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JEL Classification: D10, J12

Keywords: Family structures, economic development, Household decisions

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Economics and family structures*

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January 7, 2022

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Household decisions are one of the key elements impacting many dimensions of any economy. In this paper, we review the economic literature on family types, focusing on nuclear, stem, and complex families. We show that family types are heterogeneous across and within countries, both in the past and in present times. We argue that economists have focused too much their analysis on nuclear families, which may limit our capacity to analyze the impact of institutional phenomena or public policies. We establish how each family type could relate to the basic ingredients of standard structural models of household decisions. We believe this overview sets the stage for an interesting research avenue to improve the structural models of household decision making.

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1 Introduction

Households, or more broadly families, are fascinating objects of analysis where important decisions are made. Individuals within households need to make decisions about their consumption, their participation to the labor market, their time spent on domestic work, their savings, and their investments in children. Before a household is formed, individuals also need to decide on their education, whether to marry and whom to marry and if they married, whether they will divorce or not. Observational data show a big variety in household behavior with respect to all these decisions.

Following the pioneering works of Gary Becker,¹ family economists have mainly used the nuclear family structure as benchmark.² Though important, the nuclear family is far from being the unique way to organize a family. In this chapter, we claim that other forms of family structures call for more attention because the way families are organized is a crucial determinant of decisions made by households and individuals. In particular since these family structures are also not static in nature, meaning that their importance and inner organization may evolve with the economic and societal circumstances.

Classifying families in function of their household organization is not a trivial task. Laslett (1972), Le Play (1884) and Todd (2011) have provided the most famous categorizations of family types, depending on their composition but also their habits after the celebration of marriage. Grounding on these categorization, in Section 2, we define and discuss the three broadly defined family types we consider in this paper: the nuclear family, the stem family and the complex family. The nuclear family is a household with parents and children in which all children leave the family after marriage. This is not the case for the other two types we consider. In complex families children stay with the family after marriage, while for stem families only one of them remains with the parents after marriage.³

Empirical evidence shows that stem and complex families were not — and are not — marginal phenomena. They have been strongly prevalent in some parts of the World, and especially Europe, in the past (see for instance Todd (2011)) and they are still important in developing countries today. Using data from the

¹See Becker (1981) for a first review and the volume 81 issue 1 of the *Journal of Demographic Economics* in honor of Gary Becker.

²See Browning, Chiappori, and Weiss (2014), Doepke and Tertilt (2016) and Greenwood, Guner, and Vandenbroucke (2017) for recent reviews of micro- and macroeconomic models.

³Importantly, we will focus here on within households arrangements and not at the links between members of different households that share a same lineage or kinship group, sometimes also referred to as *extended* families in the literature (Cox and Fafchamps 2007).

Ancestral Characteristics database (Giuliano and Nunn 2018), we document in Section 3 that we observe many regions across the globe in which, traditionally, a large fraction of the population was not living in a nuclear family. The recent PEW research center report confirms that this is not only a historical fact but that also in current times we observe many regions with a significant share of non-nuclear households (Pew-Research-Center 2019). Why do we observe these differences in family forms is still very much an open question. Bau and Fernández (2021) review some anthropological and economic studies that tackle this question. For instance, they discuss the origins of polygyny that can be linked to agricultural technology that favors strength (Alesina, Giuliano, and Nunn 2013) and the origins of complex family types that can be linked to the absence of pension plans (Ebenstein 2014; Galasso and Profeta 2018). Tène (2021) also finds empirical support for anthropological theories for the emergence of matrilineal kinship organizations. These theories suggest that matrilineality is positively associated to the prevalence of extensive hoe agriculture, and negatively associated with animal husbandry.⁴

The fact that developed countries today are mostly characterized by the nuclear family system may suggest that family structures and development are intertwined. In this respect we provide in Section 3 some stylized facts related to the correlation between the presence of alternative family types and economic outcomes such as GDP, inequality and accessibility to justice. From this we learn that there is a strong correlation between having a higher share of nuclear families on the one hand and a higher level of GDP and accessibility to justice on the other hand. Interestingly the opposite conclusion holds for complex families. Finally, for inequality we observe that the presence of a higher share of stem families is significantly correlated with a more equal society.

We conclude from this that it is vital for economists to allow for different family types in their structural models used to understand household decisions and subsequently their impact on society.⁵ It is however clearly impossible to introduce one overarching structural model incorporating all features of the household decision process while allowing for different forms of family structure. Therefore we discuss in Section 4 the main building blocks that the literature typically takes into account when analyzing household behavior. On the one hand we have the individual preferences over all aspects in life and the household decision process

⁴See also Bau (2021) who shows that pension policies can reduce the effects of matrilineal and patrilineal traditions related to educational investments.

⁵We are of course not the first to make this point, see for instance Baland and Ziparo (2018), Guirkinger and Platteau (2020), and Bau and Fernández (2021) for interesting discussions.

to capture how these preferences are aggregated. Together this results in a household welfare function that is optimized. On the other hand we have the different type of constraints that households face. This goes from more monetary oriented constraints such as intertemporal budgets and household production, over more general constraints such as marriage markets and societal context.

Subsequently in Section 5 we try to summarize the extensive literature, both empirical and theoretical, that has linked one (or more) of these aspects of the structural household decision models to the specific types of family organization. This complements the discussion started in [Bau and Fernández \(2021\)](#) and it emphasizes once more that there are no “one size fits all” answers possible. In turn we hope that this paper feeds the interesting avenue of research on improving the economic modeling of household decisions by explicitly taking up economic motivations to form non-nuclear households. We briefly discuss some final thoughts about this in the concluding Section 6.

2 Family types

We can start by categorizing family structures from the pioneer work of [Le Play \(1884\)](#). He proposed three different types of families; “*la famille patriarcale*”, “*la famille instable*”, and “*la famille souche*”. Currently, these are respectively referred to as the complex family, the nuclear family, and the stem family. Originally, [Le Play \(1884\)](#) defined the *famille patriarcale* as the most stable among the family types, where all sons remain in the family after marriage. This type of family allows customs and tradition to be directly transmitted and conserved within generations, from the elderly to the young. The opposite holds in the “*famille instable*”, where the offspring leave the parental household when they gain independence. Although [Le Play \(1884\)](#) acknowledged that this family type is more prone to entrepreneurship and the creation of novel ideas, he despised this structure claiming that the elderly finished their days lonely due to the excess of individualism within societies characterized by this form of family. In between these two family types, the “*famille souche*” includes one married offspring, the most capable one to continue the family business, who remains living with his parents at the family household. The rest of the offspring can stay in the household, as long as they remain single.

Other scholars have proposed more ample classifications of family structures. Well known ones are those of [Laslett \(1972\)](#) and [Todd \(2011\)](#). [Laslett \(1972, p. 31\)](#) proposes a table of five major groups of families. First, the “solitaries” include the

widowed and single individuals. Second, the “no family” which are coresident siblings, coresident relatives of other kinds, and unrelated coresident persons. Third, the “simple family households” which is the nuclear family, including widows or widowers with children. Fourth and fifth are the “extended family household” and the “multiple family household” respectively. Both include some forms of stem and complex families, but the distinction is made on the number of conjugal family units: only one in the extended form, while at least two in the multiple form.

More recently, Emmanuel Todd also argues that the trilogy established by Frédéric Le Play is not sufficient to cover all the possible family arrangements that we can find around the globe, either in the past or today. Todd (2011) establishes a classification for Eurasia based upon fifteen different family types. Table 5 in the Appendix shows this classification with the respective frequency of each type from the study of 214 populations (Todd 2011, p. 91). He builds upon the complex, nuclear and stem family types mainly by allowing these families to diverge with respect to their patrilocal, matrilineal or bilocal orientations. A family has a patrilocal orientation if the bride joins the groom’s family household after the wedding, while it has a matrilineal orientation when it is the husband who enters the wife’s household. When either one or the other of these situations can occur, the family is denoted as bilocal. For instance, when a sister and a brother bring in their family house their respective spouses, the household is labeled as complex bilocal. From Todd’s analysis, we can however conclude that the patrilocal orientation dominates in all complex, nuclear or stem family types.

The ultimate goal of this paper is to convince economists to properly acknowledge the existence of non-nuclear family types and to develop new structural models to grasp the impact of the different family types. In this respect we will focus our discussion below on only three broad types: the nuclear family, the stem family and the complex family. Following Laslett (1972, p. 41), Figure 1 provides some examples of ideographs to further illustrate these three types. These ideographs are commonly used in anthropology to represent families. The household illustrated in Figure 1 shows a couple with three children, two sons and one daughter. Then, we show the ideograph for a stem, patrilocal, family with three generations living in the same household. The younger couple has a son and a daughter. The last ideograph depicts a complex, patrilocal, family where the two sons of the first generation live in the household with their respective wives and children.

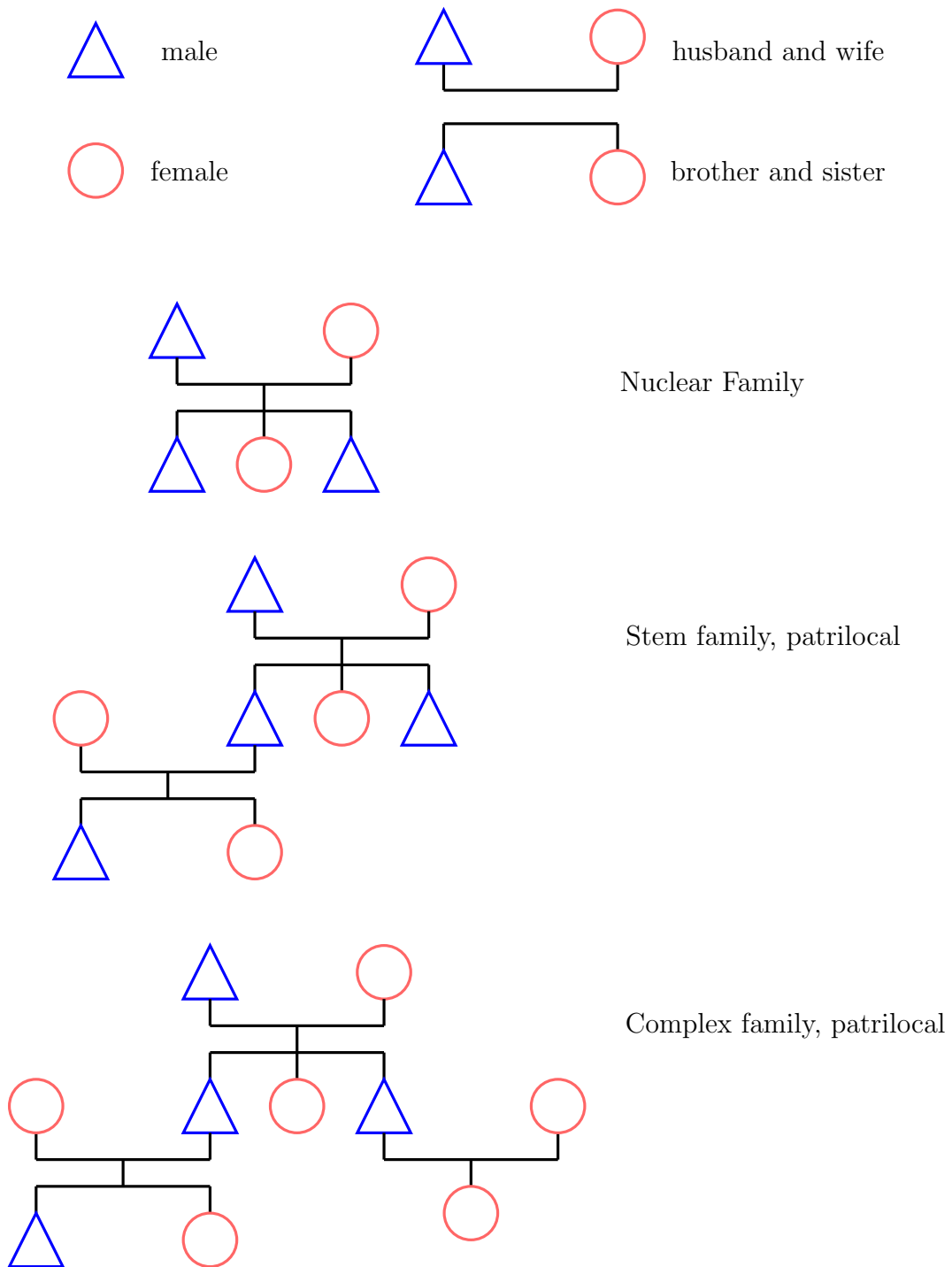


Figure 1: Ideographs for family structures

3 Stylized facts

We first document the heterogeneity of family types around the world in both the past and the present. Subsequently we present some correlation results between ancestral family organization and current economic outcomes related to GDP, inequality and justice accessibility. All this motivates the clear need to extend the economic models to allow for non-nuclear families.

3.1 Heterogeneity of family types around the world

Figures 2-4 show the current prevalence of ancestral nuclear, stem and complex family types around the globe. The figures use data from the most complete version of the *Ancestral Characteristics* database (Giuliano and Nunn 2018). These data provide worldwide country level measures for the share of the current population that has a given cultural or environmental pre-industrial ancestral characteristic. The variables of the *Ancestral Characteristics* database are those of the *Ethnographic Atlas*, while the database is enriched with ethnic groups of Eastern Europe, Siberia, and European groups that are not present in the *Ethnographic Atlas*.

The *Ethnographic Atlas* is an ethnicity-level database for 1,265 different ethnic groups around the world constructed by George Peter Murdock (Murdock 1967). Several scholars have used the digitized version of the database, released in 1999. Lowes (2021) provides a survey of papers that have used the *Ethnographic Atlas*, and a discussion on the limitations of these data. Information on the ethnic groups comes mostly from the nineteenth and early twentieth centuries and, in particular, prior to European contact for African and American countries.

Figure 2 shows the fraction of a country’s population (with non-missing ancestral data) with ancestors organized as nuclear, monogamous families. In detail, we map the variable

$$\frac{v8_grp2}{1 - v8_grp1}$$

of the *Ancestral Characteristics* database. The variable $v8_grp1$ reports the fraction of a country’s population for which data on the prevailing form of domestic or familial organization is missing. Variable $v8_grp2$ is defined as the fraction of a country’s population with ancestors organized as “Independent nuclear families with monogamy”. Next, Figure 3 shows the fraction of a country’s population

with ancestors organized as a stem family type. We map the variable

$$\frac{v8_grp7}{1 - v8_grp1}$$

in the *Ancestral Characteristics* database. This variable is defined as the fraction of a country’s population with ancestors organized in “Minimal extended or “stem” families, i.e., those consisting of only two related families of procreation (disregarding polygamous unions), particularly of adjacent generations.” Finally, Figure 4 shows the fraction of a country’s population with ancestors organized as complex families. We map the variable

$$\frac{v8_grp8 + v8_grp9}{1 - v8_grp1}$$

in the *Ancestral Characteristics* database. $v8_grp8$ and $v8_grp9$ are respectively defined as the fraction of a country’s population with ancestors organized in: (i) “Small extended families, i.e., those normally embracing the families of procreation of only one individual in the senior generation but of at least two in the next generation. Such families usually dissolve on the death of the head.”, and “Large extended families, i.e., corporate aggregations of smaller family units occupying a single dwelling or a number of adjacent dwellings and normally embracing the families of procreation of at least two siblings or cousins in each of at least two adjacent generations.”

The pattern displayed by these figures is clear. The nuclear family ancestral trait clearly prevails in developed countries. The complex family trait is salient in Iceland, New Zealand and Asian countries, in particular in Kyrgyzstan, Tajikistan, Uzbekistan, or Turkmenistan. Most African countries display the complex family trait. This trait can also be observed in Latin American countries, for which we encounter both nuclear and complex ancestral family types. Finally, the stem family trait is relevant in Japan, Ukraine, Belarus, Poland, Slovakia, The Czech Republic, and Portugal.

Within and beyond national frontiers, we can also illustrate the diversity of family types using the often studied setting of Africa. For this, we can combine the *Ethnographic Atlas* with the mapping of historical ethnicity boundaries provided by Murdock (1959). We show the diversity in family types across ethnic groups in Figure 5 in the Appendix. The figure shows indeed that ethnic frontiers allow to capture a wider level of heterogeneity not only between countries but also

within countries.⁶ Figure 5 also shows “the prevailing form of domestic or familial organization” as defined in the *Ethnographic Atlas*.⁷

Data from the *Ancestral Characteristics* database show that current populations over the World do not all share the same ancestral family characteristics but they remain silent about the current prevalence of each type of family. In a recent report, the [Pew-Research-Center \(2019\)](#) shows that the organization of families remains quite heterogeneous, even today. In China, India and Senegal, the majority of the population lives in *extended-family households*. This is also the case for Liberia, Tajikistan, Nepal and Namibia. An extended-family household is defined as “*a household that includes relatives other than children or partners. For example, adults who live with their siblings or parents in addition to their children*”. Defined like this, *extended-family households* include stem and complex families. Although the proportion of these family types seems negatively associated with the level of development, it remains noticeably high in rich countries like Germany and Norway with a share of 17%.

At the world level, 38% of the population live in such households. On one side, these percentages do not account for polygamous households leading to underestimations while on another side, they are computed at the individual level. Because the average size of complex families is higher than that of nuclear families, the picture would look less extreme when looking at the proportion of households per family type. But whatever the caution we take, census and survey data indicate that the nuclear family is far from being the only important type of household today, urging economists to better model family decisions in non-nuclear settings.

⁶The same appears for historical Europe, as shown in Figure 2 of [Duranton, Rodríguez-Pose, and Sandall \(2009\)](#).

⁷We distinguish between nuclear, polygynous or stem and complex families. There were very few stem family types and we therefore merged these with complex ones. Other family organizations could also be displayed. For instance, see [Lowes \(2018\)](#) and [Loper \(2021\)](#) for studies on the matrilineal and patrilineal dimension of kinship systems.

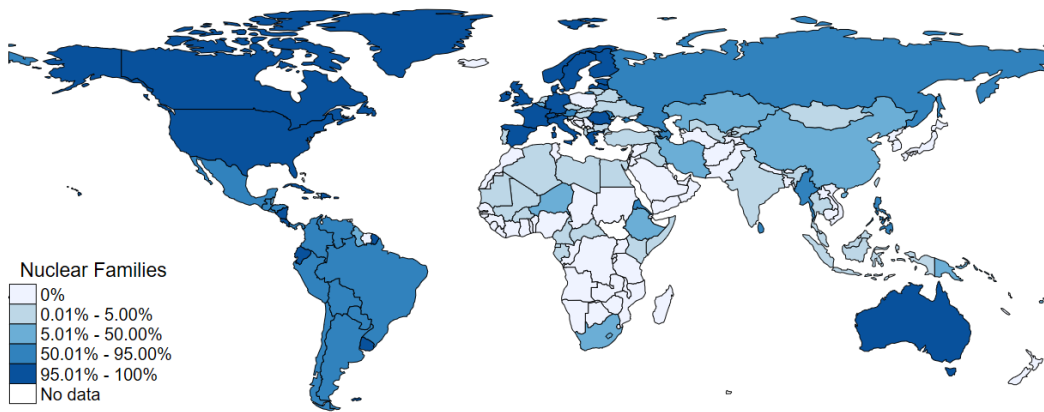


Figure 2: *Fraction of the population in nuclear, monogamous, families*
 Source: Ancestral Characteristics Database (Giuliano and Nunn 2018).

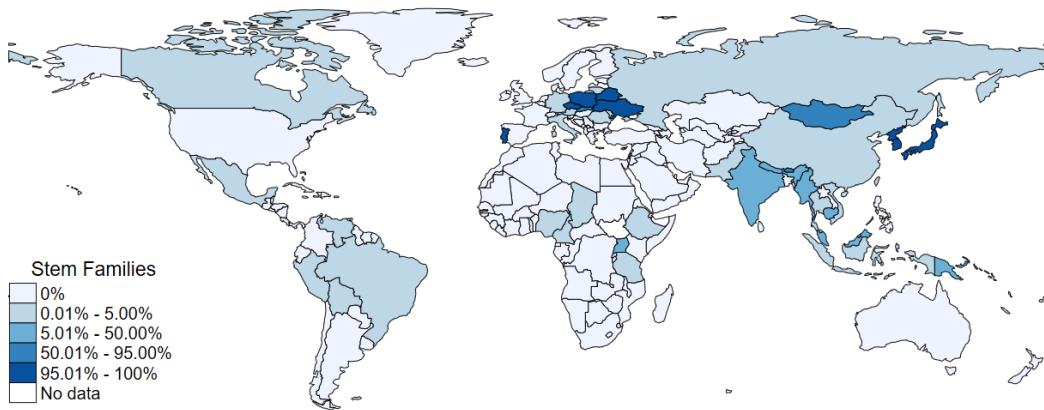


Figure 3: *Fraction of the population in stem families*
 Source: Ancestral Characteristics Database (Giuliano and Nunn 2018).

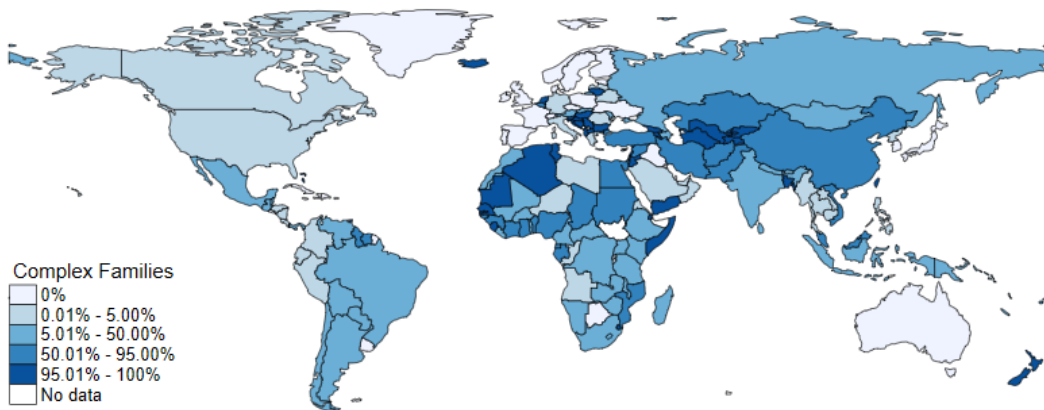


Figure 4: *Fraction of the population in complex families*
 Source: Ancestral Characteristics Database (Giuliano and Nunn 2018).

3.2 Family types and economic outcomes

Tables 1-3 illustrate existing correlations between these ancestral traits of family types and current economic outcomes. Formally, we estimate with OLS the following equation model:

$$y_i = \beta F_i + \mathbf{x}'_i \gamma + \epsilon_i \quad (1)$$

where i denotes a country, and y is an economic outcome. We explore three outcomes: the GDP per capita in 2010, the average GINI between the years 2010 to 2020, and the rule of Law index for the year 2020. GDP per capita and the GINI index are part of the World Development Indicators data made available by the World Bank at <https://data.worldbank.org/indicator>. The rule of Law index is created by the World Justice Project and provides a measurement for the accessibility to justice of citizens, whether people have access to courts or whether crime is effectively controlled. These data are taken from <https://www.worldjusticeproject.org/rule-of-law-index/global/2020/table>. F_i is the family type. In detail, we take the fraction of a country's population with ancestors organized in either nuclear, stem, or complex families. These three variables were defined in detail in the previous section and illustrated in Figures 2-4. Finally, \mathbf{x} are geographic controls. We take as geographical controls the ancestral distance from the coast and terrain ruggedness, also provided in the *Ancestral Characteristics* database. As explained in Giuliano and Nunn (2018) (and in line with previous studies who study the historical importance of geography on current outcomes), ancestral geographical characteristics show a strong association to current economic outcomes.⁸

Results shown in Tables 1 and 3 suggest that countries in which the nuclear family ancestral characteristic was more prevalent, do better in terms of GDP per capita and rule of law. The opposite holds for countries in which complex families prevailed. Table 2 suggests that inequality is negatively associated to the presence of stem families in the past. Countries in which stem family types prevailed are associated with a lower GINI index, hence more equality. Taking the nuclear family as example, the exact magnitudes of the coefficients can be interpreted as follows. Controlling for geographic characteristics, countries where nuclear families fully prevailed (such as Denmark, the United Kingdom, or Uruguay) have on average a higher GDP per capita in 2010 higher (i.e. 21,099 USD), a higher GINI coefficient (i.e. 0.0766) and a higher rule of law index higher (i.e. 0.110) compared to countries with no nuclear families as ancestral family trait (such as

⁸See, among others, Michalopoulos (2012), Fenske (2014), and Henderson et al. (2018).

	Dependent variable is GDP in 2010		
	(1)	(2)	(3)
Nuclear	21,099*** (3,393)		
Stem		1,394 (7,117)	
Complex			-11,336*** (3,508)
Terrain Ruggedness	-5.355e+06*** (1.593e+06)	-5.126e+06*** (1.755e+06)	-5.137e+06*** (1.705e+06)
Distance from Coast	-0.00906** (0.00424)	-0.0157*** (0.00453)	-0.0148*** (0.00441)
Observations	186	186	186
R-squared	0.271	0.116	0.164

Notes: Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Table 1: GDP and Family Types

	Dependent variable is GINI (2010-2020)		
	(1)	(2)	(3)
Nuclear	0.0766 (1.575)		
Stem		-9.094*** (2.550)	
Complex			-1.722 (1.567)
Terrain Ruggedness	965.1 (753.6)	1,068 (719.6)	1,050 (752.2)
Distance from Coast	1.90e-07 (1.98e-06)	4.63e-07 (1.85e-06)	2.09e-07 (1.92e-06)
Observations	143	143	143
R-squared	0.012	0.095	0.020

Notes: Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Table 2: Inequality and Family Types

	Dependent variable is Rule of Law		
	(1)	(2)	(3)
Nuclear	0.110*** (0.0283)		
Stem		0.0959* (0.0495)	
Complex			-0.0711** (0.0308)
Terrain Ruggedness	-38.08*** (14.52)	-39.00** (15.20)	-37.12** (15.13)
Distance from Coast	-5.88e-08* (3.45e-08)	-9.52e-08*** (3.47e-08)	-8.74e-08** (3.47e-08)
Observations	116	116	116
R-squared	0.223	0.148	0.159

Notes: Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Table 3: Rule of Law and Family Types

Afghanistan, Pakistan, or Jordan).

In general, these results are in line with the following quote from [Cox and Fafchamps \(2007\)](#):

Extended families are important just about everywhere, but especially so in poor countries, where social safety nets are incomplete or nonexistent and households must cope with an unforgiving environment of severe poverty and shocks to economic and physical well-being. Autonomy is not a likely option for a household struggling to make ends meet in the face of looming disasters such as drought, flooding, pestilence or infectious disease – especially against a backdrop of inadequate formal credit and insurance markets and a minimal welfare state. In poor, laissez-faire economies ties to communities, friends and relatives – both near and far – can make the difference between surviving and perishing. ([Cox and Fafchamps 2007](#), p. 3714)

More in detail, results for GDP and the GINI index are in line with those of [Duranton, Rodríguez-Pose, and Sandall \(2009\)](#), who provide a similar analysis for NUTS III European regions with data on family types from [Todd \(1990\)](#).⁹ Im-

⁹This classification precedes that of [Todd \(2011\)](#), which is the one we list in Table 5. Notice

portantly, they find that family structures are very strongly related to economic outcomes, such as education attainment, income per capita, growth, inequality, or employment. More specifically, they find that regions with absolute nuclear families tend to have more educated individuals, higher employment rates, and higher GDP per capita.¹⁰ Communitarian/extended family types tend to be associated to poorer societies, mainly manufacturing, and with lower inequality.

Our results hence join the view of [Duranton, Rodríguez-Pose, and Sandall \(2009\)](#) that past family types can have a strong impact on the present day level of development of societies. In addition, we suggest that the rule of law index provides an interesting outcome when it comes to how families affect societies, as families can often replace poor institutions. This is also aligned with [Guirking and Platteau \(2020\)](#) who argue that “the family is essentially viewed as a substitute for markets, legal enforcement mechanisms, and state-devised social protection.” We will discuss this more in detail in the following sections.

4 Ingredients of the structural model

This section provides a list of the main ingredients for any type of household decision making model. The next section will provide some reflections on how either nuclear, stem, or complex family types can be more or less related to these ingredients. The choices made by the household are governed by the household welfare function, which we use to capture two different things. The individual preferences of the household members and the household interaction process to aggregate these preferences. Next there are a series of constraints that the household is facing: the intertemporal budget constraint, the household production process, the marriage market and the societal context (including institutions and norms). In what follows we discuss all of this in more detail.

4.1 The individual preferences

It is important to allow for heterogeneity in preferences across different household members (see e.g. [Croson and Gneezy \(2009\)](#) for a recent discussion on gender differences). This is captured by the individual utility function. A first argument

that [Todd \(2011\)](#) highlights several corrections from his previous classification in [Todd \(1990\)](#) from [Duranton, Rodríguez-Pose, and Sandall \(2009\)](#).

¹⁰Following [Todd \(1990\)](#)’s classification, [Duranton, Rodríguez-Pose, and Sandall \(2009\)](#) distinguish between two types of nuclear families, the “egalitarian” and the “absolute” nuclear families. They find that the absolute one is better in terms of economic outcomes.

of this function is consumption goods. Those can be home produced (more on this below) or market goods. As introduced in [Browning and Chiappori \(1998\)](#), these goods can be partly private (e.g. clothing) or partly public (e.g housing) in nature. A second argument is leisure in order to capture the important dimension of time use decisions (see e.g. [Apps and Rees \(1988\)](#) for a discussion on proper welfare analysis in a household context). Time use decisions capture both labor market decisions (including agricultural production) and household production decisions. These two arguments together are basically the main ingredients of any labor supply model.

A third argument, stemming from a different literature, is related to social norms and can be introduced in the spirit of [Lindbeck, Nyberg, and Weibull \(1999\)](#). That is, agents may suffer a disutility when not following the prevalent social norm. For instance, if the norm is to form a stem family, forming a nuclear family would incur a social punishment in the form of a utility loss. This loss is an increasing function of the share of the population respecting the norm. In presence of social norms, families may have to decide whether to follow them or not implying the comparison of expected (indirect) utilities.

Next, preferences also reflect intergenerational altruism and cultural transmission. There are many ways to model dynastic altruism in the context of family economics ([Becker and Barro \(1988\)](#), [Razin and Ben-Zion \(1975\)](#), [Gobbi and Goñi \(2021\)](#), etc.). When exploring cultural transmission, the privileged representation is paternalistic altruism by [Bisin and Verdier \(2001\)](#). In this framework, altruism is imperfect as decisions made by offspring are evaluated through the lens of parental own preferences. Because of this, parents expect their children to be better off if they adopt their own preferences. A similar reasoning also implies that children are often considered as a “public good” in which parents invest time and money ([Blundell, Chiappori, and Meghir 2005](#); [Cherchye, De Rock, and Vermeulen 2012](#); [Gobbi 2018](#)).

Finally, several of the arguments of the utility functions may be sensitive to (unexpected) shocks such as job loss, death, bad harvest, etc. To capture this, preferences may be deterministic or stochastic in order to take risk attitudes and uncertainty into account. Naturally, they can also be static or intertemporal to model forward looking behavior (see [Chiappori and Mazzocco \(2017\)](#) for a recent review).

4.2 The household welfare function

The individual preferences discussed above can be selfish or take other regarding aspects such as altruism or externalities into account. Related to this, the arguments can enter based on the individual share of consumption (e.g. the mother's share of clothing expenditures) or as the total amount of consumption (e.g. housing or total expenditures on clothing). All this implies that there may be many different ways how the household members interact to reach a joint household decision; see [Browning, Chiappori, and Weiss \(2014\)](#) for a recent review and [Baland and Ziparo \(2018\)](#) for a critical discussion in a context with non-nuclear families.

In line with the seminal work of Gary Becker ([Becker 1981](#)), the decision process can be dictatorial, meaning that the household can be represented as a single decision maker. These decisions can then reflect only the preferences of the selfish dictator (who is basically only taking his own preferences into account) or those of the paternalistic dictator who is aggregating the preferences of the individual members. Importantly however, is that this decision process implies that the aggregation remains constant over time, and is for instance not depending on shocks or changing environments. The latter is not what is typically observed in the data.

Richer structural models allow for a household decision process that may take strategic consideration or shocks into account. Strategic considerations may be the result of free riding behavior (e.g. investments in public goods), intertemporal concerns (e.g. establishing reputation or absence of commitment) or principal agent problems (e.g. actions can not be fully monitored). Collective models, after [Chiappori \(1988\)](#), or more generally cooperative models, assume that the members can circumvent these concerns and can reach a Pareto optimal decision (i.e. no household member can be made better off without making another worse off). A motivating argument for this approach is the repeated interaction in households or the importance of quality of marriage. Noncooperative models on the other hand will focus on a Nash equilibrium, meaning that household members base their decisions on their beliefs of the actions of the other members. This will typically result in a decision that is not Pareto optimal (e.g. due to the under provision of public goods), which implies that all household members could be better off with an alternative decision.

In all these models, even if their preferences enter the decision process through dynastic altruism, children are not considered as decision makers. Also the models will typically only allow explicitly for two decision makers (i.e. the parents).

In a context of non-nuclear households or, more generally for households with older children, this may not be the most realistic choice to properly capture the heterogeneity in the household decision process.

The decision process in combination with the individual preferences form together the household objective function. This is the function that is maximized by the household, meaning that it governs the household decisions. Economists will in turn use this construct in their counterfactual analysis to predict behavioral reactions in new situations. In the next subsections we will now discuss the several constraints that have to be added to this maximization problem.

4.3 Intertemporal budget constraint and household production

The most natural constraint on the household choices is the budget constraint, which includes expenditures in both time and money. Income can be earned through labor market decisions, the result of borrowing/saving decisions or be available through endowments (e.g. inheritance, available time). To model bequest motives, bigger decisions (e.g. housing) or unexpected income shocks, it is often important to have an intertemporal budget set-up.

Another source of income is household production. The household, or more broadly the family, can be viewed as a small firm that produces several goods. In developing contexts it is important that this includes agricultural production, both for own consumption and for selling, since this is a main source of income. Besides agricultural production, other goods that are typically considered are household chores and, as discussed, above children.

Clearly individuals will have preferences over the outcome of this production process, but at the same time it can be considered as a constraint. To be more specific, there are clearly economies of scale related to the production process (e.g. all members benefit from the chores, risk sharing in agricultural production) but there could also be room for economies of scope or even specialization (e.g. experience in child related activities). Moreover, in the case of agricultural production, it is important to acknowledge that assets may be essential to have access to this source of income. All this implies that the production process may be restrictive in, for instance, the partner's choice or the place to live.

4.4 Marriage market and societal context

A different set of constraints that the household is facing are given by the marriage market (e.g. free partner choice, dowry, bride-price) and the societal context (e.g. poor institutions, norms, religion). These are in principle not necessarily monetary related but can clearly severely restrict the choice set, impact the production possibilities or decrease welfare due to violations of norms.

Moreover, as discussed at length in [Browning, Chiappori, and Weiss \(2014\)](#), all this can also have a significant impact on the household decision process. For instance, the starting point of the richer structural models is often that individuals have outside options through support of the family or divorce. The validity of this approach thus crucially depends on how the marriage market functions or what the social context allows for. This has been well investigated by the literature and in the next section we will discuss many concrete examples.

5 Theoretical foundations for family types

From the previous section and our understanding from the literature that has studied family types, we can make connections between some of the points made above, and some types of family organization. In other words, some theoretical components of family decision might be more salient in certain types of families than in other. [Table 4](#) in the Appendix summarizes these associations.

5.1 The individual preferences

We begin the reflection on particular types of preferences and their associations to family structures. First, those associated to social norms, and second, those reflecting altruism. To the list, we could also add a simple “taste for privacy”, such as in [Foster and Rosenzweig \(2002\)](#) or [Kaplan \(2012\)](#), that would push households to be nuclear, which does not require a discussion. This taste for privacy could be thought of in terms of a luxury good, that would give rise to more nuclear families in richer societies (as we saw in [Table 1](#)).

5.1.1 Social norms and cultural transmission

When thinking about the intrication between social or cultural norms and family types, it may be worth distinguishing two questions. First, how do *current* norms influence family forms and behaviors within these latter. Second, how are these

norms *transmitted* from one generation to another. Following the representation of social norms by [Lindbeck, Nyberg, and Weibull \(1999\)](#), the nuclear family is probably the less efficient form for what concerns the enforcement of social and cultural norms as they have less old adults monitoring children and young adults' behaviors. As a result, nuclear families are also the more adaptable to changes in social norms. Hence, inefficient social norms are more easily abandoned than in any other family structures. Within complex families, the enforcement of norms is better accomplished as each family member can monitor and report to the household head. A middle ground is found in stem families, with some monitoring, but less than in complex families, and a better ability to abandon inefficient social norms.

As regard to how these norms are transmitted between generations, the seminal contribution by [Bisin and Verdier \(2001\)](#) can be used.¹¹ Family is the first place of socialization and so the place where norms and culture pass down from parents to children. Society outside the family is only the second place of socialization. Parents invest in costly socialization effort to pass their preferences, culture, or internalized norms to their children because they are “paternalistically altruistic” (see the next section for more discussion). Surprisingly, Bisin and Verdier as well as the rest of the literature only focus on nuclear families. So there is no study on how cultural transmission and especially the transmission of norms are influenced by family structure;¹² while this is one of the core messages of [Le Play \(1884\)](#): stem and complex families are better suited to perpetuate traditions and respect of the elderly. Further research is called for in this area but some intuitions can be given. There are mainly two forces opposing family types for what regards socialization and the perpetuation of traditions. In non-nuclear families, there are more persons to monitor the socialization process of the younger generation and to report any misconduct to the head of the household than in nuclear families. It implies that, if the main vectors of socialization, the elders, agree on the norms and culture to be passed (they are culturally homogeneous), they have a cultural advantage on nuclear families due to their number. This is the first main force. But conversely,

¹¹The concept of cultural transmission proposed by [Bisin and Verdier \(2001\)](#) grounds on [Cavalli-Sforza and Feldman \(1981\)](#) and [Boyd and Richerson \(1985\)](#). In this set-up, culture is not limited to social norms, it is larger than that.

¹²[Bezin, Verdier, and Zenou \(2021\)](#) study the influence of family structure on cultural dynamics but not by extending the Bisin and Verdier's framework to stem and complex families. Instead, they distinguish nuclear families where the father is present from these where they are not. They show that severe crime repression tend to break nuclear families by jailing fathers, which can translate in higher probabilities for sons to commit crime in the future. Severe crime repression can then be inefficient in the long run.

it is potentially harder to reach a consensus on the norms and cultural traits to pass to children when families are complex; the risk of disagreement is larger and so, the signals sent may be contradictory. In that case, nuclear families have a cultural advantage in the socialization process compared to other families as the probability to reach an agreement is higher.

5.1.2 Altruism and family ties

[Bisin and Verdier \(2001\)](#) explain why inefficient norms or cultures may persist over time thanks to their concept of paternalistic altruism. With this kind of imperfect altruism, parents value the future choices of their children at the lens of their own preferences. It follows that parents try to transmit their own preferences and norms to their children and so contribute to perpetuate potentially inefficient societal and cultural contexts. This result is evidenced for instance by [Chabé-Ferret \(2019\)](#) in the context of fertility decisions of second generation migrant women in France and the US. Women originating from high fertility countries tend to shorten birth spacing compared to natives even in situations where such shortening is sub-optimal.

This being said, altruism does not need to be imperfect to influence the distribution of family types and behaviors within families. A high degree of (perfect) altruism towards siblings and children should be negatively associated with the persistence of inefficient social and cultural norms. Indeed, a higher degree of altruism should incite people to adopt family forms which are efficient for their relatives. It implies that in a context where public institutions protect family members inefficiently, complex forms of family should be more prevalent; while good institutions should reduce the incentive to form complex families. A high degree of altruism should magnify this effect. To the best of our knowledge, there is no study of the association between the degree of altruism and the prevalence of family types. Nevertheless, this question can be looked at through the lens of family ties as the intensity of family ties is positively associated with intra-family altruism ([Alger and Weibull 2008](#)).

In their key contribution, [Alesina and Giuliano \(2015\)](#) propose a review of the literature on family ties and their importance for the economy. They show that when family ties are strong, the family constitutes the sphere of the trustable persons, which translates into decreased civic sense and lower levels of trust outside the family. It goes hand in hand with high levels of home production performed, most of the time, by dependent members of the family. On the contrary, when

family ties are weak, people have a better sense of civil responsibilities and a higher sense of equality within households. As a matter of result, nuclear families, which are characterized by more independence between children and parents, are associated to weaker family ties than stem and complex families which give more power to the family. Using Todd's classification of families, [Galasso and Profeta \(2018\)](#) show that in societies with historically weak family ties, the nuclear family dominates, and this led to the emergence of safety net pension systems. In societies where family ties were stronger, the nuclear family is less dominant while the pension system is more generous but less egalitarian.

This being said, it would be inexact to claim that Todd's family forms have a direct mapping to the power of the family. In a famous and debated article, [Reher \(1998\)](#) divides European families on the basis of the intensity of their family ties. He shows that European families can be divided into two main categories: the weak families in the North and the strong families in the South. In between, countries like France and Germany are more difficult to characterize. Strong families, like the Italian and Spanish ones, are characterized by a higher level of control inside the family sphere but also a higher degree of cohesion and solidarity, compared to weak families in the North. [Reher \(1998\)](#) provides a series of striking differences between these two main regions. For instance, homelessness prevalence is strongly and positively associated to the prevalence of weak families. [Reher \(1998\)](#)'s definition and analysis of family ties is not radically different from the one proposed by [Alesina and Giuliano \(2015\)](#), but his conclusion is that the mapping between Todd's types of families and the distinction between strong and weak families is far from obvious: where Todd's family types are diverse over small territories, Reher's family types are more homogeneous. It remains however that, at large, strong families are more often complex than nuclear while weak families are more often nuclear.

Finally, it is important to note that altruism also determines the way discounting is introduced in the individual preferences. [Galperti and Strulovici \(2017\)](#) distinguish between direct pure altruism, in which the utility of the first generation directly depends on that of all future generations, and indirect pure altruism, in which the utility of the first generation only indirectly depends on the utility of future generations through the utility of the second generation. These authors show that direct pure altruism implies time inconsistency, while indirect pure altruism implies time consistency. For instance, the seminal paper [Becker and Barro \(1988\)](#) assumes indirect pure altruism, while [Gobbi and Goñi \(2021\)](#) assume direct pure altruism in the context of the British aristocracy, which is characterized by

stem family types. We could hypothesize that direct pure altruism could be more associated with complex or stem families, in which the future of the family has a (direct and) strong weight, than the one of nuclear families.

5.2 The household welfare function

The second major ingredient of the household welfare function, listed in the previous section, is the decision process within families. Which type of family type could be better modelled with a unitary decision model rather than a collective one? Or with a non-cooperative one? These questions have been largely discussed in the context of nuclear families (for reviews see [Browning, Chiappori, and Weiss \(2014\)](#) and [Doepke and Tertilt \(2016\)](#)). Here, we summarize the evidence suggesting that some families types tend to favour one type of decision process versus another.

First of all, altruism as well as family ties do not only alter the distribution of family types, as discussed before, they potentially also shape the behavior inside each kind of family. For instance, using modern evidence from the Bamileke ethnic group in the city of Bafoussam in the West region of Cameroon, [Baland et al. \(2017\)](#) study the pattern of transfers within complex families in the context of limited access to credit or saving facilities. They focus on transfers between siblings, which represent the majority of all transfers within the family. They show that, when individuals are young, the older siblings transfer to their younger siblings. The direction is reversed when these grow older and it is the younger siblings' turn to transfer to their older siblings (and their offspring). Another example is given in [Edlund and Rahman \(2005\)](#) who compare the influence of a father – which is assumed to be stronger in nuclear families – versus that of a grand-father – assumed stronger in complex or stem families – on children's education and health outcomes. They find that children's education tends to be higher in nuclear families than in complex families and find no differences in health outcomes, proxied by the height-to-age. Related to the previous paper, [Le Bris \(2020\)](#) provides evidence that stem and complex families are associated with strong parental authority while children enjoy more freedom in nuclear families. He finds that strong parental authority has a positive effect on human capital investment.

A second dimension is related to public goods and, more generally, monitoring actions of household members. On the one hand, the bigger the family is, the higher the economic gains of sharing public goods are, and the more the cost of the public good can be spread out through family members. On the other hand,

free riding and moral hazard concerns arise more easily in larger families. The complex family type has of course the highest number of players and negotiators and so potentially, the highest incentive to adopt a unitary (dictatorship) decision framework. Any non-cooperative negotiation process will imply a lot of inefficiency. Therefore, we might see more often a strong decision power of one of the family members. Moreover, the cost of monitoring is probably lower (since it can be done by more people), meaning that we observe less strategic behavior. Societies with complex families are probably also more traditional meaning that we expect more a unitary model (i.e. dictatorship). Recently, [Rangel and Thomas \(2019\)](#) have indeed argued that, in the context of complex households in Burkina Faso, the allocation of resources was consistent with Pareto efficiency. This view can be however debated, [Baland and Ziparo \(2018\)](#) suggest that nuclear families tend to show stronger cooperative behavior. In a famous paper, [Anderson and Baland \(2002\)](#) also showed that non-cooperative behaviour between husband and wife could explain saving decisions in a context where complex families were common.

Finally, we also want to mention domestic violence since to some extent this also correlates with the household decision process. Using data from historical Spain, [Tur-Prats \(2019\)](#) shows that, compared to nuclear families, stem family types have a causal negative effect on domestic violence. She establishes causality using an instrumental variables strategy that exploits exogenous variation in inheritance laws that followed the Christian conquest of the Iberian Peninsula. Among the possible mechanisms, she suggests that: (i) the presence of more witnesses can refrain a violent husband from acting, and (ii) since domestic tasks are also ensured by the mother in law, women can increase their labor force participation, and hence their bargaining power. [Lowes \(2018\)](#) also provides another important example in which the family structure can affect the decision process. She shows that, matrilineal kinship systems reduce cooperation between spouses (compared to patrilineal ones). This is however beneficial to women themselves, who face less domestic violence, and their children, who benefit from larger investments.

5.3 Intertemporal budget constraint, household production, and family types

We now discuss how production activities, and budget related considerations can affect family forms, and vice versa.

5.3.1 Production

We begin by reviewing the contributions linking family types to different types of production activities. [Pensieroso and Sommacal \(2019\)](#) provide a theoretical model to explain how the structural transformation from agriculture to industry was a determinant for the aggregate shift from stem to nuclear families in the US between the 19th and 20th century. Importantly, their model builds upon [Pensieroso and Sommacal \(2014\)](#) where intergenerational co-residence is determined by the income of the young adults relative to that of the elderly. To our knowledge, their model is the first to take the family transformation process as endogenous in a (macro) structural model.

An important production factor associated to family types is the land to labor ratio. [Voigtländer and Voth \(2013\)](#) claim that the high land to labor ratio, caused by the Black Death, was key for the emergence of the so called “European Marriage Pattern” (EMP). As described by [Hajnal \(1965\)](#), the EMP combined late marriages (above 23 for women and above 26 for men) and high life-long celibacy rates (20%).¹³ These demographic patterns were essential to ensure both population and economic stability in pre-industrial times.¹⁴ [Voigtländer and Voth \(2013\)](#) show that the Black Death, by favoring pastoral agriculture and then husbandry, has reinforced the role of women in the economy and provoked at least partially the emergence of the EMP. The argumentation of [Voigtländer and Voth \(2013\)](#) for the emergence of late marriages, could also apply to the emergence of nuclear families, as mentioned in [Guirkinger and Platteau \(2020\)](#).

Family types, or more generally societal norms, can also affect the way production activities are accomplished. For instance, [Fafchamps \(2001\)](#) provide a theoretical framework to analyze household production and intra-household equity in complex families. [Krishnan and Sciubba \(2009\)](#) study how extended families facilitate the formation of labor pooling groups. Finally, the seminal paper [Udry \(1996\)](#) shows that existing norms, preventing husbands to work on the land of the wives, leads to inefficient household decisions.

5.3.2 Risk

The family is also an institution capable of providing insurance to its members:

¹³[de la Croix, Schneider, and Weisdorf \(2019\)](#) also mention high child mortality and high childlessness rates (10-15%).

¹⁴This institution has also been linked to economic development by providing individuals with longer time horizons for human capital investment through late marriages ([De Moor and van Zanden 2010](#); [Foreman-Peck 2011](#)).

The family - or more accurately, the kinship group - is important in traditional societies in large measure because it protects members against uncertainty. (Becker 1981, p. 343)

Following this logic, the larger, complex family can be an organizational form that allows to individuals a better form of living in societies having to cope with high levels of uncertainty. Uncertainty can take several forms, such as uncertainty associated to income losses, unemployment, or to health shocks.

The role of the family in the context of uncertainty associated to income losses has been studied by Foster and Rosenzweig (2002). They provide a structural model of complex family breakups, building upon the collective choice model. In their model, families gain from co-residence from sharing the cost of a household specific public good and from sharing information regarding farming techniques. Co-residence will be desirable given a certain economic environment, that includes scale economies in production and risk sharing. The parameters of the model are estimated using Indian data over the period 1971-1982. The authors find that households are better off co-residing than splitting into nuclear families in environments where income risk is high. Pressure for risk sharing among household members can however lead individuals to hide their income from one another in order to avoid being asked for money by other members of the household. Kinnan (2021) shows indeed that hidden income is the main reason for incomplete insurance in rural Thailand.

Next, health shocks are another important risk element that any individual faces. The risk of having to undertake medical expenses is an important reason why singles and couples save after retirement (De Nardi et al. 2021). Being in a couple allows to rely on spousal care giving, and hence (all else equal) diminish the amount of savings per individual. By extension, complex families can reinforce this insurance device. Related to this, in the context of pre-revolutionary France, in the Pyrénées where stem family types prevailed, some authors mention the existence of the *droit à la chaise* (right of a chair). This implicit right goes to the non-heirs of stem family types, that would be allowed to return to the family house when they are elderly and have a secured place next to the fireplace (Zink 1993, p. 173).

Finally, families also play an important insurance mechanism against unemployment. Kaplan (2012) shows that the possibility for young adults to move back to their parents represents an important form of insurance against unemployment in the United States. In turn, the possibility of co-residence allows young adults

to search longer for better jobs.¹⁵

5.3.3 Intertemporal components: inheritance

Finally, turning to the intertemporal components of the family budget, it is worth mentioning the role played by inheritance customs and laws to shape family forms. An important reason for the existence of families relates to the transmission of goods and assets throughout a same lineage. As has been extensively discussed in other social sciences, the family structure is highly dependent on the inheritance scheme that is used in a society (Le Roy Ladurie 1972; Berkner and Mendels 1978; Goody, Thirsk, and Thompson 1978). The reason why different inheritance schemes relate to different family structures is simple. As noted by Habakkuk (1955), any form of inheritance shapes the nature of relationships within a family; between parents and children, between siblings, or between husbands and wives. Given these different relationships, diverse family structures arise; different types of co-residence (inter and intra generational), different marriage arrangements, different fertility decisions, or different investments in children of different gender.

For example, on the one hand, partible systems of inheritance, which divide family wealth among offspring upon inheritance, are linked to nuclear families. On the other hand, impartible inheritance, which prevents the family wealth from splitting by assigning it to a single heir, is commonly linked to stem family types. The reason behind these differences for the pre-industrialization period in Europe, is that receiving an inheritance allowed individuals to form a household, and hence enabled them to marry. Exclusion from inheritance largely increased the probability of celibacy (Bonfield 2001; Bourdieu 2002; Zink 1993).

In economics, Bertocchi and Bozzano (2015) find that family structure, which they proxy by both “residential habits” (nuclear and complex families) and inheritance schemes (partible inheritance and primogeniture) is a major driver of the education gender gap over the period 1861-1901 in Italy. They find that nuclear families and partible inheritance are associated with a higher female-to-male enrollment rate ratio in upper primary schools. The authors suggest that the reason for this finding relies on the fact that nuclear families are more liberal and less authoritarian, and partible inheritance implies more equality among offspring compared to an impartible system, such as primogeniture. Also linking inheritance to family types, Le Bris (2020) shows that systems of inheritance that favor inequality among children lead to greater investment in physical capital. The

¹⁵There is a large literature on temporary co-residence, which we did aim to review in this paper.

reason is twofold. First, inequality maintains wealth large enough to allow for investments to happen (while systems of inheritance that divide family wealth lead to portions that are too little to invest). Second, investments are more efficient because they are not constrained by an equal sharing inheritance rule, and can therefore consider non-divisible assets.

Wealth and income are important aspects of whether individuals can move from stem or complex families to nuclear ones. In some places, owning a house is restricted to a few heirs, while the remaining of the family has no possibility of buying a home. This was the case for instance in the region of the Pyrénées around the year 1760 (Zink 1993, p. 282). There, no possibility of buying wood for construction existed and hence, there was no possibility of building new houses. This maintained the family united within a same house, and the stem family type prevailed (non-heir siblings who remained in the family house were very unlikely to marry).

Also building upon the strong connections between family structures and inheritance, Galasso and Profeta (2018) propose a two-period overlapping generation model with voting that explains how family culture, proxied by different inheritance rules, can be an important determinant for the adoption and generosity of public pension systems. Their findings suggest that pensions emerge to replace private family transfers. The level of generosity is however different between impartible inheritance societies and partible inheritance ones. In impartible inheritance systems, a basic, minimal, pension system emerges while a generous pension system emerges in partible inheritance societies.

5.3.4 Housing and land scarcity

From a development perspective, increasing levels of land scarcity has several implications. Guirkinger and Platteau (2015) provide a theoretical model that accounts for the fact that growing land scarcity increases the individualization of family farms, hence leading to more nuclear families and fewer complex ones. In their model, this process is the result of a two stage maximization problem. In the first stage, the head chooses how much to consume, how much to give to the members of the complex family, and the size of it. In the second stage family members individually decide upon how much effort to put into farming, both for the complex and the nuclear family. Alston and Schapiro (1984) have also argued that the role of inheritance, and hence family structures, in shaping family decisions might be dominated by the role played by land availability.

Looking at contemporary data for Europe, [Peters, Piazzesi, and Schneider \(2021\)](#) show that countries where home ownership is high also display higher levels of intergenerational co-residence. They propose a model where cohabitation provides an informal credit and rental market at the household level. The benefits from cohabitation are higher when young adults have low income or when the formal rental and credit markets have higher frictions.

5.4 Institutions, marriage, religion and family types

In Section 3, we showed that the rule of law was positively related to societies with high nuclear family ancestral traits and negatively related to high complex family traits (Table 3). Here, we begin by reviewing studies providing a theoretical basis for such relationships.

In the past, social security was provided by a large extended form of family (a clan, a lineage, a tribe). [Greif \(2006\)](#) explains how the emergence of western corporations in medieval Europe were complementary to the existence of nuclear families and the decline of large kinship groups. These corporations provided social safety nets against famine, unemployment and disability, previously provided by the kinship group. In turn, the nuclear family fostered economic growth through later marriages and lower fertility rates. In a similar vein, [Galasso and Profeta \(2018\)](#) shows that the past prevalence of family forms and family ties have shaped some of our most important institutions like pensions systems. The more nuclear the family was in the past and the more the pension system works as a safety-net with low replacement rate. On the reverse, where the complex family was highly prevalent, the intra-family old-age support prevented the emergence of strongly egalitarian pension systems but favored high replacement rates.

The effect of past family systems goes well beyond pension systems. [Alesina et al. \(2015\)](#) show that medieval family structures in Europe are strongly associated with the contemporaneous desire for regulation. In a nutshell, people originating from regions where extended and communitarian families were dominant tend to adhere to more pro-job security than people originating from regions where the nuclear family was dominant. It results that current rigidities on labor markets originate potentially from the family structures prevailing in the past. Relying on the epidemiological approach, [Carta, De Masi, and Profeta \(2021\)](#) link the voting behaviors of American residents to their cultural background regarding family structures. They show that descendants of regions where families were egalitarian vote for more generous childcare programs, what in the end, has a significant effect

on childcare policies implemented by US federal politicians.

Next, we discuss how religion and marriage might have affected family types. Because religions edict codes of conducts within and outside families, they have long been crucial determinants of family forms, especially in Europe. Building on [Goody and Goody \(1983\)](#), [Schulz et al. \(2019\)](#) explain how the Christian Church implemented specific policies to ban marriage practices that were commonly used to enforce alliances between families.¹⁶ The main goal of the Church was to limit the power of kinship groups. Along medieval times, incest has been more and more punished and its definition extended to always more distant family relatives. The Church also promoted the freedom of choosing with whom to marry and encouraged newly married couples to adopt neolocality habits. Polygamous marriages as well as concubinage and remarriages have been increasingly proscribed. All these policies ended up by imposing gradually the nuclear family as the privileged form of family after 1500. It has therefore also contributed to the rise of the European Marriage Pattern that we discussed above.

The Industrial Revolution and the associated fertility transition came with a decline of the influence of the Church in individual lives, namely secularization (see [Coale and Watkins \(1986\)](#) and [Baudin \(2010\)](#) among others). For this reason, former bans on remarriage and out-of-wedlock births for example became less and less stringent from the 20th century on. It implies that along time, family forms in Europe became more diverse again ([Esping-Andersen and Billari 2015](#)).

In other religious and cultural contexts, the nuclear family is not necessarily the prevailing family form. For instance, Muslims but also Buddhists have a significant share of their population living under the polygamous — mainly polygynous¹⁷ — marital arrangements. These forms of marriage are strongly associated with the complex family type. Between 2010 and 2018, polygamy was mostly present in Sub-Saharan Africa ([Pew-Research-Center 2019](#)), where the complex family is also widespread (Figure 4).¹⁸ This said, polygamy is not the only reason why people live in extended family-households in this region. Indeed, [Pew-Research-Center \(2019\)](#) shows that the proportion of persons living in polygamous households is always significantly lower than the proportion of persons living in extended-family households, even if western sub-saharan Africa where polygamy is widespread.¹⁹

¹⁶See also [Le Bris \(2020\)](#) for an instructive discussion on the links (and missing links) between family types, religion, and institutions.

¹⁷Polygyny is a marriage between a man and two or more wives at one moment of time.

¹⁸[de la Croix and Mariani \(2015\)](#) propose a unified theory of the evolution of marital institutions where monogamy and serial monogamy are institutional equilibrium succeeding polygamy when income distribution becomes less unequal.

¹⁹For more studies on polygyny, see [Hartung \(1982\)](#), [Botticini and Siow \(1993\)](#), [Tertilt \(2005\)](#),

6 Conclusion

In the present paper, we have provided a series of arguments showing that each family form is well adapted to specific economic and institutional environment. For instance, stem and complex families are efficient in highly uncertain environments while the nuclear family is more adapted to periods of intense cultural change and rapid technological transformation or industrialization. We have also provided empirical evidence that the nuclear family should not be considered as the unique way to organize families as most families of the world are not organized in a nuclear way. We also made clear that building a definitive model of the family is an impossible task, families are malleable objects evolving along our development paths, historical accidents and cultural evolution.

Our discussion demonstrates that there is still a lot to learn on the functioning of families. Until now, social scientists have documented differences across family types over time and space. The functioning, or intra-household decision process, of these different families, is still to be better understood. This is of extreme importance to assess questions regarding how individuals across different families make decisions related to children, education, labor supply, bequests etc.. In turn this will reinforce our capacity to understand key economic phenomena like economic growth, inequalities, institutional developments or incidence of public policies. We believe that in this respect it is essential to build new structural models that allow to integrate empirical findings.

[Akresh, Chen, and Moore \(2012\)](#) [Barr et al. \(2019\)](#) and [Rossi \(2019\)](#). [Hartung \(1982\)](#) and [Botticini and Siow \(1993\)](#) highlight the association between polygyny and the use of a bride price. [Tertilt \(2005\)](#) shows that polygyny harms development because men invest in wives rather than in physical assets, hence harming capital accumulation. [Rossi \(2019\)](#) shows that children are strategic complements within polygynous households. Inside such forms of family, women have an incentive to have children because an extra child allows women to increase their share of family resources, controlled by the man. [Barr et al. \(2019\)](#) show that polygynous families are less cooperative and less altruistic than monogamous families. Using data for Burkina Faso, [Akresh, Chen, and Moore \(2012\)](#) argue that selfish preferences can encourage cooperation when it comes to farm yields.

Family type	Associations	References
Nuclear	Individualism	Le Play (1884)
	Entrepreneurship	Le Play (1884)
	Corporations	Greif (2006)
	High education, GDP per capita and employment	Duranton, Rodríguez-Pose, and Sandall (2009)
	Land scarcity	Guiringer and Platteau (2015)
	High female-to-male enrolment rate ratio in upper primary schools	Bertocchi and Bozzano (2015)
	Collective choice model	Baland and Ziparo (2018)
	Christianity	Schulz et al. (2019)
	Old age support	Zink (1993)
	Frictions in the housing and construction market s	Zink (1993)
Stem	Risk of unemployment	Kaplan (2012)
	Agricultural economy	Pensieroso and Sommacal (2019)
	Impartible inheritance	Tur-Prats (2019)
	Less domestic violence	Tur-Prats (2019)
	Dynastic preferences	Gobbi and Goñi (2021)
	Traditionalism, perpetuation of customs	Le Play (1884)
	High income uncertainty	Foster and Rosenzweig (2002)
	Poor public good provisions	Cox and Faichamps (2007)
	Poor institutions	Alesina and Giuliano (2015)
	Poor insurance and credit markets	Baland et al. (2017)
Complex	Old age support	Galasso and Profeta (2018)
	Pareto efficient allocation of resources	Rangel and Thomas (2019)
	Agricultural production	Rangel and Thomas (2019)

Table 4: Summary table: what are family types related to?

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Appendix

Appendix A. Classification of Todd (2011)

Family type	Frequency
Complex patrilocal	29%
Complex matrilocal	2%
Complex bilocal	1%
Stem patrilocal	9%
Stem matrilocal	3%
Stem bilocal	2%
Nuclear, integrated patrilocal	2%
Nuclear, integrated matrilocal	1%
Nuclear, integrated bilocal	1.5%
Nuclear with temporary co-residence patrilocal	30%
Nuclear with temporary co-residence matrilocal	7%
Nuclear with temporary co-residence bilocal	8%
Nuclear egalitarian	2%
Nuclear absolute	1.5%
Stem with additional temporary co-residence	1%

Table 5: The fifteen family types according to Todd (2011).

Appendix B. Family types in Africa

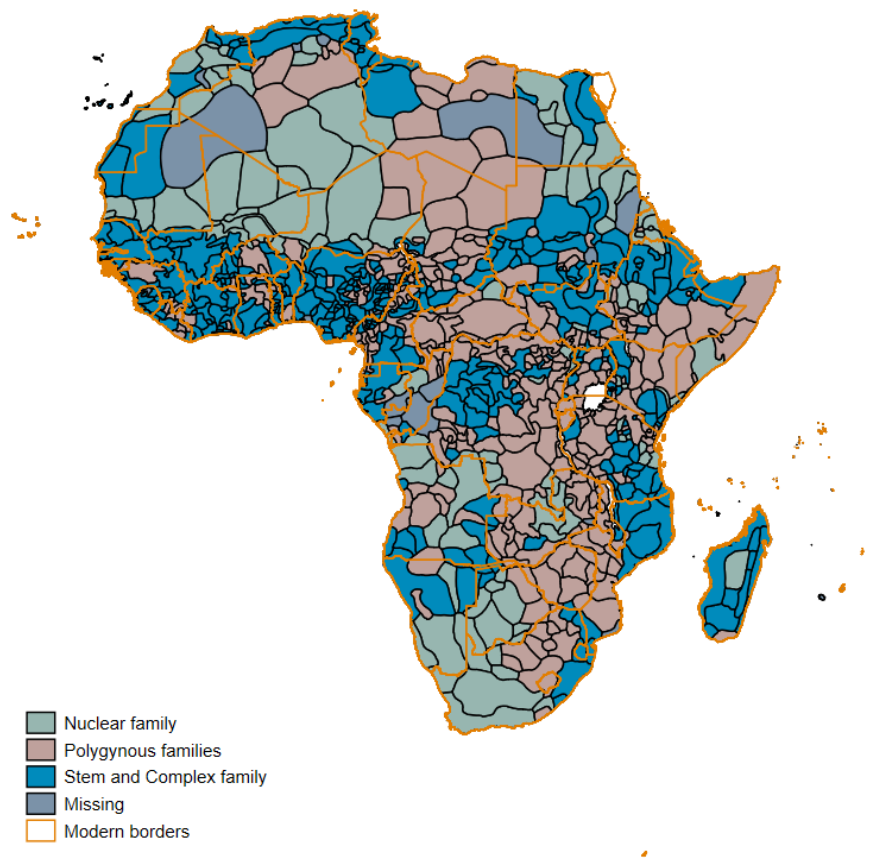


Figure 5: *Family types in Africa: nuclear, polygynous, stem and complex family types*