons per household in a population, or average household size, may be influenced by patterns of marriage and fertility, home-leaving among young people, norms surrounding intergenerational support, and patterns of employment and housing costs, among other factors. Across 153 countries or areas for which an estimate is available,[1] the average household size ranges from 2.1 persons per household in both Finland and Germany to over 8 persons per household in Afghanistan, Gambia, Oman and Senegal (figure 1). The mean average household size across the 153 countries or areas is 4.0 persons per household and the median is 3.8 persons per household.

Figure 1. Average household size, most recent estimates for 153 countries or areas
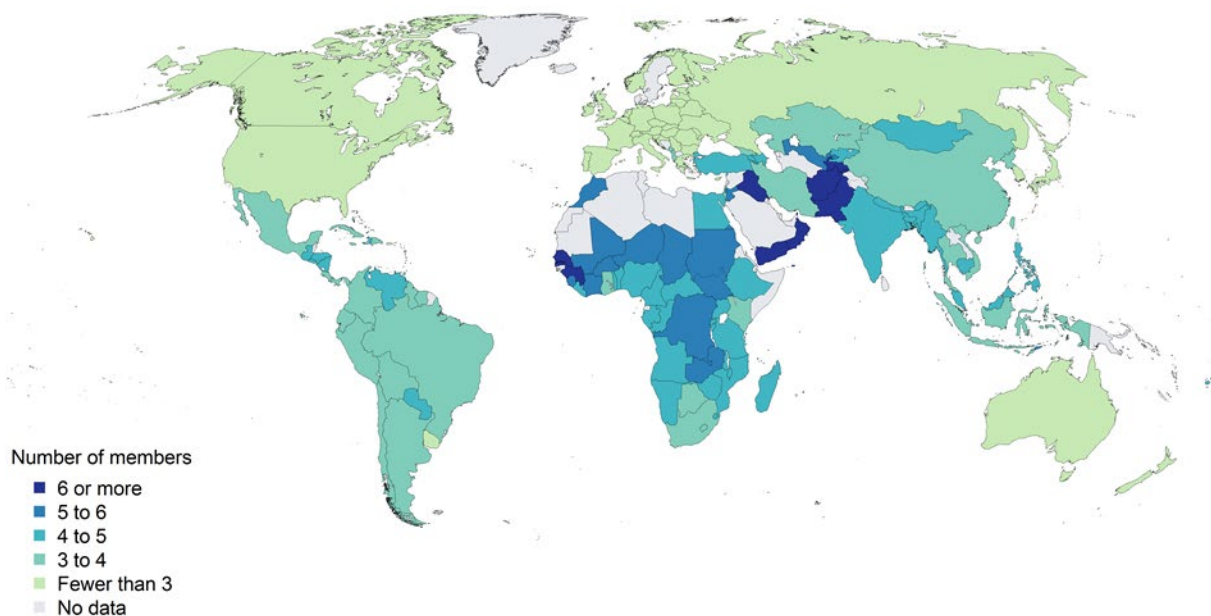
Data source: United Nations Database on Household Size and Composition 2018.

NOTE: The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

Comparing the eight geographic regions of the world,[2] households in sub-Sahran Africa, Northern Africa and Western Asia, Central and Southern Asia, and Oceania* tend to be larger, while those in Eastern and South-Eastern Asia, Latin America and the Caribban, Australia and New Zealand, and

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[1] This analysis reflects the most recent estimate of average household size for each country or area. For 115 countries or areas, the most recent estimate in the database refers to the year 2010 or later. For an additional 35 countries or areas, the most recent estimate refers to a year between 2000 and 2009. For 3 countries, the most recent estimate refers to a year prior to 2000: the Central African Republic (1994 DHS), Iraq (1997 IPUMS) and Uzbekistan (1996 DHS).

[2] The regions referred to throughout this report are those used in *The Sustainable Development Goals Report* available from https://unstats.un.org/sdgs/indicators/regional-groups/.

Europe and Northern America tend to be smaller (figure 2). However, these broad regional generalizations overlook the substantial heterogeneity in average household size observed across countries within regions. For example, among the 42 countries or areas of sub-Saharan Africa with a recent estimate, the median average household size is 4.8 persons per household and for half of those countries or areas the average household size is between 4.1 and 5.3 persons per household (the 25th and 75th percentiles shown in figure 2). In three sub-Saharan African countries, households average more than 6 members each. They are, in descending order according to average household size: Senegal (8.3 persons per household), Gambia (8.2) and Guinea (6.3). The average household size is fewer than 4 persons per household in eight countries in the region: Sao Tome and Principe (3.8 persons per household), Seychelles (3.8), Kenya (3.6), Botswana (3.5), Ghana (3.5), Mauritius (3.5), Lesotho (3.3) and South Africa (3.2).

Figure 2. Average household size by region, most recent estimates for 153 countries or areas
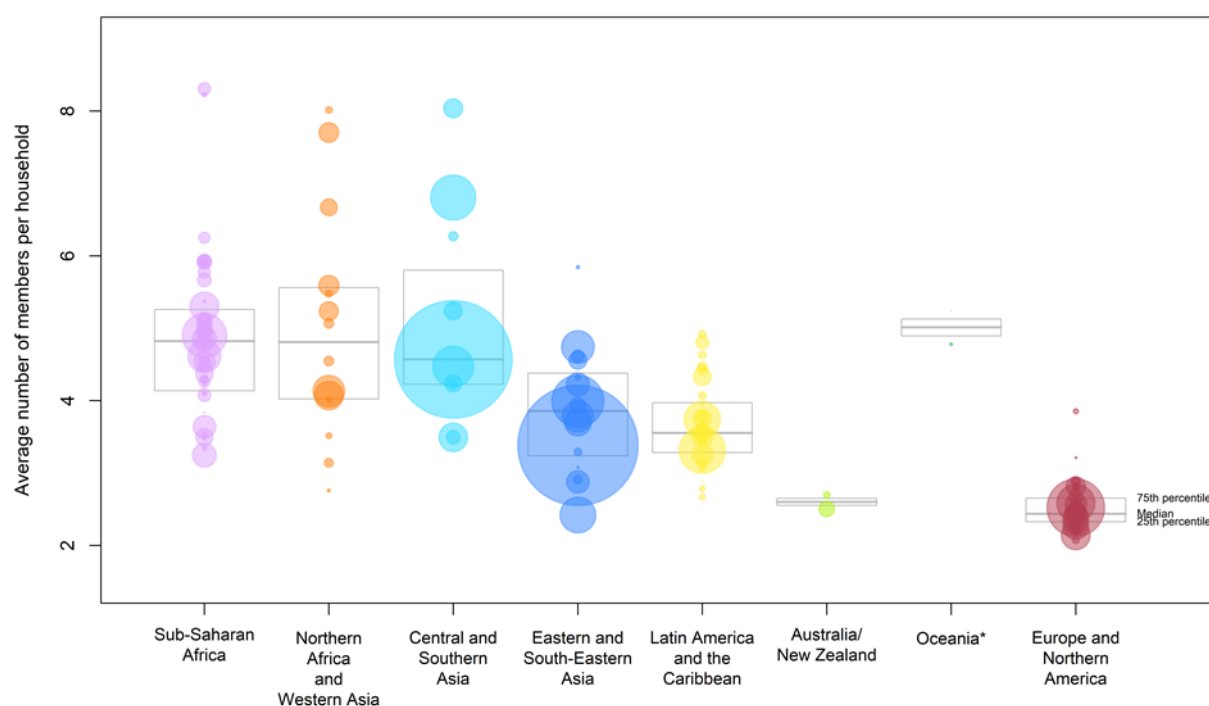
Data source: United Nations Database of Household Size and Composition 2018.
NOTE: Marker size is proportional to the total population in 2018.
*Excludes Australia and New Zealand.

A wide range of average household sizes is observed as well among the 14 countries or areas of Northern Africa and Western Asia shown in figure 2. The median average household size in this region is 4.8 persons per household, ranging from a low of 2.8 persons per household in Cyprus to a high of 8.0 persons per household in Oman. Similarly, among the 11 countries of Central and Southern Asia depicted in figure 2, the average household size spans a wide range from 3.5 in Iran to 8.0 in Afghanistan, surrounding a median of 4.6 persons per household for the region.

By contrast, of the 16 countries or areas of Eastern and South-Eastern Asia shown in figure 2, none has more than 6 persons per household on average, and for half of the countries, the average household

size falls between 3.2 and 4.4 persons, with a median of 3.9 for the region. The smallest average household sizes in Eastern and South-Eastern Asia are observed in Japan (2.4 persons per household), Republic of Korea (2.9), Hong Kong special administrative region (SAR) of China (2.9) and Macao (SAR) of China (3.1).

Among 28 countries or areas of Latin America and the Caribbean, the range of average household sizes is somewhat narrower, from fewer than 3 persons per household in Aruba, Puerto Rico, Sint Maarten (Dutch part) and Uruguay, to just under 5 persons per household in both Guatemala and Nicaragua. The median average household size across the 28 countries in this region (figure 2) is 3.6 persons per household and the average household size falls between 3.3 and 4.0 for half of the countries or areas.

Households in Australia and New Zealand average fewer than 3 persons each and so do households in all but 2 of the 38 countries or areas of Europe and Northern America depicted in figure 2. Households average 3.9 persons in Albania and 3.2 persons in Montenegro, making these 2 countries the outliers for the region. The median average household size across Europe and Northern America is 2.4 and for half of the countries or areas in the region, the average household size falls between 2.3 and 2.7 persons per household.

Recent estimates of the distribution of households by number of members are available for 160 countries or areas (figure 3).[3] In 11 countries or areas, large households with 6 or more members account for more than half of all households: Guinea (51 per cent), Oman (52 per cent), South Sudan (53 per cent), Timor-Leste (53 per cent), Tajikistan (56 per cent), Yemen (60 per cent), Pakistan (61 per cent), Gambia (61 per cent), Senegal (64 per cent), Iraq (68 per cent) and Afghanistan (77 per cent). By contrast, such large households are quite rare in 14 countries, where those with six or more members account for less than 2 per cent of all households: Germany (1.4 per cent), Italy (1.4 per cent), the Netherlands (1.4 per cent), Norway (1.6 per cent), Finland (1.6 per cent), Liechtenstein (1.6 per cent), Switzerland (1.6 per cent), Czechia (1.7 per cent), Estonia (1.7 per cent), France (1.7 per cent), Spain (1.8 per cent), Lithuania (1.8 per cent), Republic of Korea (1.8 per cent) and Slovenia (1.9 per cent).

In many countries, particularly in Europe, it is common for individuals to live alone. In 12 countries, more than one third of households have only one member: Luxembourg (33 per cent), Belgium (34 per cent), Estonia (34 per cent), France (34 per cent), Latvia (34 per cent), Liechtenstein (34 per cent), the Netherlands (35 per cent), Austria (36 per cent), Germany (37 per cent), Switzerland (38 per cent), Norway (40 per cent) and Finland (41 per cent). By contrast, one-person households are extremely rare in Afghanistan, where they account for less than 1 per cent of all households, as well as in Bangladesh, the Democratic People's Republic of Korea, Iraq, Pakistan and Yemen, where less than 2 per cent of all households contain only one member.

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[3] Seven countries reported to the United Nations Demographic Yearbook estimates of the distribution of households by size, but did not report the information necessary to estimate the average household size, thus, the number of countries or areas represented in figure 3 is larger than that represented in figures 1 and 2. For 119 of the 160 countries or areas, estimates refer to the year 2010 or later. For an additional 38 countries or areas, the most recent estimates refer to a year between 2000 and 2009. For three countries, the Central African Republic (1994 DHS), Iraq (1997 IPUMS) and Uzbekistan (1996 DHS), the most recent estimates refer to a year prior to 2000.

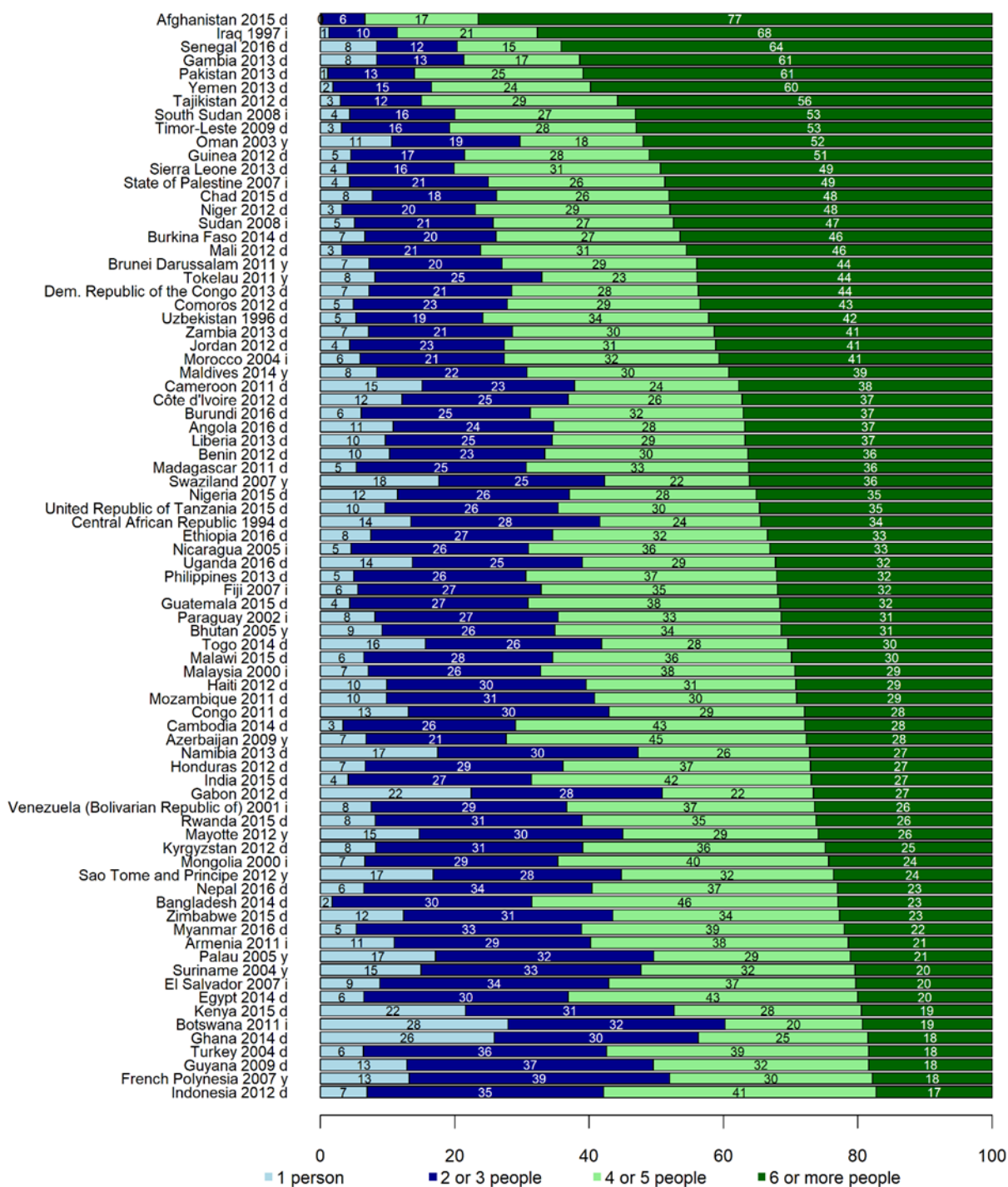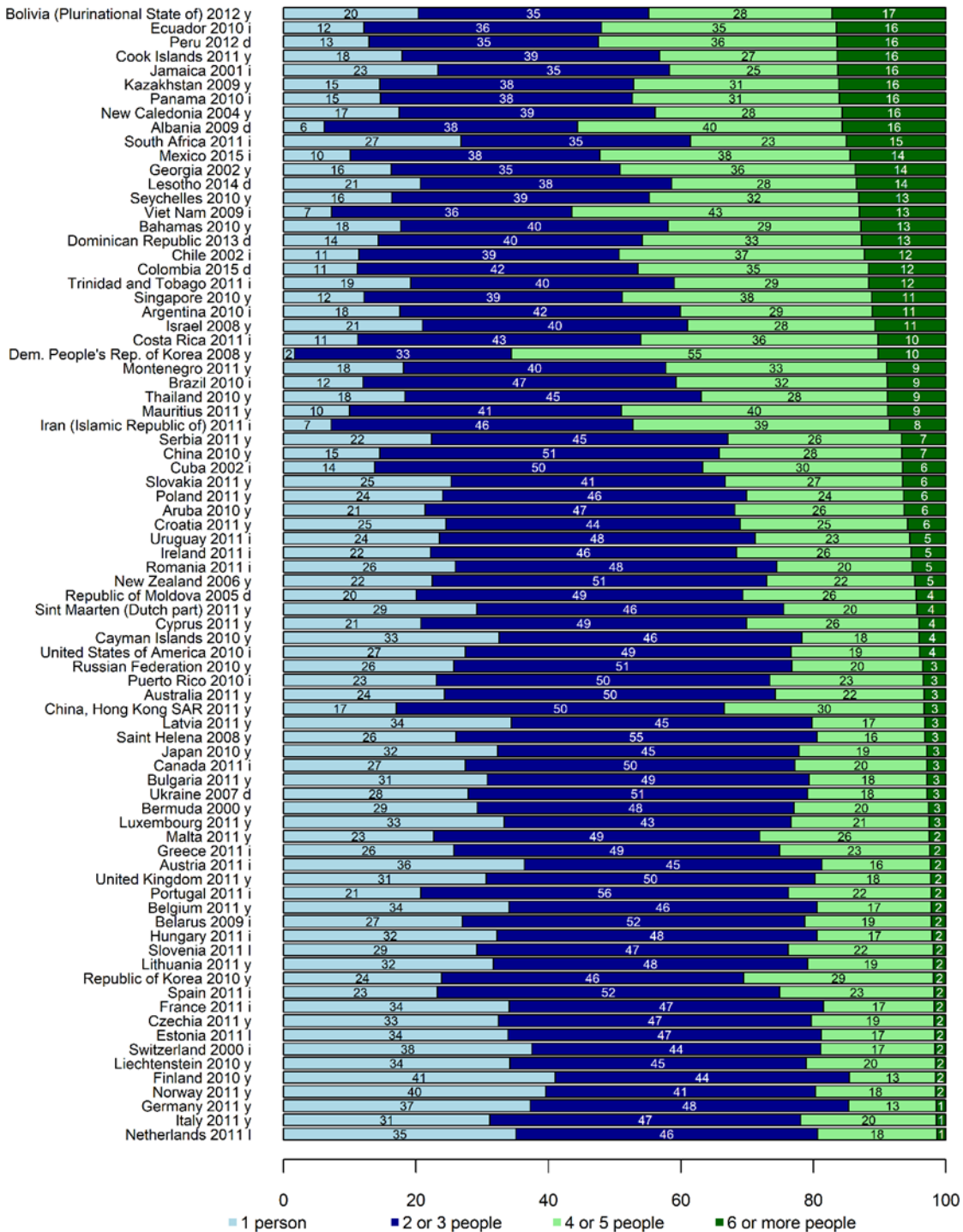**Figure 3. Share of households by number of members, most recent estimates for 160 countries or areas**

Country/Area	1 person	2 or 3 people	4 or 5 people	6 or more people
Afghanistan 2015 d	0	6	17	77
Iraq 1997 i	1	10	21	68
Senegal 2016 d	8	12	15	64
Gambia 2013 d	8	13	17	61
Pakistan 2013 d	1	13	25	61
Yemen 2013 d	2	15	24	60
Tajikistan 2012 d	3	12	29	56
South Sudan 2008 i	4	16	27	53
Timor-Leste 2009 d	3	16	28	53
Oman 2003 y	11	19	18	52
Guinea 2012 d	5	17	28	51
Sierra Leone 2013 d	4	16	31	49
State of Palestine 2007 i	4	21	26	49
Chad 2015 d	8	18	26	48
Niger 2012 d	3	20	29	48
Sudan 2008 i	5	21	27	47
Burkina Faso 2014 d	7	20	27	46
Mali 2012 d	3	21	31	46
Brunei Darussalam 2011 y	7	20	29	44
Tokelau 2011 y	8	25	23	44
Dem. Republic of the Congo 2013 d	7	21	28	44
Comoros 2012 d	5	23	29	43
Uzbekistan 1996 d	5	19	34	42
Zambia 2013 d	7	21	30	41
Jordan 2012 d	4	23	31	41
Morocco 2004 i	6	21	32	41
Maldives 2014 y	8	22	30	39
Cameroon 2011 d	15	23	24	38
Côte d'Ivoire 2012 d	12	25	26	37
Burundi 2016 d	6	25	32	37
Angola 2016 d	11	24	28	37
Liberia 2013 d	10	25	29	37
Benin 2012 d	10	23	30	36
Madagascar 2011 d	5	25	33	36
Swaziland 2007 y	18	25	22	36
Nigeria 2015 d	12	26	28	35
United Republic of Tanzania 2015 d	10	26	30	35
Central African Republic 1994 d	14	28	24	34
Ethiopia 2016 d	8	27	32	33
Nicaragua 2005 i	5	26	36	33
Uganda 2016 d	14	25	29	32
Philippines 2013 d	5	26	37	32
Fiji 2007 i	6	27	35	32
Guatemala 2015 d	4	27	38	32
Paraguay 2002 i	8	27	33	31
Bhutan 2005 y	9	26	34	31
Togo 2014 d	16	26	28	30
Malawi 2015 d	6	28	36	30
Malaysia 2000 i	7	26	38	29
Haiti 2012 d	10	30	31	29
Mozambique 2011 d	10	31	30	29
Congo 2011 d	13	30	29	28
Cambodia 2014 d	3	26	43	28
Azerbaijan 2009 y	7	21	45	28
Namibia 2013 d	17	30	26	27
Honduras 2012 d	7	29	37	27
India 2015 d	4	27	42	27
Gabon 2012 d	22	28	22	27
Venezuela (Bolivarian Republic of) 2001 i	8	29	37	26
Rwanda 2015 d	8	31	35	26
Mayotte 2012 y	15	30	29	26
Kyrgyzstan 2012 d	8	31	36	25
Mongolia 2000 i	7	29	40	24
Sao Tome and Principe 2012 y	17	28	32	24
Nepal 2016 d	6	34	37	23
Bangladesh 2014 d	2	30	46	23
Zimbabwe 2015 d	12	31	34	23
Myanmar 2016 d	5	33	39	22
Armenia 2011 i	11	29	38	21
Palau 2005 y	17	32	29	21
Suriname 2004 y	15	33	32	20
El Salvador 2007 i	9	34	37	20
Egypt 2014 d	6	30	43	20
Kenya 2015 d	22	31	28	19
Botswana 2011 i	28	32	20	19
Ghana 2014 d	26	30	25	18
Turkey 2004 d	6	36	39	18
Guyana 2009 d	13	37	32	18
French Polynesia 2007 y	13	39	30	18
Indonesia 2012 d	7	35	41	17

Legend: ■ 1 person   ■ 2 or 3 people   ■ 4 or 5 people   ■ 6 or more people

Percentage of households

Figure 3 (cont'd). Share of households by number of members, most recent estimates for 160 countries or areas

Country/area	1 person	2 or 3 people	4 or 5 people	6 or more people
Bolivia (Plurinational State of) 2012 y	20	35	28	17
Ecuador 2010 i	12	36	35	16
Peru 2012 d	13	35	36	16
Cook Islands 2011 y	18	39	27	16
Jamaica 2001 i	23	35	25	16
Kazakhstan 2009 y	15	38	31	16
Panama 2010 i	15	38	31	16
New Caledonia 2004 y	17	39	28	16
Albania 2009 d	6	38	40	16
South Africa 2011 i	27	35	23	15
Mexico 2015 i	10	38	38	14
Georgia 2002 y	16	35	36	14
Lesotho 2014 d	21	38	28	14
Seychelles 2010 y	16	39	32	13
Viet Nam 2009 i	7	36	43	13
Bahamas 2010 y	18	40	29	13
Dominican Republic 2013 d	14	40	33	13
Chile 2002 i	11	39	37	12
Colombia 2015 d	11	42	35	12
Trinidad and Tobago 2011 i	19	40	29	12
Singapore 2010 y	12	39	38	11
Argentina 2010 i	18	42	29	11
Israel 2008 y	21	40	28	11
Costa Rica 2011 i	11	43	36	10
Dem. People's Rep. of Korea 2008 y	2	33	55	10
Montenegro 2011 y	18	40	33	9
Brazil 2010 i	12	47	32	9
Thailand 2010 y	18	45	28	9
Mauritius 2011 y	10	41	40	9
Iran (Islamic Republic of) 2011 i	7	46	39	8
Serbia 2011 y	22	45	26	7
China 2010 y	15	51	28	7
Cuba 2002 i	14	50	30	6
Slovakia 2011 y	25	41	27	6
Poland 2011 y	24	46	24	6
Aruba 2010 y	21	47	26	6
Croatia 2011 y	25	44	25	6
Uruguay 2011 i	24	48	23	5
Ireland 2011 i	22	46	26	5
Romania 2011 i	26	48	20	5
New Zealand 2006 y	22	51	22	5
Republic of Moldova 2005 d	20	49	26	4
Sint Maarten (Dutch part) 2011 y	29	46	20	4
Cyprus 2011 y	21	49	26	4
Cayman Islands 2010 y	33	46	18	4
United States of America 2010 i	27	49	19	4
Russian Federation 2010 y	26	51	20	3
Puerto Rico 2010 i	23	50	23	3
Australia 2011 y	24	50	22	3
China, Hong Kong SAR 2011 y	17	50	30	3
Latvia 2011 y	34	45	17	3
Saint Helena 2008 y	26	55	16	3
Japan 2010 y	32	45	19	3
Canada 2011 i	27	50	20	3
Bulgaria 2011 y	31	49	18	3
Ukraine 2007 d	28	51	18	3
Bermuda 2000 y	29	48	20	3
Luxembourg 2011 y	33	43	21	3
Malta 2011 y	23	49	26	2
Greece 2011 i	26	49	23	2
Austria 2011 i	36	45	16	2
United Kingdom 2011 y	31	50	18	2
Portugal 2011 i	21	56	22	2
Belgium 2011 y	34	46	17	2
Belarus 2009 i	27	52	19	2
Hungary 2011 i	32	48	17	2
Slovenia 2011 l	29	47	22	2
Lithuania 2011 y	32	48	19	2
Republic of Korea 2010 y	24	46	29	2
Spain 2011 i	23	52	23	2
France 2011 i	34	47	17	2
Czechia 2011 y	33	47	19	2
Estonia 2011 l	34	47	17	2
Switzerland 2000 i	38	44	17	2
Liechtenstein 2010 y	34	45	20	2
Finland 2010 y	41	44	13	2
Norway 2011 y	40	41	18	2
Germany 2011 y	37	48	13	1
Italy 2011 y	31	47	20	1
Netherlands 2011 l	35	46	18	1

Legend: ■ 1 person ■ 2 or 3 people ■ 4 or 5 people ■ 6 or more people

Percentage of households

Data source: United Nations Database of Household Size and Composition 2018.

NOTE: d: Demographic and Health Surveys (DHS); i: Integrated Public Use Microdata Series-International (IPUMS-I); l: European Union Labour Force Survey (LFS); y: United Nations Demographic Yearbook (DYB).

7

B. Trends in household size

For 54 countries or areas, the United Nations household database includes estimates of the average household size for at least three different periods and with the earliest estimate referring to the year 1995 or earlier and the latest to the year 2010 or later, facilitating a cursory description of changes in the average household size over time. Estimated trends indicate that in most countries the average household size has declined over recent decades (figure 4). A steep decline in average household size was observed for Botswana, for example, where it fell from 5.6 persons per household according to the estimate drawn from the 1981 IPUMS-I sample to 3.5 persons per household according to the estimate drawn from the 2011 IPUMS-I sample. In Brazil, the average household size declined from 5.1 persons per household as estimated from the 1960 IPUMS-I sample to 3.3 persons per household, estimated from the 2010 IPUMS-I sample. In Peru, the average household size fell from the 5.3 persons per household recorded in the 1991 DHS to 3.8 persons per household in the 2012 DHS. Colombia, Costa Rica, the Dominican Republic, Ecuador, Jamaica, Kenya, Mexico, Panama, Puerto Rico and Trinidad and Tobago each experienced decline in average household size like those observed in Botswana, Brazil and Panama since the late twentieth century.

Numerous other countries or areas also saw the average household size decline, but from lower levels in the 1960s-80s and at a slower pace. In Austria, for example, average household size fell from 2.9 persons per household according to the estimate from the 1971 IPUMS-I sample to 2.3 persons per household in 2011 according to the estimates from the DYB and LFS. In Poland, the average household size fell from 3.2 persons in 1978 to 2.8 in 2011, and in the United States it fell from 3.3 persons per household in 1960 to 2.5 in 2010.

While declines in average household size are widespread, this trend is not universal. In several countries, particularly among high-fertility populations in Africa, average household size has remained essentially unchanged over recent decades. Examples include Mali and Niger, where average household size has held steady around 6 members per household. Household sizes estimated from the DHS and IPUMS-I samples for Ethiopia and Uganda are smaller by comparison, at around 5 persons per household, on average, but also appear to have changed little over the past 20 years or so.

Figure 4. Average household size for 54 countries with at least three observations, various years
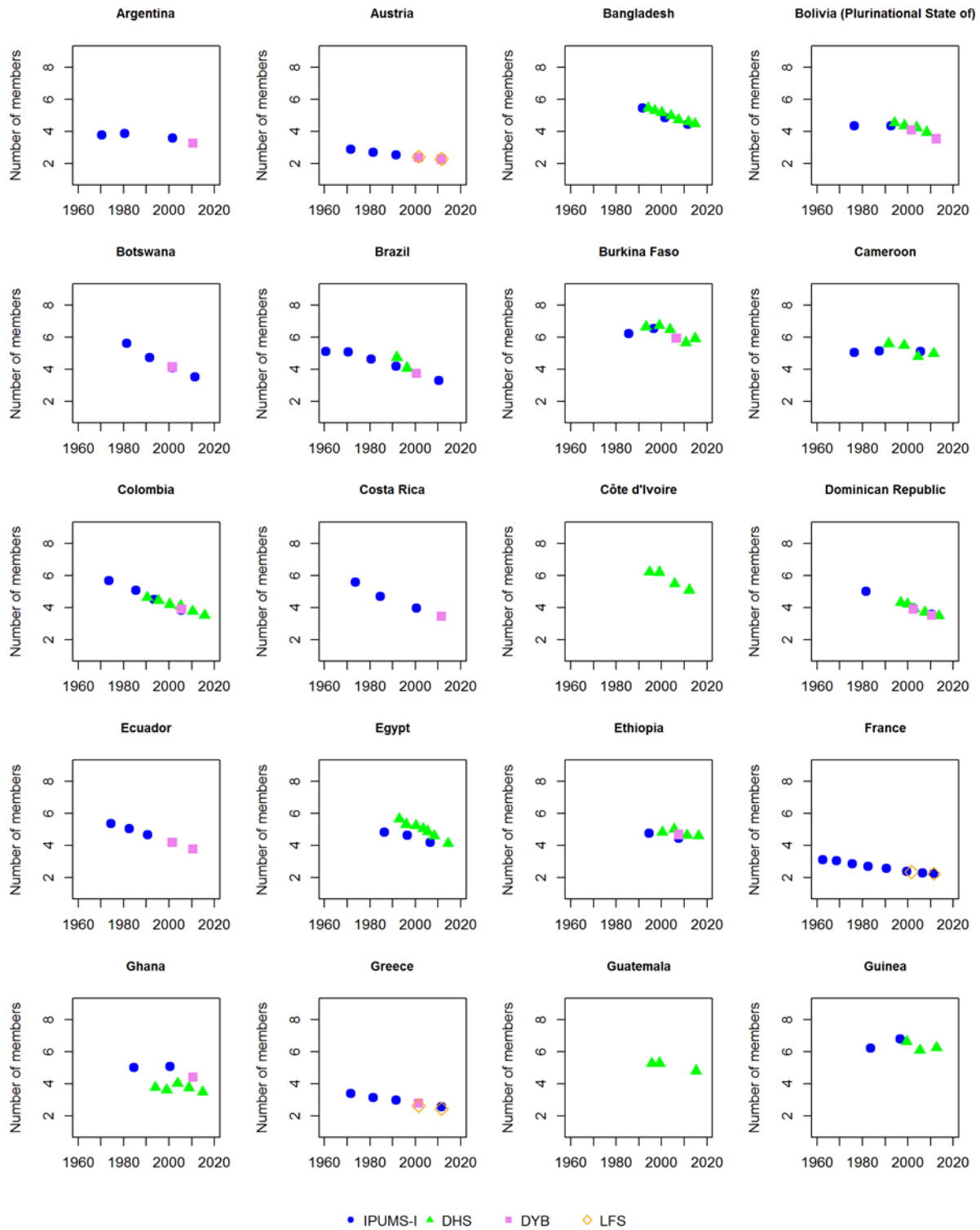
● IPUMS-I ▲ DHS ■ DYB ◇ LFS

Figure 4 (cont'd). Average household size for 54 countries with at least three observations, various years
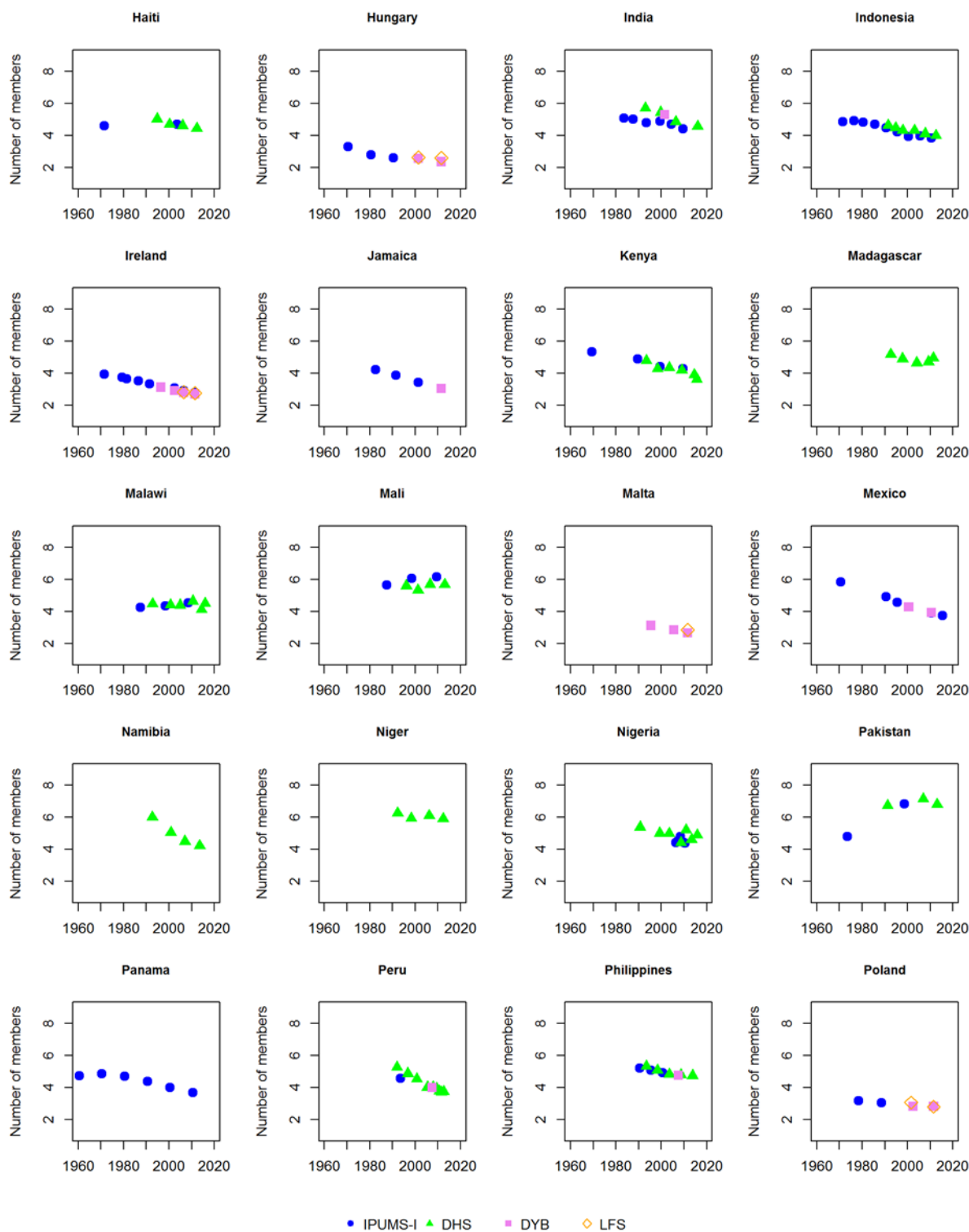
Figure 4 (cont'd). Average household size for 54 countries with at least three observations, various years
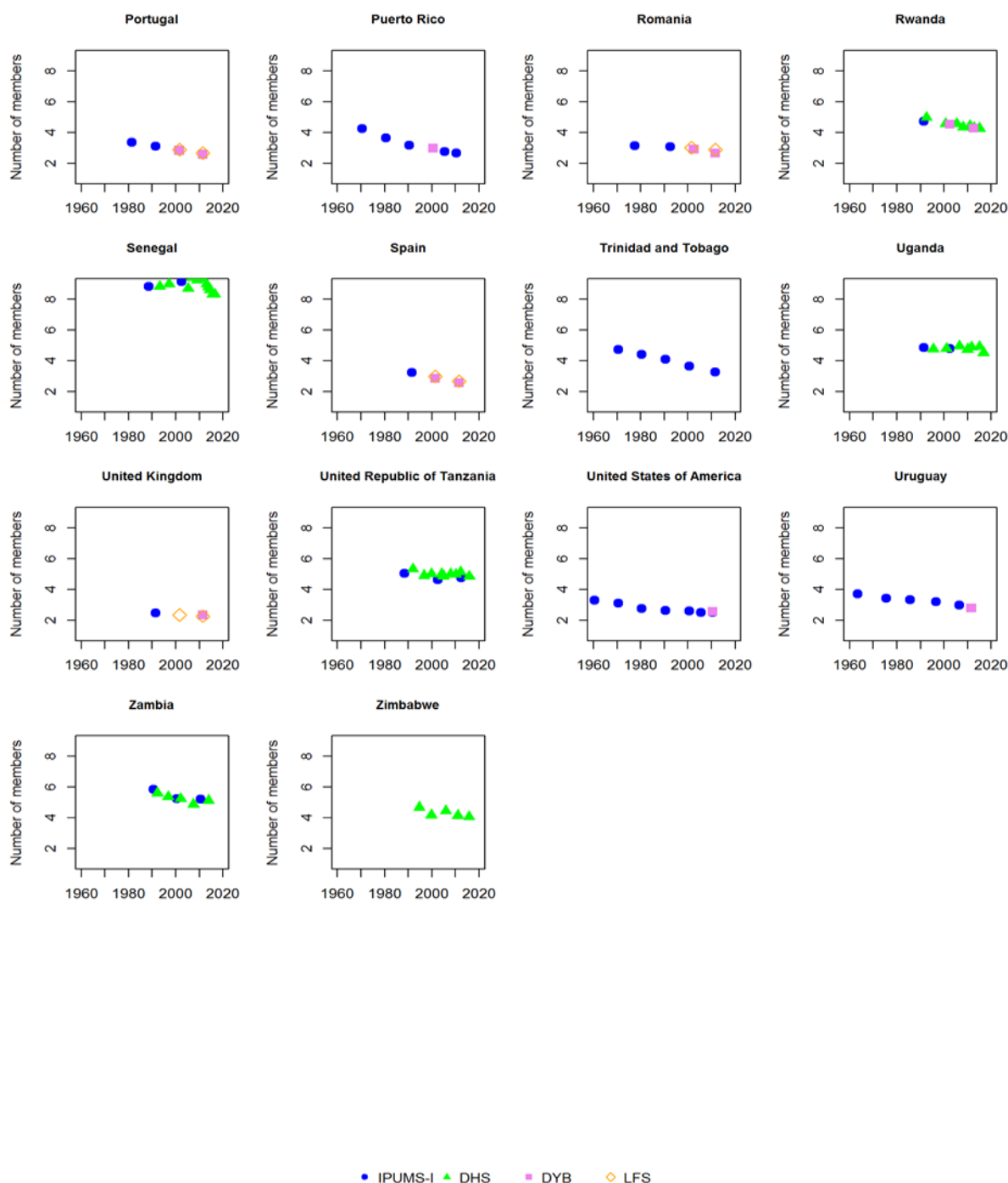
Data source: United Nations Database of Household Size and Composition 2018.
NOTE: IPUMS-I: Integrated Public Use Microdata Series - International; DHS: Demographic and Health Surveys; DYB: United Nations Demographic Yearbook; LFS: European Union Labour Force Survey.

III. Demographic characteristics of household heads

A. Patterns of female headship

Information on household composition is collected in censuses and surveys typically by describing each household member's relationship to a single reference person identified as the focal member for the entire household. The criteria for identification of the reference person among the household members can differ across different data collection instruments, but very often this person is described as the head of household. The United Nations *Principles and Recommendations for Population and Housing Censuses* describes the traditional notion of a head of household, which assumes that most households are comprised of family members and that one person in the family holds primary authority and resonsibility for household affairs and is, in the majority of cases, its chief economic support. This particular concept of household headship may not be appropriate for all contexts, such as where spouses share equally in the responsitility for household affairs and economic support or where the person who takes primary responsibility for household affairs is not the same person who provides the bulk of the economic support. The *Principles and Recommendations* further recognize that gender stereotypes can lead enumerators and respondents to identify a male member as head of household, even in instances where a female household member is primarily responsible for household affairs or economic support.

Despite these limitations, the prevalence of female heads of households is often used to approximate the percentage of households that do not have an adult male member. Often, the female heads of households with children present are single mothers and, in many contexts, these households are more vulnerable to poverty than two-parent households (Brown and others, 2015; OECD, 2011). Various social and economic factors may shape the prevalence of female headship, such as social norms surrounding home-leaving among young adults, the prevalence of non-marital childbearing, trends in divorce or separation, migration patterns, or the tendency of older persons to live alone, to name several.

Recent estimates of the proportion of households headed by a female member for 153 countries or areas around the world indicate that female headship is relatively rare in many countries or areas of Asia and Africa, but it is quite common in the other regions. Countries in Northern Africa and Western Asia tend to have the lowest rates of female headship (figure 5). The median proportion of female heads of household is 13 per cent across the 13 countries or areas in the region with available data. Female headship is particularly rare among households in Yemen, where less than 8 per cent of households were headed by women, as well as in the State of Palestine and Iraq, where 10 per cent of households have female heads. However, in four of the 13 countries of Northern Africa and Western Asia with available data, more than one in four households are headed by a woman, including Azerbaijan and Sudan, where female-headed households account for 27 per cent of all households, as well as Armenia (29 per cent) and Israel (49 per cent).

Figure 5. Proportion of households headed by a woman, most recent estimates for 153 countries or areas
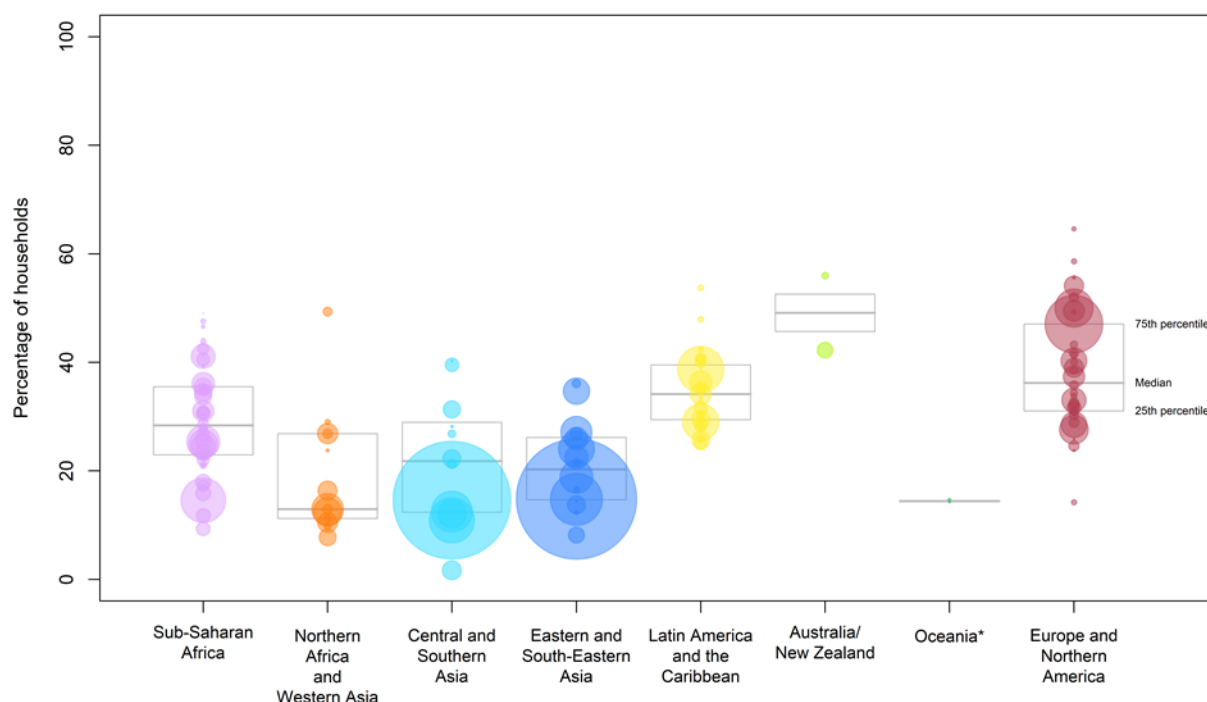
Data source: United Nations Database of Household Size and Composition 2018.
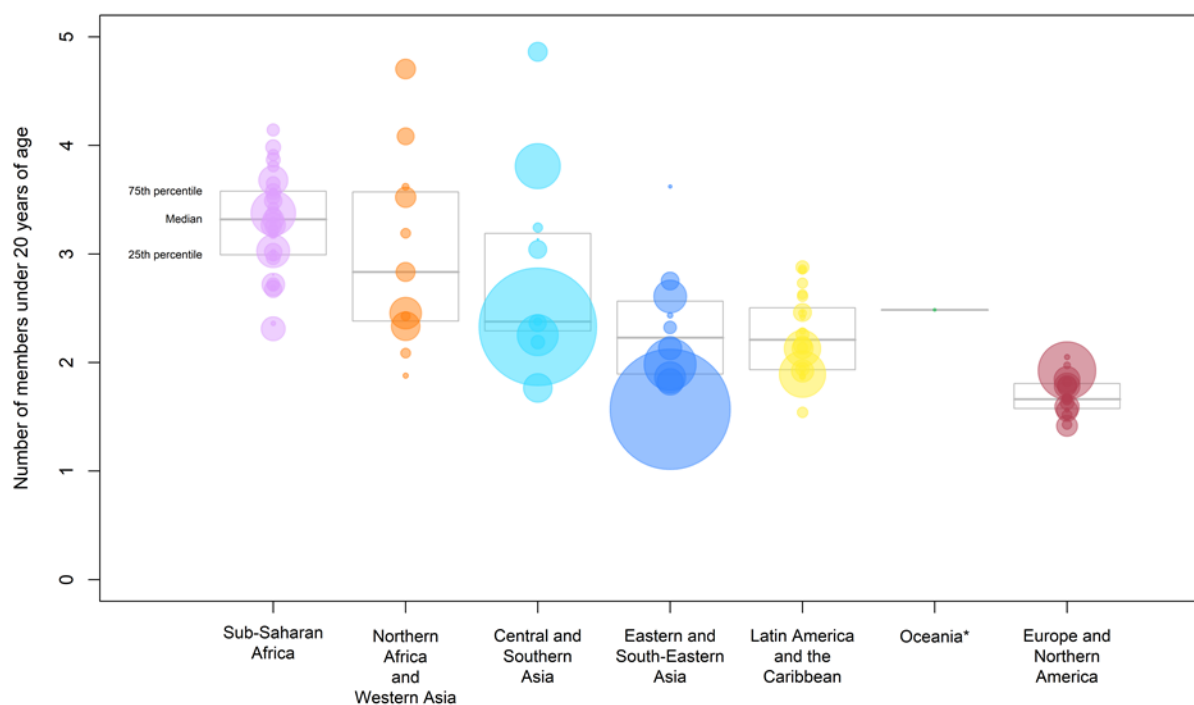NOTE: Marker size is proportional to the total population in 2018.

The median proportion of female heads is higher across the 12 countries or areas of Central and Southern Asia, at 22 per cent, although with a similarly wide range, from less than 2 per cent of households headed by a woman in Afghanistan to 40 per cent in the Maldives. For the 16 countries or areas of Eastern and South-Eastern Asia depicted in figure 5, the prevalence of female-headed households ranges from 8 per cent in the Democratic People's Republic of Korea to 36 per cent in Hong Kong (SAR of China), around a median of 20 per cent for the region. The median proportion of female-headed households is higher still for sub-Saharan Africa, at 28 per cent, ranging from a low of 9 per cent in Mali to a high of more than 45 per cent in Botswana, Seychelles and Swaziland.

Rates of female headship in Latin America and the Caribbean range from 25 per cent in Guatemala to 54 per cent in Puerto Rico. The median across the 29 countries or areas in the region with available estimates is 34 per cent. The median rate of female headship across 34 countries or areas in Europe is similar at 35 per cent, although the range is wider, from Albania, where just 14 per cent of households are headed by women, to Latvia, where close to two thirds of households have a female head.

In total, for 9 of the 153 countries or areas with an estimate (figure 5), more than half of all households are headed by women, including: the Russian Federation (50 per cent), Bermuda (51 per cent), Belarus (52 per cent), Puerto Rico (54 per cent), Poland (54 per cent), Estonia (56 per cent), New Zealand (56 per cent), Lithuania (59 per cent) and Latvia (65 per cent).

B. Patterns in the ages of household heads

Throughout the world, persons under age 20 account for a very small fraction of household heads and most heads are between 20 and 64 years of age. However, persons aged 65 years or over account for a sizable proportion of household heads in some regions, such as Europe and Northern America.

Heads of household under age 20 years account for no more than 5 per cent of all household heads in any of the 147 countries or areas with available data (figure 6). These young heads of household are most prevalent in Bolivia (5 per cent of all households), Mozambique (3 per cent) and the Central African Republic (3 per cent). The proportion of heads of household that are "working aged" (that is, aged 20-64 years) versus "older persons" (aged 65 years or over) is highly correlated with the level of population ageing. Countries or areas of Europe and Asia that are more advanced in the population ageing process tend to have the highest proportion of households headed by older persons. In both Italy and Japan, the world's most aged countries (United Nations, 2017b), approximately one third of household heads are aged 65 years or over and two thirds are aged 20 to 64 years. By contrast, in countries with relatively young population age structures, nearly all household heads are in the working-age range. In Oman, where older persons comprise less than 5 per cent of the population overall (United Nations, 2017b), 91 per cent of household heads are aged 20 to 64 years, while just 8 per cent of household heads are aged 65 years or over.

Figure 6. Proportion of households by age of the head of household, most recent estimates for 147 countries or areas
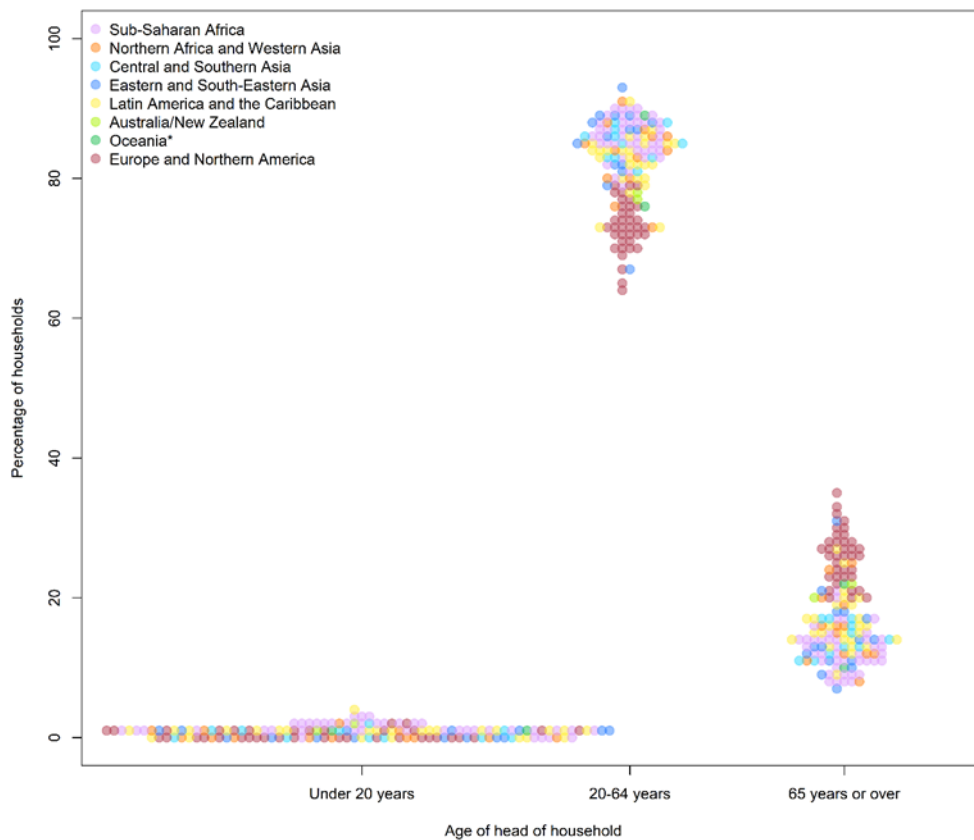
Data source: United Nations Database of Household Size and Composition 2018.

IV. COMPOSITION OF HOUSEHOLDS BY AGES OF HOUSEHOLD MEMBERS

A. Patterns in the ages of household members

The presence of children in the household has important implications for a household's priorities, particularly with respect to the demand for and allocation of resources for education and health care. The proportion of households that include at least one member under 20 years of age varies widely across countries, with households in Africa and Asia much more likely to include a young person than households in Europe and Northern America (figure 7). At the high end of the distribution, 96 per cent of households in Afghanistan include at least one member under age 20 years, as do 93 per cent of households in Niger. By contrast, in Austria, Switzerland and Hungary, less than 30 per cent of households include a member under 20 years of age.

Figure 7. Proportion of households with a member under 20 years of age and 65 years or over, and with members under 20 years of age and 65 years or over, most recent estimates for 115 countries or areas
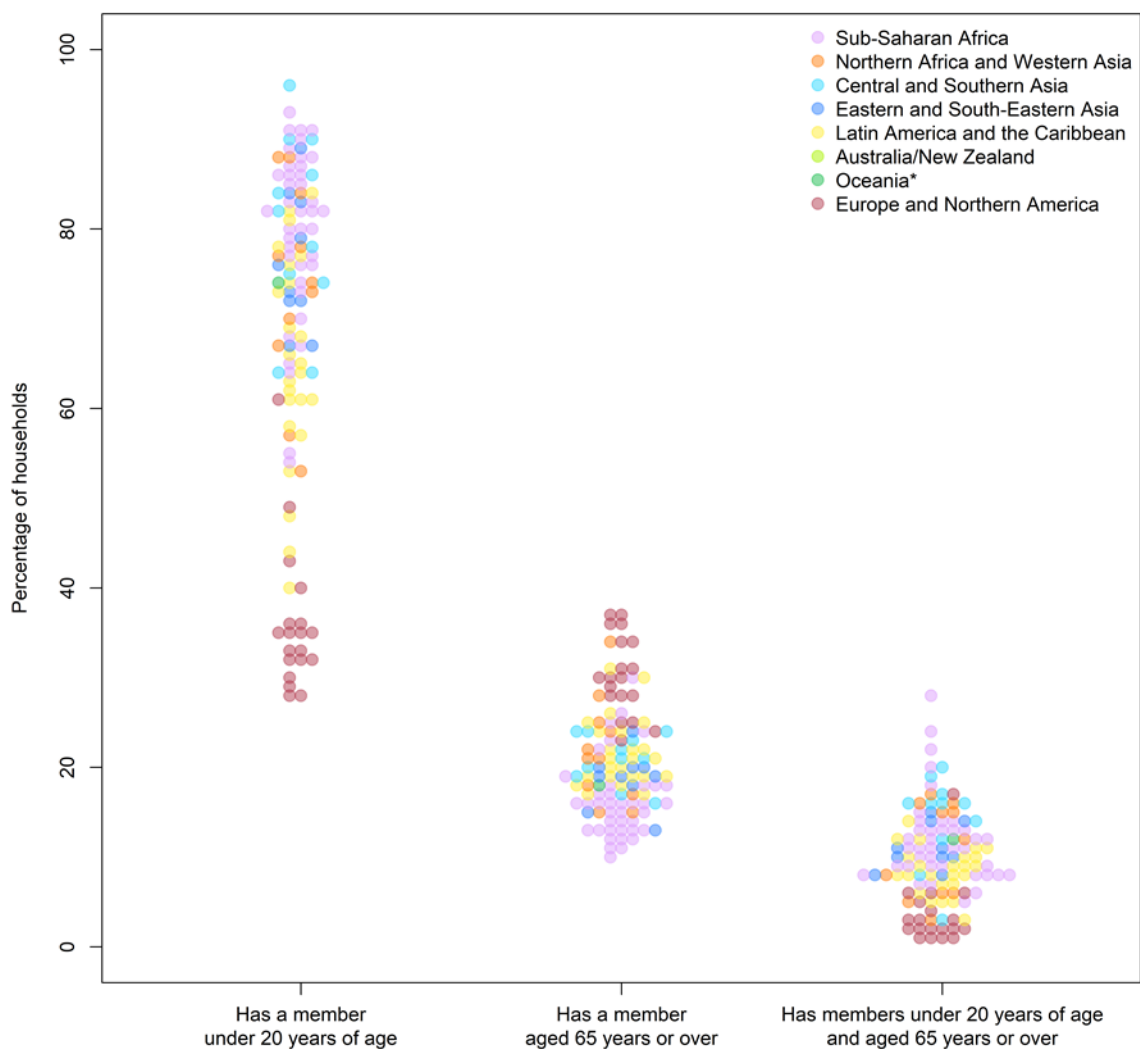
Data source: United Nations Database of Household Size and Composition 2018.

The presence of older persons in the household can hold different implications for household priorities and decision-making with respect to the consumption of health care, for example, or the potential contribution of pensions to household budgets. The range of proportions of households that include an older person across the world is narrower than that for the proportion of households that include a young person, but still substantial variation is evident across countries and regions. In countries or areas of Europe and Northern America, where populations tend to have older age structures, a higher proportion of households includes at least one member aged 65 years or over than in countries or areas of sub-Saharan Africa, where populations tend to have younger age structures. In Albania, Armenia, Greece, Italy, Portugal, Romania and Ukraine, more than one third of households include at least one member aged 65 years or over. By contrast, in Angola, Burundi, Central African Republic, Congo, the Democratic Republic of the Congo and Madagascar, fewer than one in eight households includes a member aged 65 years or over.

The prevalence of households with both a member under age 20 years and a member aged 65 years or over is one indicator of the extent of intergenerational household living arrangements. In a majority of countries or areas, such arrangements are unusual, accounting for fewer than one in five households. Exceptions include Senegal, where 28 per cent of households included both a young member under 20 years of age and an older member 65 years or over, as well as Gambia (24 per cent), Guinea (23 per cent) and Pakistan (20 per cent).

B. Patterns in the number of children and adolescents per household

The average number of children per household is, in part, a reflection of recent trends in fertility and child mortality. Figure 8 depicts recent estimates for 115 countries or areas of the average number of members under age 20 years among households that include at least one young person among their members. With more than 5 persons under 20 years, on average, households in Senegal and Gambia have the largest numbers of young members. Households in Afghanistan, Iraq, Chad and Yemen also averaged more than 4 persons under 20 years of age per household with at least one member under 20 years old. Across regions, countries or areas in sub-Saharan Africa tend to have higher average numbers of young members per household: the median across 39 countries or areas with available data is 3.3 persons under 20 years per household. With respect to some of the other regions, the median is 2.8 for Northern Africa and Western Asia, 2.2 for both Eastern and South-Eastern Asia and Latin America and the Caribbean, and 1.7 for Europe and Northern America. In Fiji, the only country in Oceania* for which an estimate is available, households averaged 2.5 persons under 20 years.

Figure 8. Average number of members under 20 years of age per household among households with at least one member under age 20 years, most recent estimates for 115 countries or areas

Data source: United Nations Database of Household Size and Composition 2018.
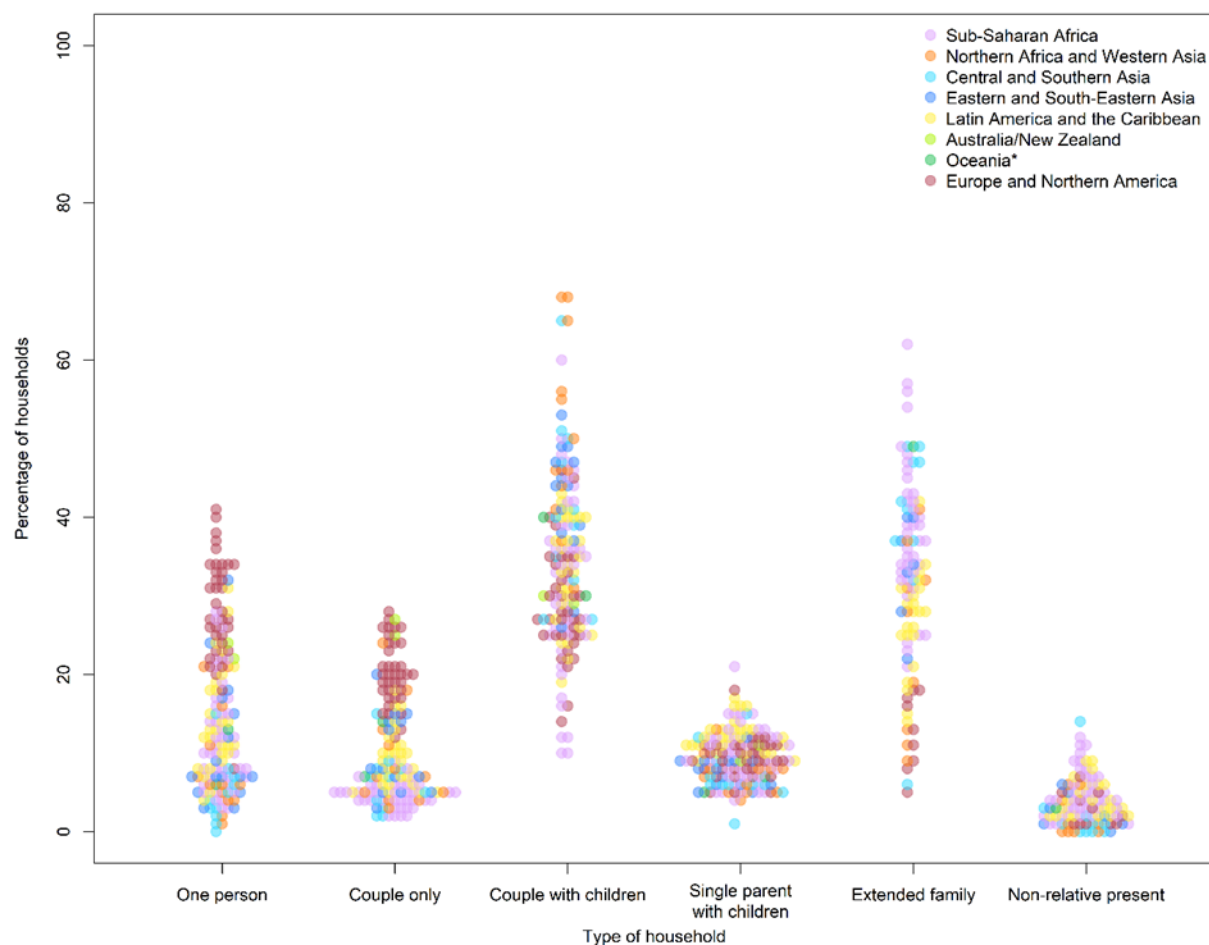NOTE: Marker size is proportional to the total population in 2018.

C. Patterns in the number of working-age persons per household

The average number of household members aged 20 to 64 years provides some indication of the number of persons in the working ages available to support each household. Households average more than 2.5 working persons each in 12 countries or areas, including: Gambia and Senegal in sub-Saharan Africa; Armenia, Iraq, Morocco and Yemen in Northern Africa and Western Asia; Afghanistan, India, Maldives, Pakistan and Tajikistan in Central and Southern Asia; and Fiji in Oceania* (figure 9). The number of working-age persons per household tends to be lower in Europe and Northern America. The fewest working-age persons per household, on average, is observed in France (1.3) and Switzerland (1.4). Households in Austria, Hungary, Lesotho and United Kingdom of Great Britain and Northern Ireland also average fewer than 1.5 working-age persons.

Figure 9. Average number of members aged 20-64 years per household, most recent estimates for 115 countries or areas
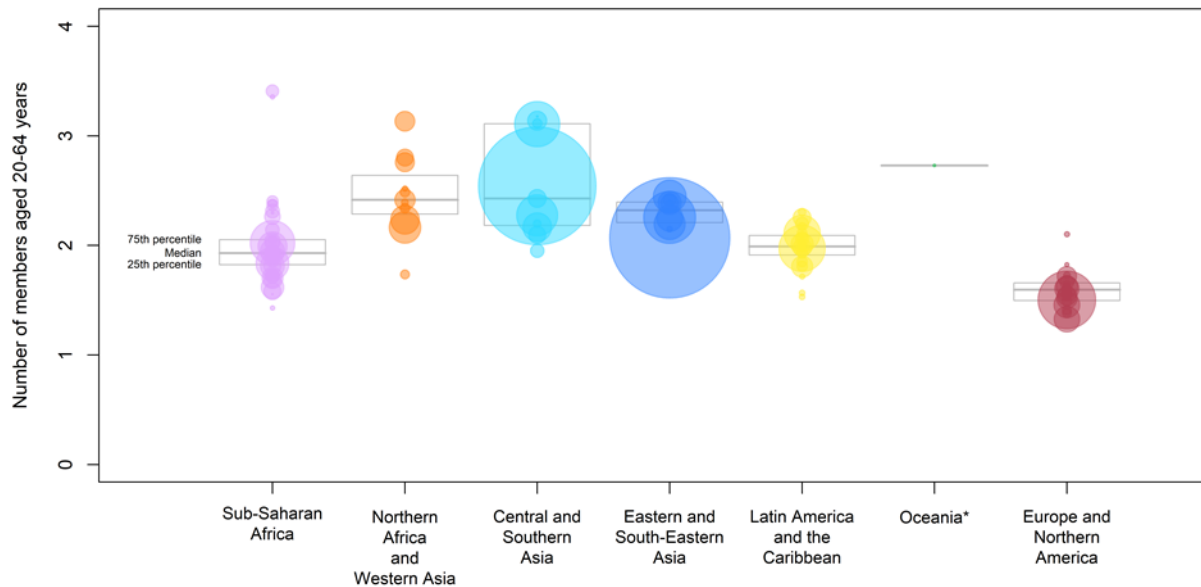
Data source: United Nations Database of Household Size and Composition 2018.
NOTE: Marker size is proportional to the total population in 2018.

V. BASIC HOUSEHOLD TYPES

A. Patterns in the prevalence of couple-only, couple-with-children, single-parent-with-children and extended-family households

An examination of the distribution of households by basic type reveals substantial variation around the world. In addition to the heterogeneity in the prevalence of one-person households discussed earlier, the prevalence of couple-only, couple-with-children, single-parent-with-children, and extended-family households are wide ranging as well. Couple-only households, consisting of a married or in-partnership couple and no one else, account for one in four households in Australia, Canada, Finland, France, Germany, New Zealand, Switzerland and the United Kingdom of Great Britain and Northern Ireland , but less than 3 per cent of all households in Afghanistan, Gambia, Iraq, Pakistan, Senegal, Sierra Leone, South Sudan, Tajikistan and Timor-Leste. Couple-with-children households, consisting of a married or in-partnership couple and their children and no one else, account for more than half of all households in 10 countries or areas: Egypt, Iran, Iraq, Jordan, Malaysia, Mayotte, the State of Palestine, Turkey, Uzbekistan and Yemen. By contrast, couple-with-children households are relatively unusual, accounting for fewer than one in five households, in Botswana, Eswatini, Gabon, Jamaica , Lesotho, Lithuania, Namibia, Senegal, South Africa and the Russian Federation.

The countries or areas with a high proportion of households consisting of a single parent with his or her children and no one else are scattered across the world's regions. Single-parent-with-children households account for more than 15 per cent of all households in eight countries or areas: Bolivia, Jamaica, Latvia, Mayotte, Nepal, Puerto Rico, Sint Maarten (Dutch Part) and South Sudan. The vast

majority of single-parent-with-children households are headed by mothers. The highest proportion of single father with children households among all households is observed in Lesotho (3.4 per cent) and Trinidad and Tobago (3.1 per cent) (data not shown).

Figure 10. Proportion of households by basic type, most recent estimates for 148 countries or areas

Data source: United Nations Database of Household Size and Composition 2018.

The couple-only, couple-with-children, and single-parent-with-children configurations are each examples of households in which all members belong to the same nuclear family unit. In extended-family households, all members are related to each other and one or more members are outside of a nuclear family unit. Extended-family households account for more than half of all households in four countries, all located in sub-Saharan Africa: Guinea (54 per cent per cent), Gambia (56 per cent), Sierra Leone (57 per cent) and Senegal (62 per cent). By contrast, extended-family households are rare in Europe and Northern America, comprising just 5 per cent of all households in Canada and 9 per cent in the United States, for example. Extended-family households account for fewer than 10 per cent of all households in Iran (6 per cent), Iraq (8 per cent) and Jordan (9 per cent), as well.

Households with a non-relative member account for a small fraction of all households in all countries or areas. They are most prevalent in South Sudan (11 per cent of all households) the United Republic of Tanzania (11 per cent), Côte d'Ivoire (12 per cent) and the Maldives (14 per cent).

B. Trends in one-person, nuclear and extended-family households

Shifts in the prevalence of different household types tend to occur slowly and thus can be difficult to discern when assessed over short periods of time. For 53 countries or areas, estimates of the distribution of households by type span the 20-year period from 1990 to 2010 and refer to at least four different points in time, permitting a rudimentary assessment of trends. Figures 11 through 14 illustrate trends in the proportions of one-person households, nuclear households and extended-family households in the 53 countries, grouped by region.

These data indicate that there is no common direction to trends in the prevalence of nuclear or extended-family households. Across 20 countries or areas in sub-Saharan Africa, at least three different patterns are evident over time. In several countries, namely, Cameroon, Ethiopia, Ghana, Guinea, Malawi, Senegal and Zambia, very little change has taken place in the prevalence of one-person, nuclear or extended-family households. In some other countries in the region such as Burkina Faso, Nigeria, Uganda and Zambia, among others, the prevalence of extended-family households has declined and that of nuclear households increased, but there has been little to no change in the prevalence of one-person households. In Botswana, Kenya and Namibia, the prevalence of both one-person and nuclear households has decreased at the same time that the prevalence of extended-family households appears to have declined.

The seven countries of Northern Africa or Asia for which sufficient trend data are available have similarly diverse trajectories for the various household types (figure 12). In Bangladesh, Egypt and India, the prevalence of nuclear households appears to have increased while that of extended family households has declined somewhat. By contrast, the opposite trend is evident in both Pakistan and the Philippines, where the prevalence of nuclear households has declined while that of extended family households has increased.

Trends observed across 16 countries or areas of Latin America and the Caribbean are similarly diverse, with the prevalence of extended family households having declined in Costa Rica, Panama, Puerto Rico, Trinidad and Tobago, and Uruguay, but increased or remained fairly constant in Brazil, Colombia, Haiti and Mexico.

Across 10 countries of Europe and Northern America, the most common pattern indicates a shift from nuclear to one-person households as observed in Austria, Romania, Spain and the United States of America. The prevalence of extended-family households appears to have declined in Greece and Portugal, but remains relatively unchanged in Austria, Ireland, Romania and the United States of America.

Figure 11. Trends in the proportion of one-person, nuclear and extended family households, 20 countries of Sub-Saharan Africa
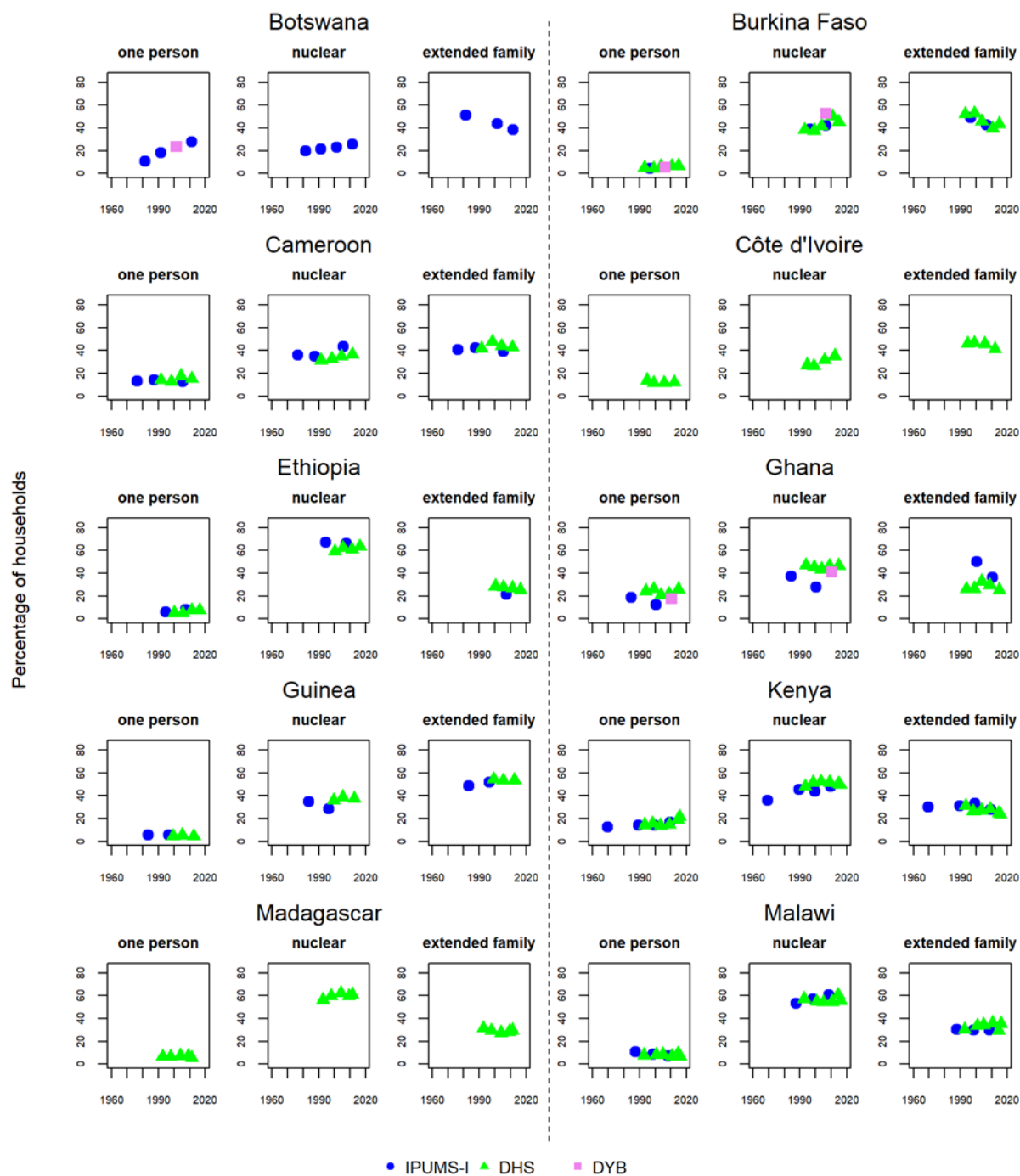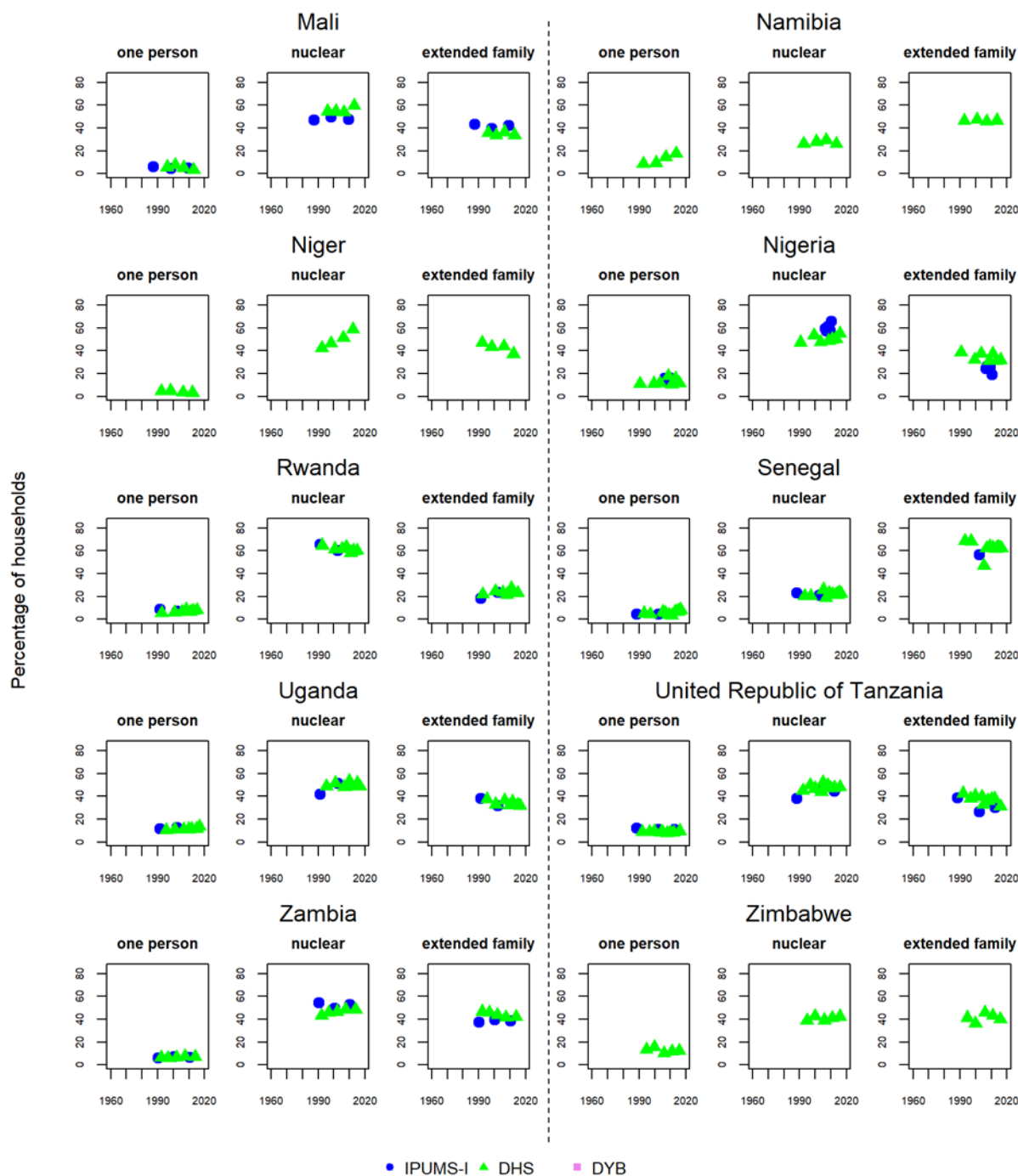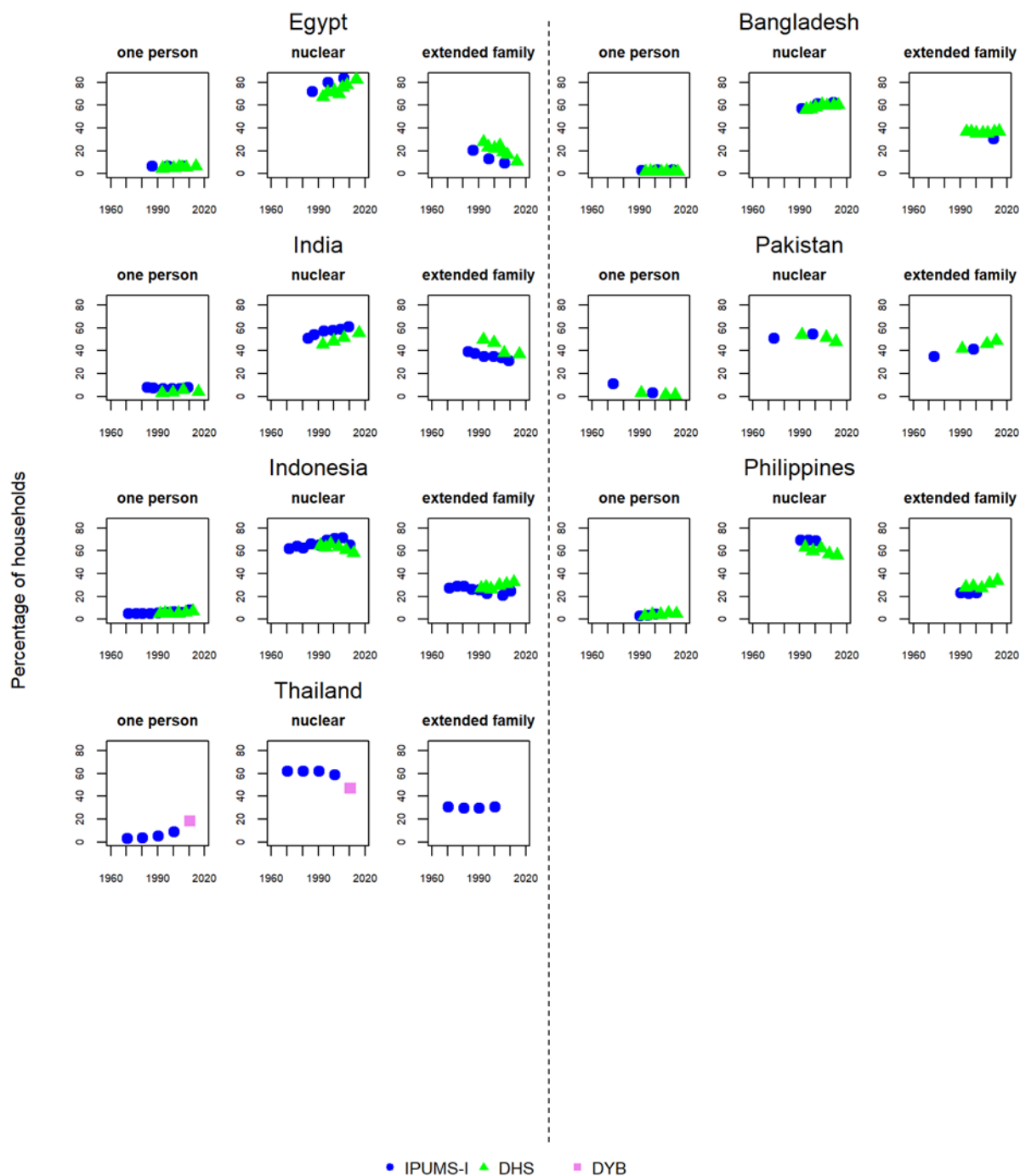
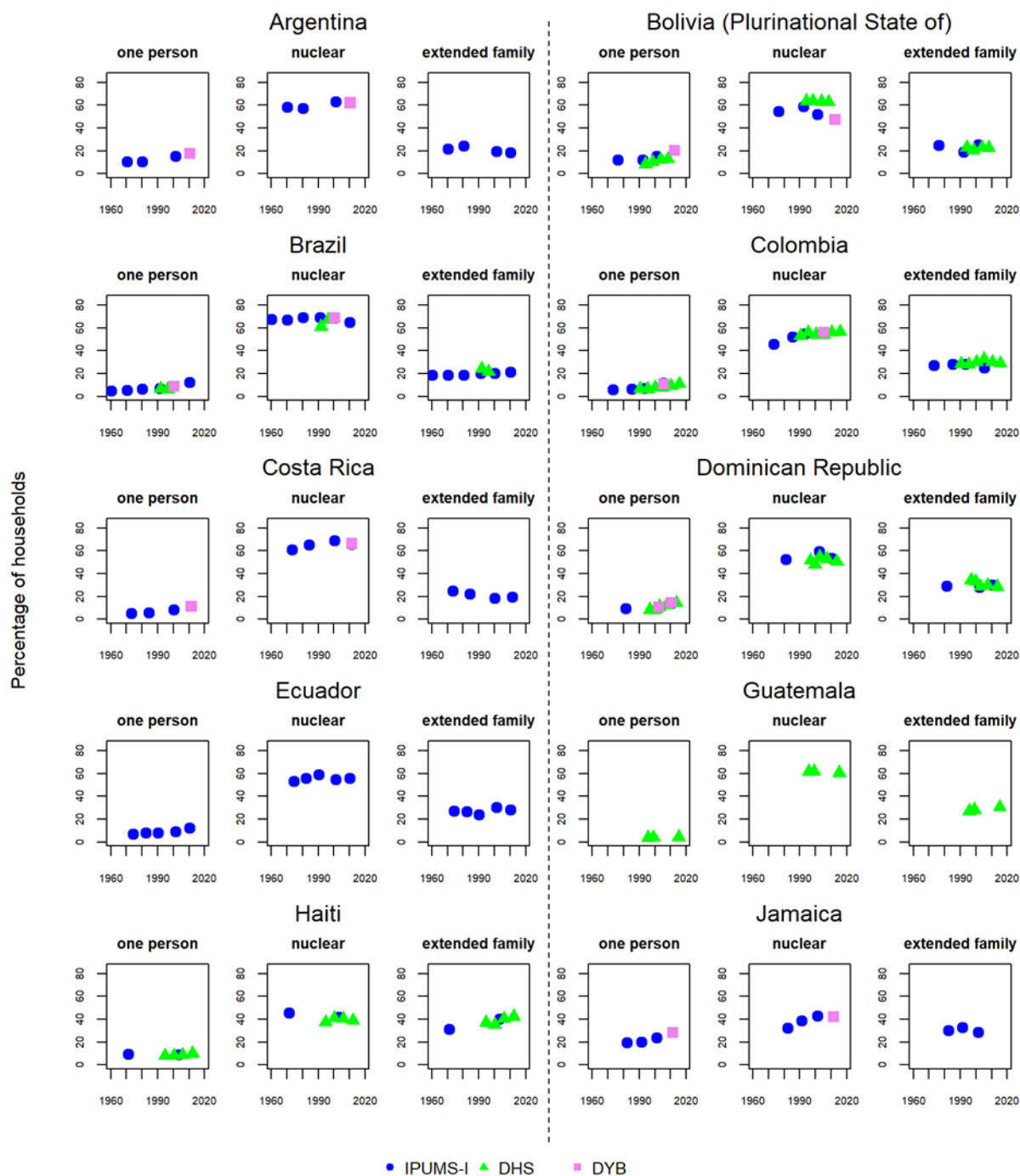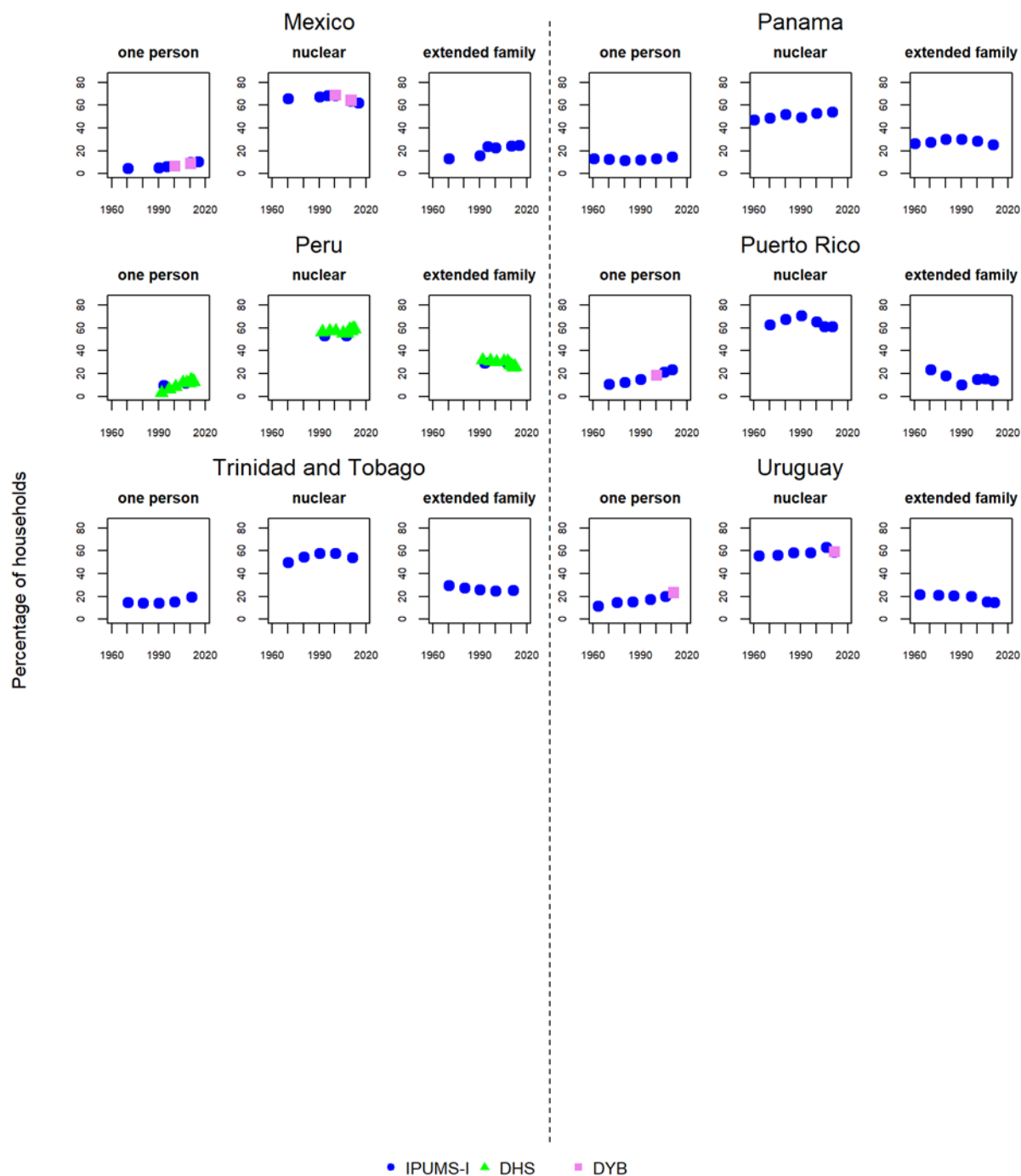**Figure 11 (cont'd). Trends in the proportion of one-person, nuclear and extended family households, 20 countries of Sub-Saharan Africa**

Figure 12. Trends in the proportion of one-person, nuclear and extended family households, 7 countries of Northern Africa or Asia

Data source: United Nations Database of Household Size and Composition 2018.

NOTE: IPUMS-I: Integrated Public Use Microdata Series - International; DHS: Demographic and Health Surveys; DYB: United Nations Demographic Yearbook.

Figure 13. Trends in the proportion of one-person, nuclear and extended family households, 16 countries of Latin America and the Caribbean

Figure 13 (cont'd). Trends in the proportion of one-person, nuclear and extended family households, 16 countries of Latin America and the Caribbean

Figure 14. Trends in the proportion of one-person, nuclear and extended family households, 10 countries of Europe and Northern America
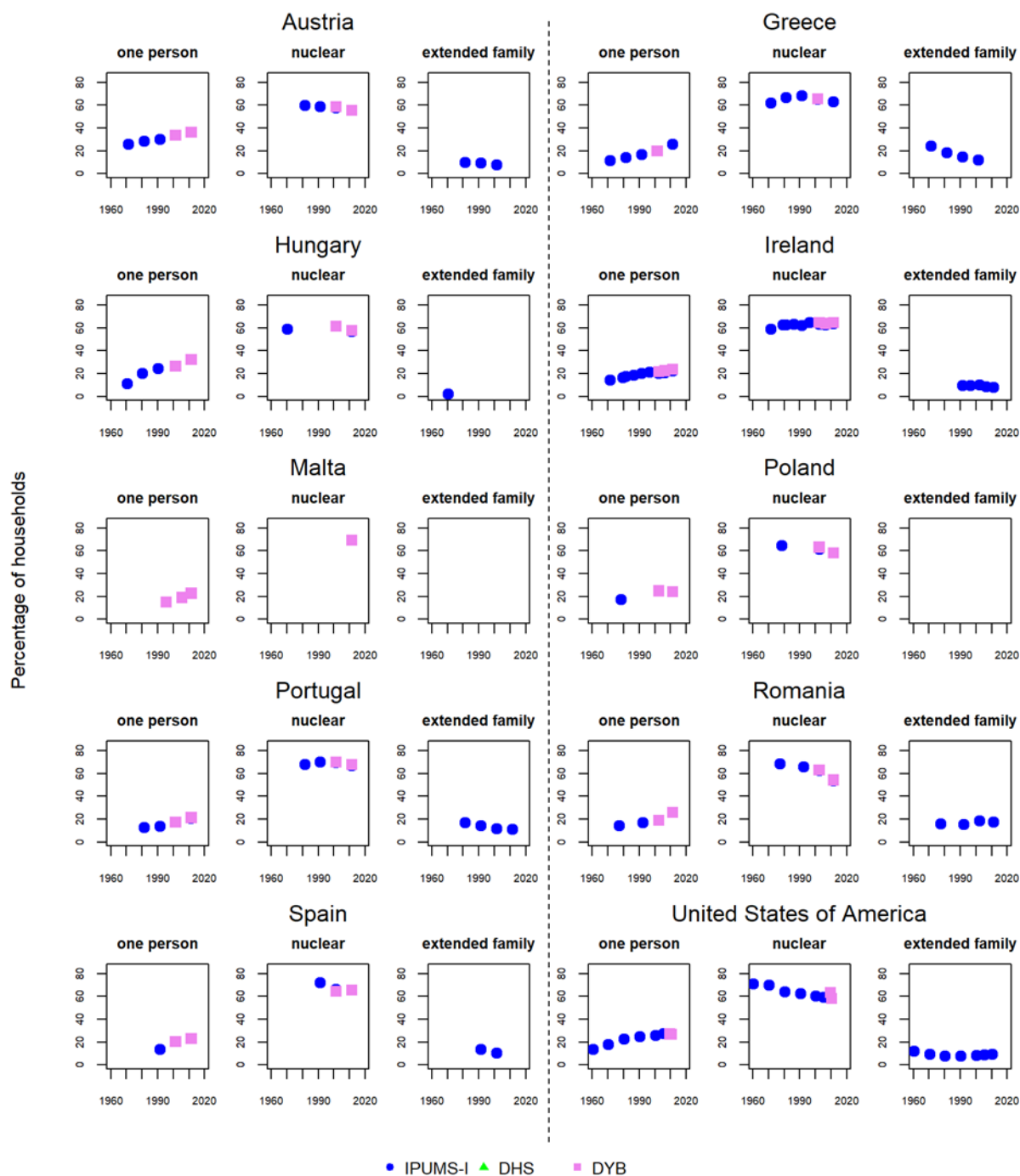
Data source: United Nations Database of Household Size and Composition 2018.

NOTE: IPUMS-I: Integrated Public Use Microdata Series - International; DHS: Demographic and Health Surveys; DYB: United Nations Demographic Yearbook.

VI. Intergenerational household arrangements

The proportion of households with both a younger member under 20 years of age and an older member 65 years or over as discussed earlier, provided a first indication of global and regional patterns in intergenerational living arrangements. Patterns across countries and regions in multi-generation, three-generation and skip-generation households shed further light on the degree to which members of different generations tend to co-reside.

A. Patterns of multi-generation households

Multi-generation households, which are defined here as those that include members aged 20 years or over who represent two or more different generations, give an indication of the degree to which adults are sharing resources or providing support to each other in multi-generation, co-residential arrangements. Importantly, these data do not speak to the direction of support transferred between generations, thus it is not possible to use these estimates to draw conclusions regarding the prevalence of adult children supporting their parents in co-residence or vice versa—parents supporting their adult children in co-residence, for example.

Multi-generation households are extremely common in many countries or areas in Asia, as well as several in sub-Saharan Africa (figure 15). They account for more than half of all households in Afghanistan, Armenia, India, Maldives, Pakistan, Senegal and Tajikistan, and for more than 40 per cent of all households in another 12 countries or areas, including: Gambia in sub-Saharan Africa; Azerbaijan, Iraq, Morocco and Yemen in Northern Africa and Western Asia; Kyrgyzstan, Tajikistan and Uzbekistan in Central Asia; Cambodia, Myanmar and the Philippines in South-Eastern Asia; Fiji in Oceania;* and Albania in Europe. Multi-generation households are quite common in Latin America and the Caribbean as well: they account for at least one in four households in all countries or areas in the region, and at least one in every three households in Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Trinidad and Tobago and Venezuela.

Across 14 countries with available data in Europe and Northern America, multi-generation households account for more than 30 per cent of all households in Albania, Belarus, Greece, Poland, Romania, Spain and Ukraine, but are comparatively rare in Canada, the United Kingdom of Great Britain and Northern Ireland and the United States of America, where they account for less than 16 per cent of all households.

Figure 15. Proportion of multigeneration households (with at least two generations of related members aged 20 years or over), most recent estimates for 110 countries or areas
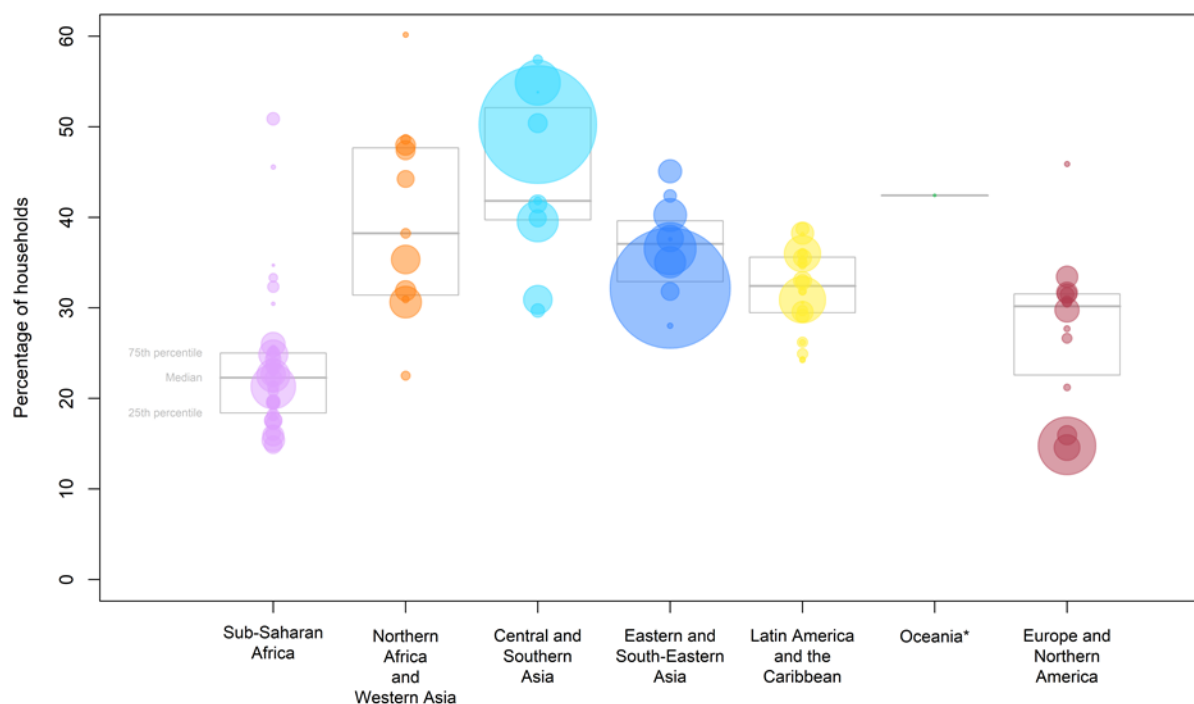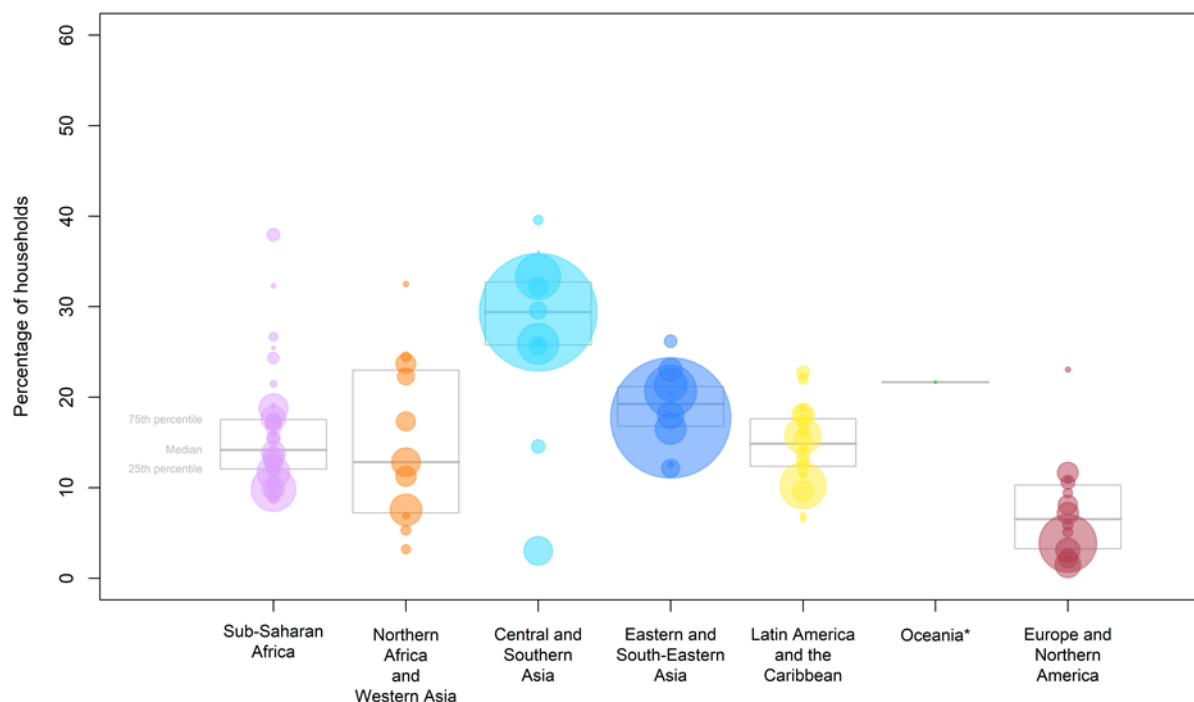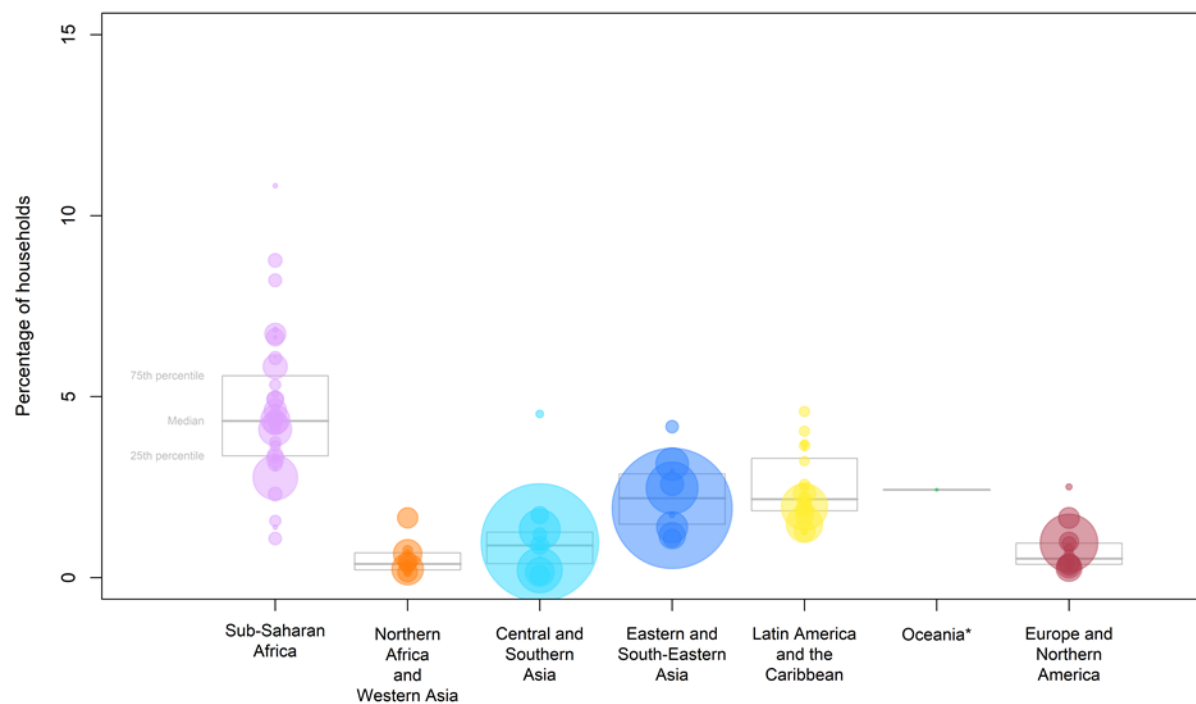

Data source: United Nations Database of Household Size and Composition 2018.
NOTE: Marker size is proportional to the total population in 2018.

B. Patterns of three-generation households

The three-generation households described in the database are those with at least thee generations of related members, irrespective of their ages. The prevalence of three-generation households follows a similar pattern across regions as that of multi-generation households (figure 16). They are most common in Maldives, Senegal and Tajikistan, where at least one third of households includes members from three different generations, and quite rare in Canada, Iran, Ireland, Israel, Italy, United Kingdom of Great Britain and Northern Ireland and the United States of America, where they account for less than five per cent of all households.

Figure 16. Proportion of three generation households (with at least three generations of related members, irrespective of age), most recent estimates for 110 countries or areas

Data source: United Nations Database of Household Size and Composition 2018.
NOTE: Marker size is proportional to the total population in 2018.

C. Patterns of skip-generation households

Skip generation households represent a very specific type of household configuration in which a grandparent is co-residing with his or her grandchildren and none of the parents of those grandchildren is present. This arrangement has been observed to be more prevalent in contexts of high mortality among adults (e.g., due to AIDS or conflict) and where migration of working-aged adults is common (Hashimoto, 1991; Hosegood, 2009; Knodel and Chayovan, 2008; Zimmer, 2009). Recent estimates for 110 countries or areas confirm that skip-generation households are rare in most of the world, accounting for less than 5 per cent of all households in all but 12 countries or areas. All the countries for which skip generation households account for more than 5 per cent of all households are in sub-Saharan Africa. They include Lesotho, where close to 11 per cent of households have a skip-generation composition, as well as Malawi (9 per cent), Zimbabwe (8 per cent), Zambia (7 per cent), Uganda (7 per cent), Mozambique (7 per cent), Eswatini (7 per cent), Sao Tome and Principe (6 per cent), Zambia (6 per cent), the United Republic of Tanzania (6 per cent), Rwanda (5 per cent) and Liberia (5 per cent).

Figure 17. Proportion of skip generation households (with grandparents and their grandchildren, but no parent of those grandchildren), most recent estimates for 110 countries or areas

Data source: United Nations Database of Household Size and Composition 2018.
NOTE: Marker size is proportional to the total population in 2018.

APPENDIX

Data sources and methods used to compile the 2018 United Nations Database on Household Size and Composition

The *United Nations Principles and Recommendations for Population and Housing Censuses* (United Nations, 2017) classifies a household into one of two categories: a) a one-person household, in which one person makes provision for his or her own food and other essentials for living without combining with any other person; or b) a multi-person household of two or more persons living together who make common provision for food or other essentials for living. Persons in a multi-person household may pool their incomes and have a common budget to a greater or lesser extent; they may be related or unrelated persons or a combination of persons both related and unrelated. An alternative definition used in many countries exemplifies the so-called household-dwelling concept, wherein a household consists of all persons living together in a housing unit. By both definitions, households are distinguishable from families in that: a) a household may consist of only one person, but a family must contain at least two members; and b) the members of a multi-person household need not be related to each other, whereas the members of a family must be related. Thus, a household may contain more than one family or no families at all, as in one-person households and households consisting of unrelated members.

Where guidance is offered in the *Principles and Recommendations*, the indicators selected for the 2018 *United Nations Database on Household Size and Composition* are defined accordingly. Definitions of each of the indicators presented in the database are listed in Box 1.

Box 1. Definitions of household indicators presented in the
United Nations Database on Household Size and Composition 2018

Household size

Indicators of household size include the average household size, defined as the average number of usual residents per household, and the percentage distribution of households by size, with four size categories defined as: 1 member, 2 or 3 members, 4 or 5 members, and 6 members or more.

Headship

Patterns of headship are described according to the sex and age of the household member identified as the head of household. The percentage distribution of heads by age is described using four categories: less than 20 years, 20 to 64 years, 65 years or over and age unknown.

Membership by age

The proportion of households with members of selected ages is estimated for various age groups and combinations thereof. One set of indicators describes the percentage of households that include at least one member: under age 15 years (i.e., ages 0-14 years); under age 18 years (i.e., ages 0-17 years); under age 20 years (i.e., ages 0-19 years); aged 60 years or over; and aged 65 years or over. A second set of indicators describes the percentage of households that include at least one member in each of two age ranges: under age 15 years and aged 60 years or over; under age 15 years and aged 65 years or over; under age 18 years and aged 60 years or over; under age 18 years and aged 65 years or over; under age 20 years and aged 60 years or over; and under age 20 years and aged 65 years or over.

Basic household types

Households are classified by seven mutually exclusive types: 1) one-person households are households with only one member; 2) couple-only households are households consisting of exactly two members who are married to or in a partnership with each other; 3) couple-with-children households are households consisting of a couple and their children (biological, step and adopted/foster children, but not children-in-law), irrespective of age and no one else; 4) single-parent-with-children households are households consisting of one parent and his or her children (biological, step and adopted/foster children, but not children-in-law), irrespective of age and no one else; 5) extended-family households are those that are not classified as one of the previous four basic types and in which all household members are related to each other; 6) non-relative households are those that include at least one member who is not related to the head of household; and 7) "unknown" households are those that include one or more members whose relationship to the head of household is unknown or not reported. The categories "couple only",

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"couple with children" and "single parent with children", together comprise an eighth composite category of "nuclear households", defined as households consisting entirely of a single family nucleus.

Intergenerational household types

An additional household typology describes the patterns of co-residence among persons of different generations. For the purpose of this database and report, "multi-generation households" are those that contain two or more generations of related members aged 20 years or over. "Three-generation households" are defined as those with three or more generations of related persons of any age. "Skip-generation households" are defined as those that include grandparents and grandchildren, but none of the parents of the grandchildren.

Household rosters routinely collected in censuses and household surveys, provide the data needed to describe household size and composition. The 2018 *United Nations Database on Household Size and Composition* draws on estimates compiled using four major data sources: 1) the household roster micro datasets from the Demographic and Health Surveys (DHS);[4] 2) the census and survey microdata samples harmonized in the Integrated Public Use Microdata Samples International (IPUMS-I) project at the University of Minnesota;[5] 3) information reported by national statistical offices to the Demographic Yearbook of the United Nations;[6] and 4) estimates compiled from the European Union Labour Force Surveys and published by the United Nations in an earlier release of data on household size and composition in 2017 (United Nations, 2017a).

Household indicators are estimated from 261 DHS household rosters, representing 74 countries and with reference years ranging from 1985 to 2016. Household members are restricted to usual residents of the household, excluding visitors. The classification of households by type relies upon information about household members' relationships to the head of household or other reference member, collected as a part of the household roster of each census or survey. The DHS is a harmonized survey programme and, accordingly, the set of relationship codes used on the DHS household rosters is highly standardized, varying only slightly across countries and over time (see box 2).

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[4] ICF. 2004-2017. Demographic and Health Surveys (various) [Datasets]. Funded by USAID. Rockville, Maryland: ICF [Distributor]
[5] Minnesota Population Center. Integrated Public Use Microdata Series, International: Version 7.0 [dataset]. Minneapolis, MN: IPUMS, 2018. Available from https://doi.org/10.18128/D020.V7.0.
[6] https://unstats.un.org/unsd/demographic/products/dyb/dyb_Household/dyb_household.htm (Accessed 20 April 2018).

IPUMS-I samples are drawn from the microdata of country-specific censuses and surveys and thus are not as highly standardized with respect to the codes used to describe each household member's relationship to the head of household. To process the IPUMS-I samples in a manner that yields estimates that are comparable to those obtained from the DHS, the relationship codes from those IPUMS-I samples have been mapped to codes that mirror the standard relationship codes of the DHS shown in box 2. Box 3 lists each of the relationship-to-head codes that appear in one or more IPUMS-I samples, with the result of the mapping to DHS relationship codes in parentheses. Household indicators are estimated from 272 IPUMS-I samples' household rosters, representing 81 countries and with reference years ranging from 1960 to 2015. As with the DHS, household members identified in IPUMS-I samples are restricted to usual residents of the household, excluding visitors. Group quarters or other non-household arrangements and their residents are not considered.

For both the DHS and IPUMS-I, the five basic household types are identified as follows: One-person households are those consisting of only one member.[7] Couple-only households are households consisting of only the head (relationship code = 1) and wife or husband of the head (relationship code = 2). Couple-with-children households are those consisting of only the head (1), wife or husband of the head (2), and at least one son or daughter of the head (3) or adopted/foster child of the head (11). Single-parent-with-children households are those consisting of only the head (1), and at least one son or daughter of the head (3) or adopted/foster child of the head (11). Extended-family households are those that cannot be classified under the four previously listed household types and in which no member is not related to the head of household (relationship code not = 12). Non-relative households are those that include at least one member who is not related to the head of household (relationship code = 12). Nuclear households are those households identified as couple-only, couple-with-children, or single-parent-with-children.

For some IPUMS-I samples, the detail of the household relationship codes is insufficient to identify the full set of household types. For example, some IPUMS-I samples do not distinguish children of the head from children-in-law of the head, instead grouping these under a single relationship code. For these samples it is not possible to distinguish couple-with-children and single-parent-with-children households from extended-family households. Hence, these household type indicators were not estimated for IPUMS-I samples using the combined child/child-in-law relationship code. For IPUMS-I samples that group "other relative or non-relative" under a single relationship code, it is not possible to reliably distinguish extended-family households from non-relative households, and thus these indicators were not estimated for those samples.

The identification of the intergenerational household types is more complex than that of the basic household types described above. Multi-generation households have one of three configurations: 1) a head or spouse (relationship code in 1,2) and parent or parent-in-law of the head (relationship code in 6,7) are present; 2) a head or spouse (1,2) and child or child-in-law of the head (3,4) are present and at least one of the children/children-in-law of the head is aged 20 years or over; and 3) a head or spouse (1,2) and grandchild of the head (5) are present and at least one of the grandchildren is aged 20 years or over. The percentage of households identified as multi-generation by this approach should be interpreted as a minimum estimate because some households with more than one generation of related persons aged 20 years or over cannot be identified with certainty. For example, in households with multiple members who are not related to the head (relationship code = 12), it is not possible to determine whether they are related to each other. Similarly, when "other relatives" (relationship code = 10) are present, it is not possible to determine their relationship to the head or to other household members (it could be a grandparent of the head, for example). Thus, the estimation procedure almost certainly misses some proportion of multi-generation households, though that proportion is expected to be small since these types of household compositions are relatively unusual in the household rosters.

The estimates of three-generation and skip-generation households should likewise be interpreted as minimum values. Three-generation households have one of three configurations: 1) a head or spouse (1,2), children or children-in-law of the head (3,4), and grandchildren of the head (5) are present; 2) a head or spouse (1,2), parent or parent-in-law of the head (6,7), and children or children-in-law of the head (3,4) are present; and 3) a head or spouse (1,2), parent or parent-in-law of the head (6,7), and

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[7] In the overwhelming majority of these cases, the one member is identified as the head. An exception is the Lesotho DHS, where many household heads are not usually residents of the household, due to migration.

grandchildren of the head (5) are present. Skip-generation households are those consisting of a head or spouse (1,2), their grandchildren (5) and none of their children or children-in-law (6,7).

As with the basic household types described above, for some IPUMS-I extracts, the detail of the household relationship codes is insufficient to identify the several types of intergenerational households. For example, some IPUMS-I samples do not specifically identify grandchildren of the head of household, instead grouping these in the "other relative" category. Some other IPUMS-I samples group parents and grandparents of the head into a single category. In these instances, it is not possible to identify all the potential multi-generation, three-generation and skip-generation households and thus those indicators are not estimated from those samples.

The third major data source accessed for the database is the Demographic Yearbook (DYB) of the United Nations (available from http://data.un.org/, accessed 20 April 2018). Tabulations of households by size, sex and age of the head, and basic household type have been reported to the DYB by countries' national statistical offices. Because the data compiled in the DYB are tabulations, as opposed to household microdata as for DHS and IPUMS-I, it is not possible to obtain estimates of extended family, non-relative households or the intergenerational household types from this source. Estimates based on DYB records for 169 country-years are included in the database, representing 112 countries or areas with reference years ranging from 1995 to 2014.

A fourth data source is the collection of the European Union Labour Force Surveys (LFS), for which microdata were processed during the assembly of the 2017 *United Nations Database on Household Size and Composition* (United Nations, 2017a). The subset of household size indicators that were included in that database are reproduced here as well, but no additional processing has yet been completed to produce estimates for the extended set of indicators. The database includes estimates from 47 LFS, representing 24 countries and with reference years 2001 and 2011.

**Box 3. IPUMS-I relationship to head codes
[mapped to DHS code]**

head [1]
spouse [2]
unmarried partner [2]
same-sex spouse/partner [2]
spouse/partner [2]
child [3]
biological child [3]
stepchild [3]
child of unmarried partner [3]
child/child-in-law [3.9*]
child/child-in-law/grandchild [3.9*]
child-in-law [4]
daughter-in-law [4]
son-in-law [4]
spouse/partner of child [4]
unmarried partner of child [4]
grandchild [5]
grandchild or great grandchild [5]
great grandchild [5]
great-great grandchild [5]
parent [6]
parent/grandparent/ascendant [6]**
stepparent [6]
parent/parent-in-law [6.9*]
parent-in-law [7]
sibling [8]
stepsibling [8]
sibling/sibling-in-law [8.9]
sibling-in-law [15]
sibling of spouse/partner [15]
spouse/partner of sibling [15]
other relative [10]
other relative, not elsewhere classified [10]
grandparent [10]
great grandparent [10]
aunt/uncle [10]
other specified relative [10]
cousin [10]
sibling of sibling-in-law [10]
other relative with same family name [10]

other relative with different family name [10]
other relative, not specified (secondary family) [10]
adopted child [11]
foster child [11]
non-relative [12]
friend/guest/visitor/partner [12]
partner/friend [12]
friend [12]
partner/roommate [12]
housemate/roommate [12]
visitor [12]
ex-spouse [12]
godparent [12]
godchild [12]
employee [12]
domestic employee [12]
relative of employee, n.s [12]
spouse of servant [12]
child of servant [12]
other relative of servant [12]
roomer/boarder/lodger/foster child [12]
boarder [12]
boarder or guest [12]
lodger [12]
tutored/foster child [12]
tutored child [12]
employee, boarder or guest [12]
other specified non-relative [12]
domestic employee [12]
non-relative, n.e.c [12]
other relative or non-relative [12]***
nephew/niece [13]

   * The basic and intergenerational household typologies
could not be estimated for samples that used codes that combined
children with children-in-law or parents with parents-in-law.
   ** The intergenerational household typologies could not be
estimated for samples that used the
"parent/grandparent/ascendant" code.
   *** The extended-family household and non-relative
household typologies could not be estimated for samples that used
the "other relative or non-relative" code.

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