Household complexity world wide – appreciation on the basis of aggregated census data

I N E D

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Introduction

The structure and the evolution of households are the result of underlying social, economic, demographic and cultural processes and changes in a country. For instance the average number of adults per household reflects, among others, the strength of family links, specific housing and labor market conditions, the strength of traditional values and marital instability. In a theory on converging family systems (Parson, Goode) it has been predicted that with modernization all family types will converge towards the Western European conjugal nuclear family. This goes along with less cohabitation of adults and therefore with less household complexity. This prediction of a universal trend towards the nuclearization of households has not come true (McDonald 1992), in some countries the tendency goes even to more complex households. The graphic below shows some examples of the evolution of household complexity over the last 55 years.

Figure 1: The evolution of household complexity in selected countries, 1950-2005 (Springer, 2007)
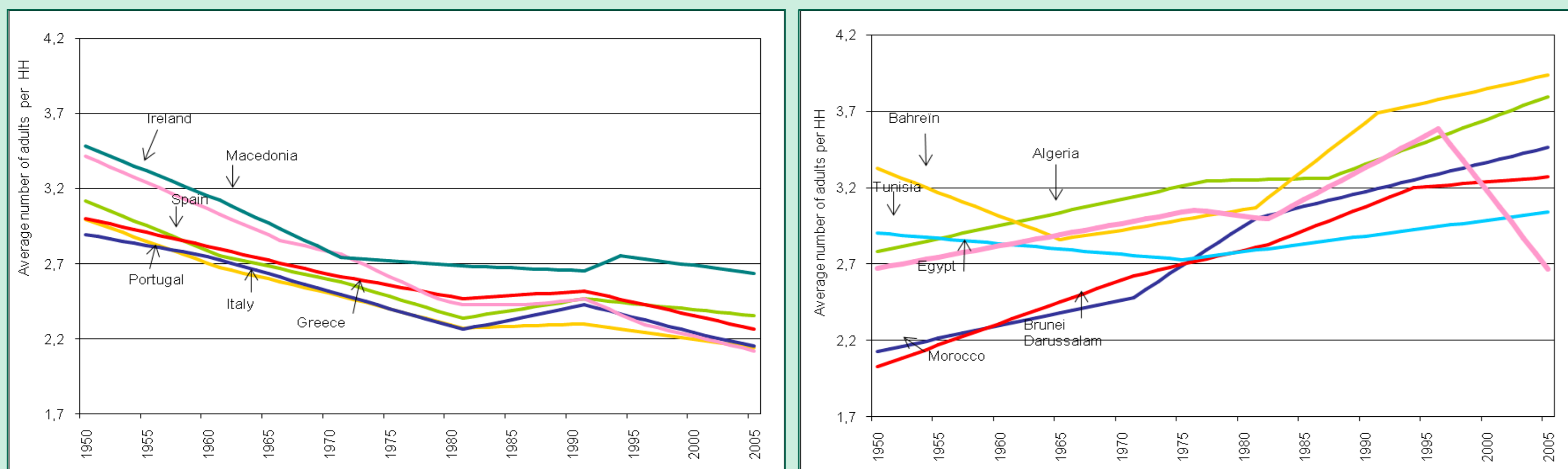
The multiple processes behind the changes in household formation behavior, like the economic development, the demographic transition, modernization, urbanization, individualization, democratization, social change and social network change are not all running simultaneously. Disturbing factors like the HIV pandemic, civil wars, political changes or simply the housing market have an influence, not only directly on the household structure, but also on the underlying related processes.

But what are the driving factors behind this hetero- or homogeneity of household complexity? One of the admitted main factors is the age structure of the population and its change along the demographic transition process which touches all countries, but at different times and with different strength.

Another important aspect is that values and family systems might not change easily even if the economic context changes (McDonald, 1994). An essential condition for change in individual behavior is the willingness of society and its institutions to at least not hinder this change and the importance society attaches to individuals as compared to family or groups. The World Bank provides useful information in this context: measures of the democratization and participation of citizens, of corruption and of the stability of the society. The dominant religion of a country might also reflect a certain cultural preference for individualistic or family priorities. The timing of the onset of the process might also play a role and it can be captured through the year fertility first begins to decline (Newson and Richerson, 2009).

Indicator , Data and Method

- **Indicator of Household Complexity:** ratio of the adult population aged 20 years and more and the number of households. Advantages: easily available, captures roughly household complexity (Burch, 1980). In 1990 household information for 115 countries available.
- **Data sources**: United Nations World Population Prospects (2002 Revision); Household data from various national and international sources (Springer, 2007); UN MDG Indicators website; World Bank database; Newson and Richerson (2009).
- **Data limitations**: comparability problems in time and space; differences in the definitions; inequalities in the length and the quality of the data series.
- **Method**: **Cluster analysis** to identify country groups with comparable age structure and evolution; **linear regressions** to explain differences in household complexity.
- **Method limitations:** Exploratory approach because of small number of observations and many potential influent factors

Results

➢ Based on the population age structure in 1950 and 1990 the 115 countries have been classified following their progression in the demographic transition process. The first cluster regroups countries that have more or less completed the demographic transition. Their household complexity levels are low and homogeneous. The following clusters regroup countries in the various stages of the process; the last includes those where the transition has not yet started. In this group, which includes most countries of sub-Saharan Africa, household complexity is very heterogeneous. This is also the case for the group having just started the process and which includes countries as different as China and Singapore.

Figure 2: Countries by demographic transition progress and summary statistics on household complexity
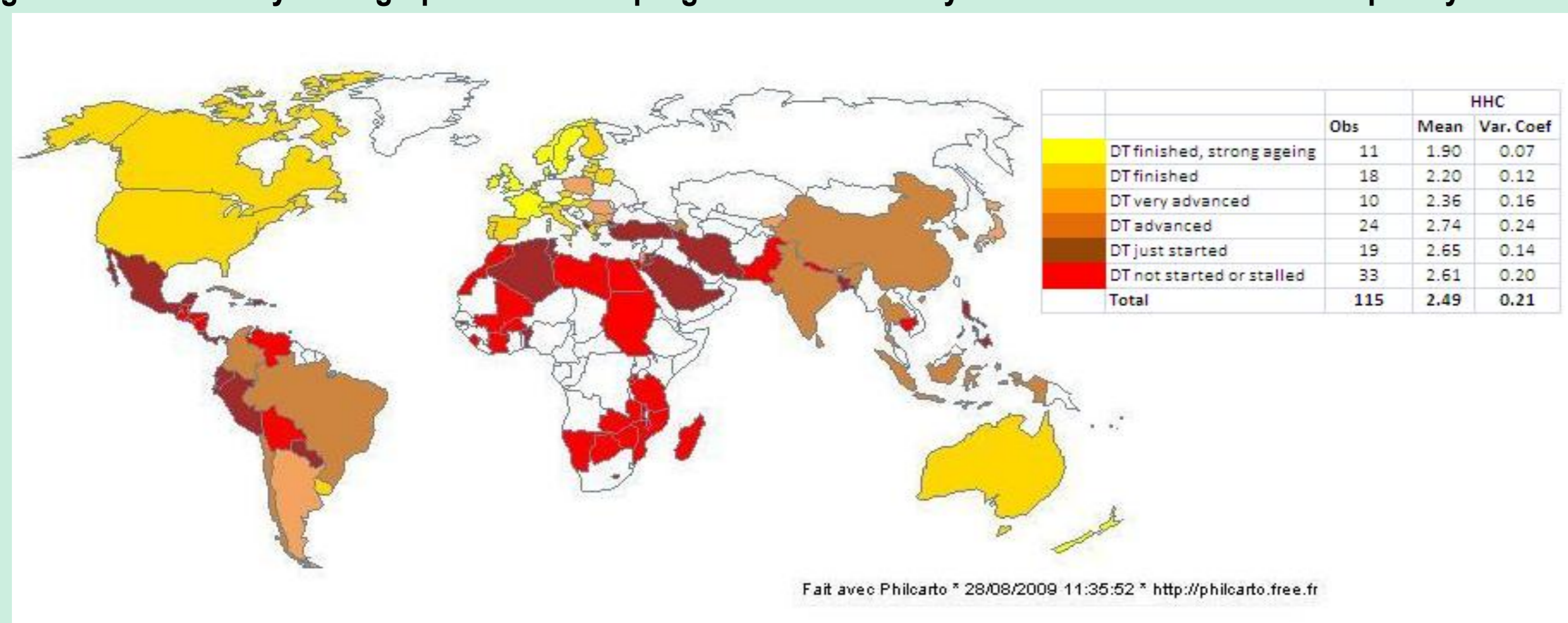
Not all countries included in the analysis are represented on this map

➢ The remaining heterogeneity in household complexity, once controlled for the demographic component, shows clearly that age structure and demographic transition are not the only factors that determine household structure. When using only demographic information in a linear regression model (Model I), less than half of the variance in household complexity can be explained and the model is underspecified.

➢ Introducing indicators for development, urbanization, housing and for the cultural and political context, increases the explanatory power of the model. The demographic factors remain collinear, and a higher proportion of young people has a negative effect on household complexity.

➢ A strong decrease in infant mortality is linked to lower household complexity, as is a strong increase in life expectancy. As expected, development indicators are negatively related with household complexity. But the higher the proportion of migrants, the higher household complexity, while an increase in urban slum population has the opposite effect.

➢ The influence of the political and cultural context indicates that household complexity is higher in countries with strong family values (Muslim countries), more group influenced institutions (corruption) and a late start in modernization.

Figure 3: Household complexity differences in function of progress in demographic transition (DT)

HHC (Beta Coefficients)	Model I (demo)	Model II (full)	Model III End of DT	Model IV Start of DT	Model V Not yet DT
Population aged 60+ (%)	- 1,400***	- 0,754***	NS		
Population aged <20 (%)	- 1,800***	- 1,129***			- 0,671***
TFR85/90	0,752***				
Growth rate_TFR			NS		- 0,714***
Growth rate_infant mortality		- 0,192**			
Growth rate_life expectancy	- 0,292***	- 0,242***			- 0,217**
Hospital bed (1000 p.)					- 0,277**
Computer (100p.)			NS		
Contraception (%)		- 0,266***			NS
GDP p.c. (ppp)					0,317**
Female employment (%)		- 0,294***	- 0,203**	- 0,203**	- 0,479***
Urban sanitation (%)					- 0,617***
Migrants (%)		0,258***	0,558***	0,841***	
Growth rate_urban		NS	0,168**		
Urban population (%)				NS	
Population density			0,190**		
Slum population (%)		- 0,142*			- 0,284*
Year Fertility decline starts		0,254**	0,466***	0,205*	- 0,307*
Principal religion Islam		0,192***		- 0,263*	0,385***
Stability			- 0,792***		
Corruption		0,144**	- 0,430**		0,257***
Participation				- 0,389***	
N	114	99	33	19	48
R² adjusted	0,48	0,83	0,87	0,9	0,75

➢ If the model is applied separately to three groups of countries with different progress levels in the demographic transition process, demographic characteristics play only a role for the least advanced group.

➢ The female employment rate, translating advances in gender equality, has a negative impact on household complexity across all groups.

➢ **Countries in an advance transition stage (Model III):** the strength of the urbanization process, the population density and the proportion of migrants are all positively linked with household complexity, indicating perhaps that strong recent urbanization has not the expected influence on housing complexity. But with higher political stability household complexity decreases, while high corruption levels have the opposite effect.

➢ **Countries at the beginning of the transition stage (Model IV):** a higher proportion of migrants increase household complexity. As expected, a more recent start of change and lesser citizen involvement are linked with higher household complexity. Intriguing is the fact that in predominant Muslim societies household complexity is lower. In these countries (Indonesia, Qatar, Bahrain, Brunei, Azerbaijan) religion might have a different status in society than in the Middle East.

➢ **Countries before the demographic transition (Model IV):** demographic factors still have an importance in explaining differences in household complexity - the younger the population the less complex the households. All development indicators are reducing household complexity, except for GNP and a higher percentage of people living in urban slums. Unexpectedly, the later the start of the transition process the lower the household complexity, but religion and the corruption level are working in the expected direction indicating a link between family and group oriented societies and higher household complexity.

Conclusion and Outlook

The main result is that, beside the age structure of the population, some other factors have been identified that explain household complexity. These factors vary when countries progress in the demographic transition process.

Increasing gender equality has a negative impact on household complexity. But this relation is perhaps not as simple since more female activity means lesser availability to care for older persons, on the other hand older persons, especially if living in the same household, are gaining in importance as care takers of the children.

The link between increasing GDP and decreasing household complexity in the less advanced countries might be the result of specific cohabitation strategies. For instance in Sub-Saharan countries specific "modern" complex household type emerged, but the economic crises cut down households to their nuclear from. Therefore, a higher GDP could mean that in richer societies this type of "modern" household can persist.

The strong heterogeneity in this least advanced group of countries can also be explained by their greater exposure to the HIV pandemic, civil wars and famine, events that can profoundly disturb cohabitation pattern.

The importance of the cultural and political context for the change in household structure has been put into evidence. But the influence of Muslim religion varies in function of other cultural or geographic factors.

These are of course very schematic results, but a general picture appears which might direct future research. The same analysis, but this time based on a classification of countries in function of their cultural and political context could be of interest. Another approach could be based on the application of multi-level analysis on micro census data in order to analyze more in detail the household structure and its evolution while integrating the identified important factors for household complexity.

Main References
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