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**THE DYNAMICS OF FAMILY SYSTEMS:
LESSONS FROM PAST AND PRESENT
TIMES**

Jean-Philippe Platteau and Catherine Guirkinger

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Abstract

The present paper surveys significant research dealing with some neglected roles of the family and its dynamics in the presence of changes in the economic environment. Attention is thus directed to the response of family systems to changes in resource endowments, outside economic opportunities, the development of markets, and surrounding institutions. Two other original features of our investigation deserve to be emphasized. First, unlike what is generally done in economics, we extensively draw from scholarly works of social scientists, family historians in particular. Second, in order to shed light on family dynamics in present-day developing countries, we assess the state of knowledge about the transformation of family patterns in Europe during a long period stretching back to the early Middle Ages and even earlier.

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1. Introduction

Important synthesizing works have recently appeared that deal with the economics of the family or the household, typically an informal institution according to the definition used in Chapter 1. One such work is the book *Economics of the Family* (2014), co-written by Martin Browning, Pierre-André Chiappori, and Yoram Weiss (Cambridge University Press). Another is the extensive survey paper “Household Formation and Marriage Markets in Rural Areas” (2007), by Marcel Fafchamps and Agnes Quisumbing, written for the *Handbook of Development Economics* (Elsevier, North-Holland). In the same volume, we also find a chapter by Donald Cox and Marcel Fafchamps entitled “Extended Families and Kinship Networks: Economic Insights and Evolutionary Directions”. A last piece worth mentioning is the contribution by Eliana La Ferrara “Family and Kinship Ties in Development: An Economist’s Perspective” (2011), published in *Culture, Institutions, and Development –New Insights into an Old Debate* (Platteau and Peccoud eds).

While the book by Browning et al. is very elaborate on theoretical frameworks on a variety of important family issues, its focus is on the developed countries. Specifically it deals mainly with the intra-household allocation in simple households and the functioning of the marriage market in situation of high turnover. The paper of Cox and Fafchamps focuses largely on private inter-household transfers, their economic rationale and their mode of operation. Using the evolutionary approach, they also provide fascinating insights into the very long term processes that have helped establish some important family institutions, such as rules of “mate-guarding” and support for grand-children. The paper by Fafchamps and Quisumbing, as well as the contribution of La Ferrara, deal explicitly with developing countries, particularly poor countries where market imperfections are pervasive. The former, as the title suggests, devotes a lot of attention to marriage issues, but it also deals extensively with the different functions of the

family, such as the provision of start-up capital, assistance in job search, insurance and old-age support, collective production and consumption allowing for the exploitation of scale and scope economies, and the inculcation of social norms and values useful for success in life. The latter also considers these functions and, based on the work of Alesina and Giuliano (2015), it discusses the possible competition between the market and the family. Both papers stress the advantage of the family as an effective contract-enforcer. As for the shortcomings of the family and its potential inefficiencies to individual members, they are mentioned yet not really elaborated. Both contributions have also ignored the literature on family firms as well as the literature that enters into the details of the operation of family farms (which are exclusively regarded as the locus of scale economies in production). The same can be said for issues of endogeneity of household size and composition to economic conditions which are essentially bypassed in La Ferrara, and incompletely addressed in Fafchamps and Quisumbing.

The present paper does not aim so much at updating the aforementioned contributions on the basis of the recent literature than at adopting a complementary perspective focused on some neglected roles of the family and its dynamics in the presence of changes in the economic environment. This means that attention will be directed to the response of family systems to changes in resource endowments, outside economic opportunities, the development of markets, and surrounding institutions. Two other original features of our investigation deserve to be emphasized. First, unlike what is generally done in economics, we extensively draw from scholarly works of social scientists, family historians in particular. This will allow us to assess the state of knowledge regarding the dynamics of family patterns in Europe during a long period stretching back to the early Middle Ages and even earlier.

Second, our foray is systematically based on a crucial distinction between two different notions of the family: the family conceived as a co-residential unit whose members produce and consume collectively, on the one hand, and the family conceived as a group of co-residential

units tied through blood or adoption and sharing rights and obligations, on the other hand. While the former notion refers to what is generally called the household (the family *sensu stricto*), the latter may be taken to designate the family as such (the family *sensu lato*). This distinction is actually similar to that proposed by Fafchamps and Quisumbing (2007) for whom the term household designates a larger group of individuals living together (generally, or mostly composed of family members) while the term family designates a group of individuals related by marriage and consanguinity. It is useful not only to delineate the issues that we want to probe into, but also to better identify both the contributions and the limitations of the surveys of La Ferrara, Cox and Fafchamps, and Fafchamps and Quisumbing. Fafchamps and Quisumbing have essentially dealt with several dimensions of the household formation process, Cox and Fafchamps were concerned by certain aspects of the family as network. As for La Ferrara, she opted for a flexible approach that encompasses many different types of family defined as forms of blood relationship, running from very proximate (the nuclear family) to very distant ones (the clan or the kin group). A number of key roles are thus seen as being played by “families, kin and ethnic groups”, other roles are probably the prerogative of small family units whereas still others are characteristic of larger units.

In our discussion, a large place will be devoted to the mechanisms of transformation of the household because this is an area where recent theorizing has taken place and contributions by social scientists, historians in particular, bring novel insights. Furthermore, important aspects of the wider dimension of family systems have been well covered by the economics literature of the last decades. Not all of them, however, have received from the profession the attention that they deserve, and our attention will therefore be directed to the under-estimated functions and potential problems associated with the family *sensu lato*. An interesting insight that will come out of our foray is that, in a dynamic perspective, increased efficiency of one dimension of family systems may go hand in hand with increased inefficiency of the other dimension.

More specifically, the household may efficiently adapt to the economic environment while the family may retain a form that is increasingly inefficient.

The current review leaves fertility and marriage market considerations largely aside, not because we fail to recognize that these are fundamental aspects of family systems (a central function of family systems is to enable and regulate the reproduction of its members), but more pragmatically because an in-depth review of these questions would considerably increase the length of the current review. Moreover, as we have seen, these aspects are at the heart of Fafchamps and Quisumbing review (2008). Nonetheless when we deal with the impacts of formal law governing family systems, we refer largely to marriage and inheritance since those are the main aspects of family systems that are regulated by laws.

The remainder of the paper consists of three central parts. The first part examines the two dimensions of the family from a theoretical standpoint that includes the question of the social efficiency of family forms. The second part looks at the empirical evidence available, whether of the rigorous, quantitative type favored by economists (for whom the issue of causality has absolute priority), or of the more intuitive or qualitative type widely used by social scientists. In the third part, keeping in mind that prevailing family forms may be socially inefficient, attention is shifted to the possible role of legal rules in modifying certain characteristics of the family. This is done by reviewing a number of salient studies that have estimated the impact of certain family laws on behavior patterns that they were intended to change. Such an issue is of great relevance as one of the central concerns of this Handbook is to look into interactions between formal and informal institutions (see Chapter 1).

2. Household and family: theoretical insights

2.1 Transformation of the household

Economists have so far proposed few theories of the transformation of the household as development proceeds or resource endowments change. Rather recent attempts have focused on the situation of agricultural households, and most available theories concern either the shift from the collective farm to the mixed form in which individual and collective fields coexist, or the breakup of the collective farms into individual units. A new framework has nevertheless been put forward that aims at explaining both phenomena simultaneously. In the discussion below, we review these theories successively because they rest on different analytical arguments. Thus, while one theory is framed in terms of a commitment problem on the part of the household head, another one is based on the idea that the household is the locus of joint consumption of a public good and diseconomies to joint production. Still another theory assumes the existence of a moral-hazard-in-team problem in collective production in the setting of a collective decision-making unit. Finally, in the most comprehensive theory the same assumption of moral hazard is made but is now integrated in a principal-agent framework in which the principal is a patriarchal head bent on maximizing his own rent.

Theories of partial individualization of family farmland

Partial individualization of a household farm occurs when private plots are awarded to individual members of the household for their own private use and coexist with farm plots that are jointly cultivated by all members of the household. Partial individualization is an interesting issue because this form can be intuitively seen as an intermediate stage between the fully collective household farm and its breakup following land division of family land. Personal fieldwork in West Africa has indeed revealed that household heads may be reluctant to award private plots to members because they allegedly fear that this could be a first step toward an inescapable breakup of the farm. A paper reviewed in the last subsection shows that the two

forms of individualization respond to the same force, growing land scarcity, and it sheds light on the order of succession in which they may succeed each other. In this first subsection, we are interested in reviewing alternative explanations of the emergence of private plots as they come out of the scant literature devoted to the subject.

In order to explain the decision of the household head to allocate individual plots to family members, Fafchamps (2001) relies on the assumption that a serious commitment problem exists inside the family: the head is unwilling or unable to commit to reward the work of other family members on the family field after the harvest, and the latter are therefore tempted to relax their labour efforts or to divert them to other income-earning activities. To solve this commitment problem, the head decides to reward his wife and dependents by granting them access to individual plots of land and the right to freely dispose of the resulting produce. Such a commitment problem, however, can only exist if the short-term gain for the household head of deviating from cooperation (reneging on the promise to reward the workers for their effort on the collective field) exceeds the long-term flow of benefits ensuing from a smooth relationship between him and the working members. As Fafchamps himself admits, this condition is restrictive since the game played within the family is by definition of a long (and indeterminate) duration, and the discount rate of future benefits typically low (future cooperation among close relatives matters a lot). Moreover, even assuming that Fafchamps' hypothesis is valid, it remains unclear why there should be a tendency over time for collective farms to transform themselves into mixed farms, as we seem to observe in reality.

Other authors have tried to explain the coexistence of collective fields and individual plots in agricultural farms, yet they explicitly refer to agricultural producer cooperatives or quasi-feudal setups rather than extended family farms. Regarding producer cooperatives, emphasis is typically put on the existence of scale economies for certain types of activities, or on the need for insurance and the role of income-pooling (Chayanov, 1991, Swain, 1985; Putterman, 1983,

1985, 1987, 1989; Putterman and DiGiorgio, 1985; Carter, 1987; Meyer, 1989). Interestingly, the latter argument has been recently extended to the family context by Delpierre, Guirkinger and Platteau (2015). Like in Carter (1987), the analysis focuses on a trade-off between efficiency and insurance considerations. The trade-off arises because working in common on a collective field and distributing the output equally among participant members insures them against idiosyncratic risks, but joint farming also entails efficiency losses owing to the moral-hazard-in-team problem (itself caused by the impossibility to measure individual contributions and reward them accordingly). Unlike in Carter, however, it is assumed that joint production is not the only way to share risk as family members may make voluntary transfers between themselves for the purpose of smoothing idiosyncratic variations in income. This assumption partly relaxes the classical efficiency-insurance trade-off. In spite of that generous assumption in favour of individualization, Delpierre et. al. show that the optimum may correspond to the mixed farm regime, where a collective field subsists.ⁱ

There is a last theoretical argument that deserves to be mentioned here, even though it has been made in the context of landlord-tenant rather than intra-household relationships. Due to Sadoulet (1992), it is based on the idea that limited liability constraints and the demand for insurance are the critical considerations prompting the (feudal) owner of an estate to adopt a mixed farm structure, implying that tenants possess individual fields and work for free on the landlord's field.ⁱⁱ When the landlord thus worries about the possibility that his tenants are unable to pay the entire amount of their land rents or shares because of a wealth constraint, awarding them a private plot under a labour exchange arrangement is the best way for him to extract surplus from the tenants. Sadoulet shows that the labour-service contract (the exchange of free labour for use on the landlord's field against free access to a private plot of land for personal use by the tenant) enables the landlord to impose an optimal level of insurance and, thus, efficient resource use on the tenant.

If in the above argument we replace the term landlord by the term head of a patriarchal household, and the term tenants by the term household members, we have a potential explanation for the co-existence of family and private plots inside an agricultural household. Note however, that the validity of the explanation rests on the restrictive assumption that the landlord/head can costlessly monitor the efforts applied on his estate by the tenants/workers.

Before turning our attention to the next strand of theories, we must notice that in all except the last formal settings, the institutional arrangement of the mixed farm is second-best optimal: given the existence of production uncertainty and informational, commitment or limited liability problems, and on each model's own premises, there is no better solution available to the household head acting as the principal.

Theories of household splits or farm breakups

One of the key references here is Foster and Rosenzweig (2002). Because in their framework co-residence implies collective farming only, they do not allow for individual plots and limit their effort to understanding the reasons that could motivate the break up of a family farm.

They use a collective household model and analyze the decision of family members to stay together or to split the household into independent units run by the sons of the original head. Gains from co-residence arise from consuming household public goods and enjoying information sharing regarding farming techniques. Moreover, it is assumed that married daughters who join their husband's household can make insurance transfers for the benefit of their father's household (direct transfers to their brothers' separate households are ruled out). Offsetting these gains, members have a direct preference for autarchic residence and may differ

in their preference for the public good. There may also be diseconomies to joint production. Therefore, as pointed out by the authors (p. 842), “whether households remain intact depends on the production technology, risk, the taste for privacy, individual preference heterogeneity and the household technology.”

Three restrictions on behavior in joint households are imposed by the authors. First, decision about joint residence in a given period must be made before the income shocks are realized. Second, intra-household allocations, conditional on residence and income realizations must be *ex ante* Pareto efficient. Third, each claimant must receive an *ex ante* expected utility level at least equal to that achievable under separate residence. Household splits occur when this third condition is violated, meaning that individual members are better off in an independent household, given a set of pre-defined entitlement rules (e.g. inheritance laws). In the above framework, clearly, a potential source of conflict that may trigger separation lies in the heterogeneity of individual preferences for the public good, which must be consumed at equal levels by all claimants when co-resident.

One first important result of their analysis is that technical progress may increase the likelihood of splits. The mechanism proposed is the following. Technical change deepens within-household differences in autarchic incomes (due to differences in schooling) and lead to greater conflicts over the level of public good and thus to a higher likelihood of splits. Another important result is that divisions are more likely to occur at the death of the household head who has a special role in holding the household together: because the head has above average preference for the public good, his death reduces total household surplus.

The roles of technological change and conflicts about joint consumption are addressed differently in other contributions to the literature. In order to explain the increasing incidence of individual farms, the two following trends have been singled out: (i) a growing disinterest of younger generations in the sort of public goods jointly produced and consumed on the

collective farm, and (ii) technical change reflected in the rising importance of decreasing returns to scale as a result of the shift to more land-intensive agricultural techniques.

A recent attempt related to hypothesis (i) is found in Guirkinger, Goetghebuer and Platteau (2015) who analyse the question of timing of land bequest (inter-vivos or post-mortem) in a context of rural-urban migration where parents wish to retain (some) children close to them. Unlike in Foster and Rosenzweig, their model is based on a principal-agent framework and not on a collective decision-making mechanism. Specifically, a household head decides (in the first period of the game) whether the family land that he owns will be shared among his sons upon his death or will be handed over as an inter-vivos gift (pre-mortem inheritance). His utility has an argument that reflects his preference for keeping sons around him whether in the joint household's framework or as heads of independent farms located in the native village. The utility of each son comprises an argument expressing the intensity of his desire for autonomy, whether as head of an independent farm or in migration. The problem involves a trade-off for the head insofar as his desire to keep his sons close to him may be at the expense of his own consumption (if the landholding is sufficiently small). If the head chooses to refuse pre-mortem gifts of land and the sons choose to remain in agriculture, the family remains integrated as a joint household until the death of the head and then splits between independent farms that reproduce the same life cycle. If, on the contrary, inter-vivos gifts are made, independent farms managed by (non-migrant) sons can be established when they are younger (for example, upon their marriage) since they do not have to wait till the death of their father to themselves head a household.

One important finding is that when land is very abundant, or the sons' reservation utility very low, no land is distributed pre-mortem by the father, and all sons work on the family farm. At the other extreme, when land is very scarce, or the sons' reservation utility is very high, there is again no pre-mortem bequest, and a fraction of the sons, possibly all of them, opt for

migration. Pre-mortem division of land, combined or not with the migration of some sons, is a possible outcome for intermediate values of the family land endowment or the sons' reservation utility.ⁱⁱⁱ Note moreover that, because they can be combined with the migration of a varying number of sons, the two regimes, household collective production and pre-mortem division, do not necessarily succeed each other in a linear manner as land pressure increases.

Turning now to hypothesis (ii) on the role of technological change, mention must be made of the pioneering work of Boserup (1965) who attributes the rise of peasant farms to growing land scarcity and the consequent intensification of agricultural techniques. The underlying argument has enjoyed a wide resonance among development economists who have helped express it in the language of modern information theory (Binswanger and Rosenzweig, 1986; Binswanger and McIntire, 1987; Pingali, Bigot and Binswanger, 1987; Binswanger, McIntire and Udry, 1989; Hayami and Otsuka, 1985). It can be stated as follows. As land pressure increases, farmers are induced to shift to more intensive forms of land use, which implies that they adopt increasingly land-saving and labour-using techniques. An important characteristic of these techniques is that labour quality, which is costly to monitor, assumes growing importance. Given the incentive problems associated with care-intensive activities (sometimes labeled "management diseconomies of scale"), the small family or peasant farm in which a few co-workers (spouses and their children) are residual claimants, appears as the most efficient farm structure.

A different framework to understand farm breakups has been recently advanced by Bardhan, Luca, Mookherjee and Pino (2014), and by Guirkinger and Platteau (2015). The explanation is centered on land scarcity while technical progress of the land-augmenting type (rather than of the labour quality-using type) has the opposite effect of favouring farm consolidation. Since the second paper will be reviewed in the next subsection, we look only at the first one in the remainder of this subsection.

The farm household in B-L-M-P model is a collective decision-making unit whose members have transferable utilities and jointly cultivate the whole land available, possibly with the help of hired labour. Because of a lack of perfect mutual observability of effort, or inability to enter into enforceable binding agreements concerning their respective efforts, and because income is shared equally, a moral-hazard-in-team problem arises in agricultural production. It is nonetheless mitigated by the imperfect altruism of household members. Land size critically determines labour allocation. Thus, land-poor households have surplus labour that they sell on the outside market. Also, members spend too little time on the family farm due to free-riding. In households that are not land-poor, members work full time on the family farm and there is no free-riding because imperfect altruism is sufficient to cancel the incentive to free ride on other members' efforts: the equilibrium maximises income per member. While land-medium households are self-sufficient in terms of labour, land-rich households need to hire workers from the market. These workers are landless individuals coming from households whose landholdings are so small that they cannot cover fixed costs and the family farm is therefore not operated.

Allowing household members to exit (migrate) or households to split into smaller households leads the authors to define a stable distribution of farming households as one in which no household wants to shed members or sub-divide. A farming household is considered stable if there is no inefficiency in the form of free-riding (incentive-compatibility condition) and each member earns at least the (reservation) wage paid on the labour market (participation condition). Because utilities are assumed to be transferable within each household and exits and divisions can be accompanied by side-transfers among members, exits and division take place only if the aggregate income of members of the original household increases as a result. It is thus noteworthy that the framework used imposes efficiency not only inside the household but also at the level of the agrarian structure, which encompasses the allocation of individuals

between different farm households or the allocation of land between farming households of different sizes.

Assume that the equilibrium is disturbed by a shock in the form of an increase in the number of household members. In land-poor households, which exhibit a decreasing collective income in the number of members, incentives exist for exit or for division. This is not true in households defined as land-rich and land-medium where the total income is increasing in the number of members. Which of the two outcomes – exit or division - will happen in land-poor households depends on how tight the participation constraint is in the initial equilibrium. Indeed, since all members should earn at least as much as what they would earn on their own working full time on the labour market, there is a minimum landholding size below which members would no more be willing to work on the family farm. Division may therefore be infeasible if the original household owns less than this minimum, implying that at the lower end of the land distribution, demographic growth will result in exits causing greater landlessness. The situation gets more complicated if a local land market is active: population growth in some households may now prompt land purchases rather than exit or division. The likelihood of buying land appears to be increasing in the number of members per unit of land while the likelihood of selling land is decreasing in the same.

If, following technical progress, the shock takes on the form of a sudden increase in agricultural profitability, both the incentive-compatibility and the participation constraints are relaxed. Exits and land divisions occurring due to demographic growth are slowed down as a result.

A theory of household splits and partial individualization of family farmland

Guirkinger and Platteau (2015) have proposed a theory purported to account for the gradual individualization of agricultural households where individualization is understood as the

growing incidence of both private plots within mixed farming units and splits of complex into nuclear households. Like Boserup, they put primary emphasis on the role of changing land/labour ratios yet, unlike her, they do not refer to technological change as the key mechanism through which the influence of land pressure is being felt. Moreover, like in the B-L-M-P model, their explanation does not rely on the diminishing value of joint consumption. Their observations in West Africa indeed indicate that individualization of complex households in the form of private plots does not end the practice of common kitchens and collective meals. Finally, they do not need to allow for risk aversion to justify the existence of collective farms.

The analytical framework is a standard principal-agent model in which the principal is the household head, or the patriarch, and the agent is composed of the other male adult family members. The principal maximizes his income obtained from the collective field under the participation constraints of the agents. The problem is a two-stage game. In the first stage, the patriarch chooses the share of the collective output that he keeps for himself, the size of the individual plots allotted to members inside the joint family farm (this size can be set at zero), and the number of male adults who stay on the paternal farm. In the second stage, the members observe these choices and individually decide how much effort to apply to the collective field and how much to their individual plot. While making this choice, they act non-cooperatively because of the impossibility to enforce binding agreements regarding their respective efforts (on the collective field).

The central mechanism that operates in their framework relies on the existence of a strong patriarchal authority inside the extended household. It is, indeed, because the household head acts as a selfish principal that a trade-off arises between efficiency and rent capture considerations.^{iv} When deciding whether to give private plots to members and how large they should be, the head weighs down two factors. For one thing, production is more efficient on private plots than on the collective field where cultivation is plagued by the moral hazard-in-

team problem. Since the head must ensure that family members agree to stay on the family farm while they have outside options available to them, awarding individual plots allows him to more easily satisfy their participation constraints. For another thing, because the head's income entirely comes from the produce obtained on the collective field owing to unenforceable transfers from the private plots, competition between the two types of plots for the allocation of work effort by the members is bound to cause a fall in the head's income. It is evident that, if transfers from private plots were enforceable by the head, he would earmark the whole family land for private use by individual members and maximize efficiency. It is clearly the non-enforceability of transfers from members to the head that cause efficiency losses.

There is another decision that the patriarch has to make, i.e. whether to maintain the family and the farm whole (with or without private plots) or to allow a split of the joint household and the concomitant division of the family land. The extent of the split itself is to be decided since the number of (male) members authorised to leave may vary. In the case of a pre-mortem split, the total labor force available for work on the collective field decreases, which harms the patriarch, yet it is no more incumbent on him to provide for the needs of the departed members, which favours him. Depending on the relative importance of the various effects at work, he may prefer a mixed regime with private plots to the collective regime, or he may choose to split the family.

How does the agricultural household evolve when land becomes more scarce, or when outside opportunities improve for the members? The general answer provided by the G-P model is that if a change occurs it will be in the direction of increasing individualization. As land pressure increases (or as outside opportunities improve), the patriarch may decide to transform a collective farm into a mixed farm or into smaller independent units. The initial organisational form is always the collective farm which is optimal when land is sufficiently abundant. Which individualised form will first succeed the collective one is a complex issue. The reason is that

there actually exist many possibilities depending upon the number of (male) members authorised to leave, and upon whether private plots are granted to the remaining members when some of them have left with a portion of the family land.

It should be evident from the above discussion that, unlike what is obtained in the B-L-M-P model, the patriarchal household is not socially efficient in the G-P model where there is no imperfect altruism: owing to the moral-hazard-in-team problem, the aggregate welfare of the members could be increased if the entire family land could be partitioned into private plots (through awarding of private plots and/or household split). If the head refuses to choose that option, it is because he is unable to enforce transfers from the private plots. However, a key result of the model is that, by forcing the head to increasingly individualise his farm, scarcity of land at household level reduces social inefficiencies. Attractive exit opportunities reflected in abundant land on the local/regional level (for example) will yield the same effect. And vice-versa when land is abundant at household level yet scarce on the wider level.

Finally, it must be mentioned that an important assumption underpinning the whole above framework is that adjustment to rising land pressure is easier to achieve through change in the household structure than through demographic change and fertility reduction, or through land (and labour) markets. While fertility reduction requires a long term horizon, land markets are highly imperfect owing to large transaction costs or because the fear of losing land prevents the supply side of the market from being activated (Basu, 1986; Boucher et al., 2008; Platteau, 2000, Chap. 4). In this setup, any change in land allocation is the outcome of a decision regarding the organisation of the household. The simplifying framework of assumptions thus adopted appears as the price paid in order to make tractable a model that simultaneously explains household splits and the awarding of private plots to household members. By contrast, the B-L-M-P model allows for the operation of local labour and land markets, yet it leaves aside the possibility of mixed farms.

A note on technical progress

As is evident from our review, the impact of technical progress on household size depends on its specific characteristics. If the main effect of agricultural technical change is to relax the constraint of land scarcity while being neutral with respect to other inputs' use, we expect land divisions to be slowed down whether we use as underlying framework the B-L-M-P or the G-P model. This prediction is apparently inverted when technical change in agriculture is defined in a Boserupean manner, that is, as requiring labour quality and work conscientiousness. When the Boserupean argument is combined with considerations of land scarcity, however, two effects are at work that run into opposite directions: as a result of technical progress, land productivity increases so that the land scarcity constraint is relaxed but, on the other hand, the rising importance of labour quality in a context of informational asymmetry calls for a reduction of the household group size. A priori, it is difficult to say which effect predominates.

The conclusion that technical change encourages rather than discourages household division may also be derived from the F-R model where the argument is based on consumption instead of productive efficiency considerations. Households are assumed to be heterogeneous in terms of the school levels and technical skills of their members and, as a consequence, technical change deepens within-household differences in autarchic incomes, thereby causing divergences in the individual preferences for the household public good. A recently proposed theory of household nuclearisation also uses an argument based on the heterogeneity of the household in the presence of technical change, yet heterogeneity is defined vertically rather than horizontally (Pensieroso and Sommacal, 2014). The idea is that the status of the elderly diminishes in an increasingly technical world because their inherited knowledge and wisdom were better adapted to an unchanging universe dominated by tradition.

With the help of a dynamic general equilibrium model, the authors show that, when technical progress is fast enough, the society experiences a shift in inter-generational living arrangements from co-residence to separate residence. Concomitantly, the social status of the elderly, as measured by the fraction of resources allocated to them compared to the one allocated to the younger generation, tends to deteriorate. The inter-generational allocation of resources is determined by the bargaining power of the young. Technically, the economy is populated by two generations of individuals living for two periods, and to derive conclusions about the respective role of economic and cultural factors in causing the above shift in living arrangements, the authors use an endogenous growth model. This implies that the amount of time that the young invest in schooling, which is endogenous, determines their relative human capital. The decisional setup of the household is a collective model of bargaining: co-residence between the two generations occurs only when the distribution of bargaining power is such that co-residence remains (weakly) attractive to both generations. Nuclearisation is encouraged by the advantage of the young generation in terms of human capital and an exogenous taste of the young for independence. Living together enables sharing the cost of a public good. An increase in the relative bargaining power of the young generation decreases the desirability of coresidence for the old but increases it for the young. It is also shown that, when the shift in living arrangements is explained by changes in the direct taste for co-residence (that is, is explained culturally rather than economically), the economy experiences a reduction of the growth rate along a balanced growth path.^v

2.2 Transformation of the family

Economists have devoted considerable attention to the family conceived as a network linking households tied through consanguinous relations. They have analysed a number of its key functions, particularly those enabled by trust or mutual compliance such as they exist

between kinsfolk. From this type of analysis, it is possible to infer the conditions under which the effectiveness of the family may be eroded over time. The literature concerned is well-known and, therefore, we will only briefly mention its main strands and salient results. By contrast, more space will be devoted to functions of the family that economists have largely ignored.

Risk-pooling as the focal function

A recurrent theme in the institutional economics literature is that intra-familial relationships follow the logic of a repeated game in which information circulates well. When reputation effects are strong and punishment strategies such as ostracisation (based on the threat of exclusion from future exchange with members of the network) are allowed, kin-based networks may effectively enforce contracts. Such capacity is reinforced as a result of the fact that blood relations are not only long-lasting but also multifaceted, thereby permitting punishment to be meted out in what Aoki (2001) has called interlinked games. Foremost among these related games are social games that play an important role in all societies based on highly personalised relationships. Here is a critical advantage of (extended) families and communities when strong legal enforcement agencies are absent or when transactions are too small to justify the expenses involved in court actions. In contexts where markets are highly imperfect or altogether absent, provision of insurance and credit, and the exchange of goods and services through trading can be achieved in the setup of personalised and continuous relationships epitomised by the family. Public goods can also be more easily produced within the same setup.

The theoretical literature directly or indirectly addressing the above issues is particularly abundant. The part dealing with private, reciprocal inter-household transfers, in particular, has been well covered in rather recent surveys published in three different volumes of the *Handbook in Economics* series (see, in particular, Kolm, 2006; Platteau, 2006; Cox and Fafchamps, 2008, Fafchamps, 2011). It is generally focused on risk-sharing, or on mechanisms that evoke risk-

sharing: private transfers then appear as part of an informal insurance contract among self-interested people. While symmetric risk-pooling fosters horizontal relationships between members, asymmetric ones may give rise to patron-client ties (Fafchamps, 1992, Platteau, 1995a, Platteau 1995b).

A major result obtained by the pioneer model of Coate and Ravallion (1993) is that, when people are unable to make binding commitments, full sharing of risks is infeasible even in the absence of any problem of asymmetric information. Moreover, the authors are able to identify a number of factors that determine the extent to which informal risk-sharing arrangements diverge from first-best sharing corresponding to full income pooling. In particular, the amount of transfer gets nearer to the first-best amount when the discount rate is lower (that is, when participants are less impatient or when they think there is a higher probability that interactions among them will continue, or that the frequency of random shocks is higher), the degree of relative risk aversion is higher, and income differences between participants are smaller. The latter prediction may look counter-intuitive and Besley (1995) has indeed argued that the agents' inability to commit is responsible for this result since they will be reluctant to pay high transfer amounts when income differences are large. The conclusion can be inverted by just assuming imperfect information. In Besley's words: "If individuals' incomes depend upon effort and luck, but effort is hard to observe, then under certain conditions, it will be reasonable to infer that very bad draws are due to bad luck and good ones due to good luck. The incentive consequences of helping individuals in the tails of the income distribution will thus not be as severe as helping out around the mean" (p. 2168).

The theory becomes more complex when non-stationary strategies are posited, such as with the debt contract with occasional forgiveness defined by Ligon, Thomas and Worrall (2001). History now matters in the sense that past transfers affect current transfers net of contemporaneous shocks. The key finding here is that, by allowing the distribution rule to be

shifted in favour of the better-off household, the latter's incentive to renege on his promise by withholding his transfer when it does particularly well can be removed. As a consequence, the loss relative to the first-best risk-sharing contract is kept to a minimum. However, the arrangement is clearly not incentive compatible when information is imperfect (income shocks are not observable). Claiming to have a bad shock is then an attractive strategy not only because a positive transfer can be currently received, but also because previous debts are forgotten, and consequently an opportunistic agent would make this claim each period (Ligon et al., 2001).

Foster and Rosenzweig (2001) have examined whether risk pooling is more advantageous among altruistic compared to selfish agents in a framework where individuals cannot make binding commitments. In theory, the answer is rather straightforward: to the extent that agents entering into a risk-sharing arrangement care about each other's welfare, they should gain more from insurance than they would otherwise and the scope of risk-sharing contracts should be greater. Even the one-shot game can actually support some transfers if agents are altruists. In a repeated framework, too, altruistic agents are more likely to engage in a risk-pooling arrangement since their altruism has the effect of ameliorating the commitment constraint arising from the impossibility to legally enforce the contract. Adapting Thomas and Worrall's two-agent model to the case where each agent cares about the other, Foster and Rosenzweig have reached interesting conclusions. First and as expected, history matters since a household that has recently received transfers is less likely to receive subsequent transfers than is a household that has recently provided transfers. Moreover, for a given degree of income correlation, reciprocal transfers exhibit not only a weaker negative dependence on past transfers but also a more positive relationship with own income shocks when transfer partners are altruistic than when they are selfish.^{vi} Second, the extent of risk-sharing is facilitated both by low levels of income correlation and high degrees of altruism between transfer partners. Finally, for each level of correlation, the surplus generated by the optimal implementable risk-sharing

contract rises sharply with altruism and then levels off. Beyond a certain threshold, the surplus also declines, reflecting the fact that autarchy is no more a credible threat when the partners are sufficiently altruistic (Foster and Rosenzweig, 2001: 390-94).

On the assumption that altruism is more likely among family than non-family members, Foster and Rosenzweig predict that the family will play a primary role in the provision of insurance (since a higher surplus is thereby generated for a given income correlation). However, the family cannot be expected to provide all the insurance because the number of potential family partners is small and income correlation among them is likely to be comparatively large. (Also, too much altruism may be problematic in so far as the threat to relegate the insurance partner to an autarchic position loses a great deal of its credibility when an agent cares a lot about his partner.) Note that this is a re-statement of the famous insurance dilemma obtained in the presence of asymmetric information rather than imperfect commitment (see Posner, 1980 and Platteau, 1991). Since information better circulates among kin than among non-kin, so that punishing deviance is more effective, insurance is more efficiently provided in a kin-based network. Yet, since the size of such a network is necessarily limited, risk diversification is constrained. Hence, because of the trade-off between contract enforcement and risk diversification considerations, a kin-based network is not necessarily a better insurance provider than a larger, more anonymous group.

Finally, Genicot and Ray (2003) have examined the question of the optimal size of risk-sharing networks in a framework of limited commitment (and perfect information) similar to that of Coate and Ravallion, except that they allow for coalition or groups of households to leave the group and to continue to share risk among themselves (instead of considering solely individual incentives to leave a risk-sharing group). Introducing the possibility that subgroups of individuals may destabilize insurance arrangements among the larger group yields results that go against the simple intuition that a larger size implies a greater scope for risk-sharing.

Indeed the authors show that stable groups (from which no sub-group wishes to depart) have bounded size and that increasing the need for insurance may decrease group size. This is because when the need for insurance increases smaller groups become stable.

Other family functions seen through the economists' lens

Reciprocity does not answer insurance or exchange needs only. It may also be activated for purposes of investment, as illustrated in the case of informal credit transactions in Ghana (La Ferrara, 2003), or in the case of intergenerational transfers motivated by the financing of educational expenses in Cameroon (Baland et al., 2016). La Ferrara (2003) studies kinship band networks as capital market institutions. With the help of an overlapping generations repayment game with endogenous matching between lenders and borrowers, she argues that membership in a community where individuals are dynastically linked has three effects on informal credit transactions. First, the non-anonymity of the dynastic link allows to sanction the defaulters' offspring and induce compliance even in short term interactions (social enforcement). For example, future lenders deny credit to the child of a defaulter, thus indirectly harming the parent in the event the child is born poor and cannot afford to support the parent ("indirect" punishment). Second, preferential agreements can arise in which kin members condition their behavior on the characteristics of a player's predecessor. Thus, in a context where there are more poor than rich individuals and, therefore, some poor individuals will not obtain a loan (with uniform random matching between lenders and borrowers), a rich person who anticipates that one of his children may be poor, will preferentially lend money to the children of those who were rich in the previous period. This is because, if every lender obeys this rule (what the authors call "matching with reciprocity among lenders"), their own children will get a loan with probability 1. As for the third effect, it concerns the terms of the loans: the equilibrium interest rate is lower on "reciprocal" loans than on "market" loans because reciprocity alters the individuals' incentive compatibility constraints. Preferential agreements among some set of

individuals make it less profitable for others to comply with the reciprocity norm, hence the necessity to improve the terms of the transaction for the latter.

Baland et al. (2015) also use an overlapping generation model and in their framework, imperfect intergenerational altruism (altruism vis-à-vis siblings is precluded) is assumed to prevail. Transfers within extended families are theorised as a generalized system of reciprocal credit, mainly for education purposes. Specifically, when they are young adults, elder siblings support their younger siblings and finance their education. Younger siblings in turn reciprocate at a later stage by supporting the children of their elder siblings. Baland et al. identify the conditions under which, in the absence of saving and credit markets, the above arrangement increases the welfare of all participants. They also explore its consequences on incentives to work. The model predicts that younger siblings exert lower labour effort as young adults (than elder siblings) but work harder when they have to support the children of their elder siblings. In addition, younger siblings are predicted to have fewer children, who are themselves less educated than the children of their elder siblings.

Another kin-based institution that facilitates investment is labour-pooling, which may take many different forms such as rotating arrangements and labour gangs. While labour-pooling may serve an insurance purpose by helping a farmer who falls ill at a critical moment of the agricultural season or by rescuing a fisherman who is in trouble out at sea (Platteau, 1997), for example, it often constitutes a credit rather than an insurance informal institution. The rotation schedule is then predictable and clearly established, such as is observed for agricultural and other works (the construction of a house, for example) that require a labour force exceeding the supply of a household. Whichever the precise purpose, extended families and kinship ties can help in ensuring that participants do not renege ex post (that is, after they have benefited from others' efforts) on their earlier commitments to provide labour to the group. In the same line, capital assets (agricultural implements, draught animals, ...) may be shared according to a pre-

determined arrangement so that participants do not all need to own them. In this instance, however, it is generally the case that one household, that which owns the assets, is richer than the others, so that the framework of cooperation is based on asymmetric reciprocity and patronage. But if the asset is a natural resource under common property, and its limited size requires sharing access, the reciprocity arrangement is likely to be horizontal (Baland and Platteau, 1996: 197-209). The same holds true when relatives decide to pool resources together to form a partnership business venture.

Three last functions deserve to be mentioned: child-fostering, information-sharing and physical security. To begin with, child fostering may help households to send children to somewhat distant (secondary) schools thanks to the presence in the destination place of a kin-related household which accepts to provide lodging and boarding to the schoolkid for the time needed (Akresh, 2005). Hosting nieces and nephews, for example, may also be motivated by locational constraints related to employment rather than schooling and training. Migration networks may play a similar role of helping relatives to get integrated in an alien place by providing shelter, job access, and critical information (Munshi, 2003, 2008), and they may potentially serve the function of a claim enforcement mechanism if they ensure proper discipline to the effect that migrants send regular remittances to the family in the village of origin (see Chort, Gubert, and Senne, 2012, for a simple modeling of this role of the migration network).

The interesting thing about information-sharing is that it can sustain efficient cooperation within the framework of an informal economy, or it can buttress market development. The first possibility is especially evident when members of a kin-based network have the incentive to share information regarding a critical aspect of their productive activities. For example, with the context of Japanese coastal communities in mind, Platteau and Seki (2001) have shown formally that sharing information about detection of fish shoals, or sharing allocation of fishing

spots whose yields are uncertain among members of a network that practices income-pooling, is Pareto-efficient. In this instance, income-pooling provides the necessary incentive for the effective enforcement of information-sharing arrangements. As for the second possibility, kin-based networks facilitate market exchange by conveying market relevant information, such as information about jobs, business opportunities, prices, goods for sale, house rentals and the quality of products and services (see, e.g., Fafchamps, 2004), but also by circulating information about individual members' actions. In the latter instance, information-sharing networks increase market efficiency despite the fact that they do not directly enforce contracts: their role consists of providing information that is relevant to reputation mechanisms (Cox and Fafchamps, 2008: 3726).

Finally, because protection against physical insecurity involves important economies of scale, groups such as families are well suited to fulfil this function. Thus, people may collectively organise with relatives and kin against roving bandits and lawless armies or militia. Kin ties are particularly helpful to provide shelter in the event of attacks or distress (Cox and Fafchamps, 2008: 3716). As has been well documented in the social science literature (see for example Bates, 2001), protection includes deterrence strategies whereby a clan or a kinship group threatens potential aggressors of one of their members with severe retaliation measures (an example of multilateral punishment).

The role of norms and emotions

So far, the impression may have been gained that the advantage of the family rests essentially on two key attributes, good information and continuous interactions, both enabled by a moderate size of the group. We nevertheless know from game theory that when these two conditions are observed, a multiplicity of equilibria remain possible in repeated games, and there is therefore no certainty that cooperation will be established. For instance, we may need that people have enough trust in other members to decide to cooperate in the first stage of the

game (Gambetta, 1988: 227-28). This is precisely where families seem to have a decisive advantage over other kinds of groups because they seem better able to inculcate from early childhood the sort of emotions, guilt and shame, that are so useful for the effective enforcement of informal contracts (Platteau, 2000: Chap. 7). This mechanism has been formalized in well-known economic models of cultural transmission pioneered by Bisin and Verdier (1998).

When young individuals are socialized by their parents, a process called “primary socialization” by Berger and Luckman (1967), the context is one of “an emotionally charged identification of a child with his (her) significant others” (p. 158).^{vii} Another step in the socialization process, called “secondary socialization”, takes place through interchangeable providers of specific knowledge acquired in schools, churches, factories etc... This form of socialization is nevertheless less powerful than primary socialization because the world internalised in the latter is “so much more firmly entrenched in consciousness than worlds internalized in secondary socializations” (pp. 161-162). Yet its role is crucial because it enables the individual to identify with a set of other individuals beyond the immediate sphere of relationships with the parents (the significant others). In a kin-based society, these other individuals are members of the kinship group, and the values inculcated belong to the “limited morality” type. The need to enforce informal contracts or agreements does not extend beyond the sphere defined by family, clan, or ethnic affiliation (Platteau, 2000: Chap. 7). Instruments of this secondary socialization not only foster guilt and shame emotions when cheating other members of the reference group but also stimulate anger and the desire to punish, even at a positive cost, those who exploit them. Anger is useful insofar as it helps to make the threat of retaliation credible: “when a person is motivated by indignation, his act of punishment ... will give him the *pleasure of revenge*” (Elster, 1998: 69; Axelrod, 1986).

Note that cultural transmission needs not be strictly applied to members with consanguineous ties, thus making possible the adoption of other members into the kin group.

We know from the anthropological literature that kinship ties can be socially created through various methods that aim at inculcating feelings of identification and loyalty vis-à-vis the genetically defined core group. This is typically done by establishing surrogate family links such as godparenthood ties, and by providing bonding experiences, such as initiation ceremonies and similar rituals (Baland and Platteau, 1981: 195-97). The size of kinship groups is therefore not strictly pre-determined or fixed.

Beside negative emotion of guilt, shame and anger, socialization is also strongly associated with the maturing of emotional predispositions to empathy, it nurtures altruistic attitudes. It is therefore not surprising that altruism has been found to be stronger among genetically related individuals (Cox and Fafchamps, 2008: 3727). Since altruism may substitute for, or reinforce emotions of guilt and shame, it promotes cooperation within the kin group and, in particular, it facilitates contract enforcement, as formally shown in the aforementioned paper of Foster and Rosenzweig (2001). In fact, even a bit of altruism is often sufficient to eliminate free riding in prisoner's dilemma situations (Durlauf and Fafchamps, 2005; Cox, 1987). Kazianga and Wahhaj (2016) have recently exploited the idea that altruism between family members varies with the strength of family ties and, more specifically, that altruism is stronger in small family units such as nuclear family households than in larger units. They show that, within the same geographic, economic and social environments, households where members have stronger familial ties achieve near Pareto efficient allocation of productive resources and Pareto efficient allocation of consumption while households with weaker familial ties do not.

Before Kazianga and Wahhaj, however, Alger and Weibull (2010) reached somewhat different conclusions about the impact of altruism. Unlike the former authors, they use the framework of evolutionary game theory and they focus on the role of a particular household form (one with two siblings), assuming that it is the sole insurance provider for its members. The siblings are assumed to be mutually altruistic, and they choose their risk-reducing efforts,

anticipating possible future transfers between them. Alger and Weibull find that altruism is actually a double-edged sword: if it enhances the extent to which individuals internalise the external effects of their actions (the empathy effect), it also increases free riding in the productive activity (the free-rider effect). The latter effect follows from the fact that, knowing that they will be better helped in the event of a negative shock, siblings are prompted to relax their current efforts. The central result of the paper is that the empathy effect outweighs the free-rider effect at high levels of altruism while the opposite is true at intermediate levels. In addition, they study how, for a given level of intra-household altruism, environmental factors affect the productive efforts applied by the members and also how evolutionary forces, whether genetic or socio-cultural, may affect the level of sibling altruism in a society. They show that neither very weak nor very strong family ties are stable against evolutionary drift, and that intermediate degrees of family altruism are locally evolutionarily stable in many environments. Furthermore, the harsher the environment, the weaker are the family ties.

The missing dimension and the missing functions

What the above discussion reveals is that, although economists have devoted considerable attention to the family as network, they have done so through a specific angle that privileges decentralised relations. The central role played by the concept of risk-pooling seems to have set a strong benchmark inviting to look at the family as a network based on close and repeated interactions between individuals typically well informed about each other's doings. There are two problems or limitations associated with this otherwise useful approach. First, there is much empirical evidence that, to enforce contracts and solve collective action problems, the family often relies on an authority structure or a hierarchy rather than only on a purely decentralised network of inter-individual relationships.

Second, this decentralised approach to the family tends to rule out functions that are important but involve a collective mechanism of coordination. For example, protection against

physical insecurity is assumed to be achieved through a mutual help mechanism based on reciprocity while it can obviously be more effectively provided through a hierarchical organisation acting on behalf of the kinship group. To contend that members could put up the needed authority structure in a decentralised manner is not a satisfactory answer since we know that in many cases the authority has been in place since a long time and is transmitted dynastically or through non-participatory procedures.

A set of key roles of the family are not well accounted for in the tight framework of decentralised interactions: administrative, judiciary (conflict settlement), rule-setting (inheritance informal rules, for instance), political, and even military functions. The political function involves representation of the family's interests at the higher, supra-family level, which includes the central political level if it exists. The way the family is embedded in the political system and the role it is assigned are therefore important dimensions that need to be understood. Although it needs some adjusting, one strand of economic theory, the theory of decentralised development, can shed light on the desirability of having family or kinship groups perform the aforementioned functions. At the core of this theory lies a trade-off that appears pertinent for the issue at hand (see Bardhan, 2002; Mookherjee, 2015, for relevant surveys). Transposed to the family, it can be stated as follows: on the one hand, the family has an advantage over a centralised administrative and political body in that it possesses a lot of location-specific information and is also better able to enforce rules, monitor behavior, and verify actions but, on the other hand, it is much more vulnerable to rent capture by a hard-to-monitor hierarchy. The problem of capture arises from the fact that men in power, elders from the main lineage, for example, may be in a position to make their own preferences prevail over those of ordinary people, and their weight in collective decision-making may distort collective regulation towards their interests at the cost of efficiency.

Although obtained in a specific setting that is obviously inappropriate in our context (in particular, the assumption of a two-party electoral competition with probabilistic voting behavior and lobbying by special interest groups that can make campaign contributions), one result deserves attention: decentralisation increases elite capture in high-inequality localities and lowers it in low-inequality ones (Bardhan and Mookherjee, 1999, 2000). When applied to the family, the intuition is rather straightforward: when family leaders concentrate a lot of wealth and they risk using it to promote their own interests, decentralisation may not only perpetuate inequality but also impair efficiency. Instead of going through an electoral process, rent capture is the outcome of unequal bargaining strength, such as depicted in Banerjee, Mookherjee, Munshi and Ray (2001) in their account of sugar cooperatives in Maharashtra.

In a more recent paper, Munshi and Rosenzweig (2016) have proposed an alternative theory in which the family equivalent (a caste or an ethnic group) draws the benefits of internal cooperation but evinces no concern for members of the other groups (families). If the group gets elected to the position of community representative, it enjoys the prerogative of allocating two independent budgets: one devoted to the production of a local public good and the other intended for targeted welfare transfers. While the public good benefits everybody in the community, welfare transfers are privately appropriated by members of the group whose leader has been elected. It is possible that members of the smaller groups vote for the candidate of the bigger group if the disadvantage of being excluded from welfare benefits is outweighed by the gain of a more effectively provided public good. Underlying the rather complex mechanism at work in the theory is a positive relationship between the size of the group and the effectiveness in providing the public good. In their model, this positive correlation is the result of the selection of higher quality incumbents in larger ethnic group. Alternatively, it could be imagined that this relationship is caused by the fact that bigger groups are better able to get funds from higher-

level political authorities thanks to a stronger bargaining position (say, because of the higher political weight that a larger group size represents).

Dynamics of the family

The comparative statics derived from the analytical framework used by economists to understand the multiple roles of the family suggests that this institution should gradually lose its significance as the market develops and the state becomes more able to create legal enforcement institutions as well as to devise and implement social protection programs. This is because the family is essentially viewed as a substitute for markets, legal enforcement mechanisms, and state-devised social protection. In particular, the emergence and development of insurance, credit, capital and labour markets is predicted to make the family less and less useful. It is true that some markets, especially the insurance market, may get established only slowly. However, even if the state does not compensate for this market failure, the expansion of new income-earning opportunities as a result of growing market integration and general development will allow households to diversify their risks, thus providing them with effective self-insurance possibilities.

If that scenario were true, we would expect a rather monotonous process of dissolution of the family with perhaps sudden and temporary reversals in times of economic crisis or war conditions. Things may not be so simple, though, if path dependence and lock-in mechanisms exist. The former possibility can be illustrated by reference to kin-based trading networks (Greif, 1989, 1994, 2006a). Thanks to well-circulating information and repeated interactions, such networks provide an effective arrangement to enforce contracts, yet this advantage is obtained within the purview of a pre-determined group the size of which is not necessarily optimal. And even assuming that it was optimal to begin with, it will cease being so as soon as market opportunities start to expand and the economic space gets larger. A similar point has been made by Kali (1999): once kin-based networks are seen as endogenous to the reliability

of the legal system, the possibility exists that they are inefficient in general equilibrium even though they enhance efficiency in partial equilibrium. The reason is that they may exert a negative effect on the functioning of the anonymous market, say because they leave aside non-kin who remain undisciplined when engaged in anonymous market exchange. As a consequence, the payoff from market exchange is lowered. Kali finds that networks are economically inefficient unless they are relatively large. If they are rather small, they appear as a poor substitute for reliable institutional support that guarantees written contracts. Moreover, trade diversification possibilities and skill complementarities are not optimally exploited, thereby causing the loss of valuable income possibilities (La Ferrara, 2002; Alesina and La Ferrara, 2005). In a dynamic perspective, the efficiency costs associated to a given size of the family network is bound to increase as the market expands and new economic opportunities emerge.

The same idea of the rising inefficiency of kinship groups has been explored by Hoff and Sen (2005) although on the basis of a different argument. In their model, like in Kali, they assume that the population is divided into two groups. The first group is a single kin system whose members are denoted as *K*-individuals: they share concepts, beliefs and commitment devices and they exhibit physical markers, speech, or other behaviors that distinguish them from others. The second group is a set of independent individuals who are not bound by any kinship ties: they are denoted as *I*-individuals. Each *K*-individual is committed to abide by the following mutual assistance norm: if the individual gets a white-collar job in the modern sector, he has to help improve the well-being of one (or more) pre-identified member(s) of the kin group. If he violates this norm, he exits. The problem arises because employers, owing to the mutual assistance norm, find it more costly to hire *K*-individuals than *I*-individuals. Crucially, *K*-individuals cannot signal to the market that they do not participate anymore in the kin system, if they wish to do so. As a consequence, even though *K*-individuals would be better off leaving

this system, they may choose to stay, resulting in a loss of efficiency. A key message from Hoff and Sen's analysis is that, following a logic well highlighted by Akerlof (1976), individuals, out of their own self-interest, may cling to a social system that is harmful to them. This implies that the initial group size may remain unchanged.

The foregoing discussion seems to suggest that the pre-determined size of the kinship group is the cause of the increased inefficiency that accompanies market development. It can be argued, however, that the main problem lies not so much in the sub-optimal size of the kinship network as in the very logic of kinship ties. To see this, assume that instead of being pre-determined, the size of the kinship group can be increased in response to a changing market environment thanks, say, to a members' adoption mechanism. A problem akin to the insurance dilemma then arises: as the size of the kinship group increases, information-sharing and internal monitoring become more difficult and, as a consequence, its contract enforcement capacity is impaired. A trade-off thus arises between the ability of the kinship group to exploit new economic opportunities and its ability to effectively enforce contracts. The best way to overcome this nasty dilemma may be to shift to a radically new set of institutions that support anonymous market exchange, such as family firms, corporations, and legal contract enforcement mechanisms. Over time, these institutions will prove their worth but the returns may be uncertain and a fixed cost must be incurred to establish them. It can be reasonably surmised that, in such circumstances, the incentive to innovate is likely to be greater when the existing institution is blatantly inadequate in regard of the new opportunities. Thus, unlike the collectivist culture of Maghribi traders from North Africa who could rely on kin-based enforcement, the individualism of Genovese traders, constrained to operate on the basis of relatively inefficient bilateral reputation and punishment mechanisms, provided an impetus for the development and perfection of ultimately more successful third party enforcement of claims (Greif, 1989: 874-77; see also Bowles, 1998: 95; Kennedy, 1988: 143-46).

The above argument, it may be noted, can explain a reversal of fortune: because it is more strongly motivated or better able to make an institutional jump in the presence of a new economic environment or challenge, a society initially endowed with a rather weak institutional setup may overtake another society that surpassed it in the former situation. The conservatism of a society that was rather efficient in the past may originate in different sources: strong aversion toward risk, myopic behavior, or ideological inertia reflected in the inability to move from one system of beliefs or expectations to another (see Kuran, 2011, for an application of this idea to Islamic institutions in Middle Eastern countries). In particular, if the shift from collectivist to individualistic beliefs is difficult, the transformation of societies based on multilateral reputation mechanisms will be blocked, or their adaptation will be limited to a 'patching up' solution.

Based on the idea of complementarities between moral systems and institutions, the explanation recently offered by Greif and Tabellini (2010, 2011) to account for the different long-term trajectories of China and Western Europe belongs to the above strand of thought. While pre-modern China was based on the clan, Western Europe relied on the city in the sense of a self-governing organisation based on cross-kinship links. On the eve of the urban expansion in China and Europe circa 1000 CE, in particular, large kinship organisations were common in China but not in Europe (any more). The Chinese clan is a kinship-based hierarchical organisation in which strong moral ties and reputation among clan members are especially important to sustain cooperation. In the cities of Medieval Europe, by contrast, cooperation is across kinship lines and external enforcement plays a relatively big role. These distinct institutional setups which have given rise to distinct trajectories during the last millennium, are the outcome of different initial moral systems and kinship organisations. It is through complementarities and positive feedbacks between morality, institutions, and the implied

pattern of cooperation that these initial conditions influenced subsequent evolution in the two regions.

Greif and Tabellini's theoretical investigation proceeds in two steps. In the first step, they use a static framework in which individuals with given values choose which organisation to join (the clan vs the city). The resulting equilibrium configuration depends on the initial distribution of values in society. In the second step, the perspective adopted is dynamic: the diffusion of values is seen as being shaped over time by the prevailing organisational forms, hence the existence of a joint dynamics of social organisation (the relative size of the city vs clan) and endogenous values. The authors derive the conditions under which two steady states are obtained, the one in which most of the population lives in the clan and the other in which most of it lives in the city. Moreover, they show that even small differences in the initial social and moral conditions in an otherwise identical economic and social environment lead to lasting and significant distinctions in both the distribution of values and the organisation of society.

The dynamic equilibria can be intuitively described in the following manner. A society that starts out with a diffuse sense of loyalty to the clan will find it optimal to mainly rely on the clan to provide public goods, and only a small fraction of the population will be attracted towards the city. In equilibrium (an equilibrium with segregation in the clan), all individuals of the clannish type remain in the clan while those who adhere to a code of generalised reciprocity—a predisposition to act honestly with any other individual in the wide society—are distributed both in the clan and in the city. There are two reasons why clan size is large and city size is small. First, the majority of the population has clan-centered values, and all of these individuals find it optimal to remain in the clan. Second, only some of the individuals with generalised morality have an incentive to stay in the city: being large, indeed, the clan is more attractive than the city (it can exploit economies of scale associated with public good provision). And since the clan can rely on many loyal individuals, it can work smoothly with no free riding.

This situation, which epitomizes China, persists over time because the moral people who are attracted to the clan are more likely to give rise to offspring endowed with clan-oriented values, compared to their brethren living in the city. The comparative advantage of the clan over the city is thereby reinforced. By analogous reasoning, the same argument can be easily repeated for the European situation: in this case, the society starts out with a widespread diffusion of values consistent with generalised morality, and the outcome will be an equilibrium with segregation in the city. Clearly, because the initial conditions differed, endogenous social institutions and morality evolved in different directions in China and Western Europe.

In an aforementioned paper, Alger and Weibull (2010) provided another framework (an evolutionary game) that also makes the point that current differences in family ties may be due to differences traceable to the distant past. In their setting, family ties affect economic outcomes and evolutionary forces shape these ties differently in different environments.

Going beyond simple comparative-static results, and allowing for dynamic processes of long-term development, we have highlighted the fact that legacies from a long time past may well survive into the present, even when various aspects of the environment have changed. A new and possibly complementary perspective opens up when we direct our attention to the administrative, judiciary, political and military functions of the family. Indeed, as soon as the family is conceived as a political actor in its own right, we see another reason why large families or kinship groups may endure over long periods of time: family or clan leaders may use their political clout and their military power to oppose changes that may harm their interests by eroding the role of the clan. Heads may thus strive to maintain the strength of their lineage for fear that it might disappear, thereby undermining their own influence and prestige. They themselves, or other family functionaries belonging to their inner circle, may have everything to lose from the disappearance of the family even though ordinary or entrepreneurial members might benefit from new forms of organisation. For example, a legal system would make the

conflict-settlement functions of the kinship group redundant or simply illegal. In China, clan rules regularly discouraged litigation and favoured arbitration provided by the clan authorities. This judiciary role of the clan leadership was actually supported by the state which needed the cooperation of clan elders to buttress its own power (Greif and Tabellini, 2010a: 3-4). Political economics considerations may thus explain why kinship groups may remain strong even though their role would better be taken over by new and better adapted institutions.

A final remark is in order. One may consider the family/clan as an alternative or a substitute for central political power, rather than as a component of a centralized polity. The idea is then that clans become the prominent unit of social organisation whenever the central authority declines and, to the extent that history is characterised by successive periods of strong and weak central power, there is no monotonous process of nuclearisation of the family. Thus, for example, it is when the residents of Genoa and Venice found themselves in a political vacuum as a result of the decreasing influence of the Byzantine Empire (for Venice) and the Holy Roman Empire (for Genoa) that these two cities began to be based on the political cooperation between the strongest clans. Members of these clans understood that the corporate family was better able than the nuclear household to defend their wealth and status through enhanced solidarity among the aristocratic classes (Herlihy, 1969: 174-8; Greif and Laitin, 2004: 640).

3. Household and families: empirical evidence

3.1 Transformation of the household: testing economic theories of household individualization

The three main theories discussed in Section 2.1 have actually been tested empirically. We shortly review below the most salient findings obtained by their respective authors as well as some related findings that are pertinent for this review.

We begin with the theory of household splits proposed by Foster and Rosenzweig (2002). They estimate a rather sophisticated structural model using longitudinal farm household data from India over the period 1971-1982 (ARIS-RED data set). A first result confirms an important modelling assumption: the probability of a household receiving a transfer in the event of an adverse shock significantly increases with the number of daughters-in-law residing in the household and the number of daughters of the head married in other households. A second result bears out the prediction that division is more likely among households experiencing a death of the head. A third result is that production technology exhibits modest static scale diseconomies. In the fourth result, obtained through simulation, lies the central message of their paper.

In the model, it is not *a priori* obvious how technical change affects the propensity for households to divide. What they find is a complex pattern arising from the differential effect of technical change for small and large farms. More precisely, increased agricultural technical change has a substantially stronger negative effect on division probabilities for the farm households in the top quartiles of the per-capita land endowment. In contrast it slightly increases division propensity for the bottom two quartiles. To explain the differential impact of technical progress on household division, the authors argue that “increases in agricultural productivity

growth raise income and therefore the demand for the household public good more in the land-rich households” (p 865). This has the effect of exacerbating autarchic income differentials for given schooling heterogeneity and thus enhance disagreement in preferences for the household public good. On this count, division should be more likely among land-rich households. However, this is forgetting “the gains from human capital externalities associated with returns to information sharing that are enhanced when rates of technical change are high” (p. 865). This latter effect is outweighed by the former. For land-poor households, the effect of preference heterogeneity over the public goods is less important than for the land-rich households yet, on the other hand, the incidence of human capital externalities is also much less important. Overall, division of the household becomes more attractive.

Turning now to the theory proposed by Bardhan et. al. (2014), the impacts of technical change and land pressure on household divisions (and also on labour mobility and land transactions) are analyzed both as the direct effects of population growth and as the indirect effects of land reforms in West Bengal (India) during the period 1967-2004. The two main predictions of the theory appear to be borne out by reduced-form analysis conducted on longitudinal data. First and foremost, population growth significantly raises division rates. Second, as a result of the increase in farm profitability induced by the reform, the probability of household division decreases for small farms (those below the land ceiling set by the land reform program). In contrast and unexpectedly, large farms responded to the reform by increasing their division rates. This is explained by the presumed motivation of large landowners to strategically divide their property in anticipation of potential future land reforms. It bears emphasis that the indirect effects of the land reforms on household division have been found to be quantitatively negligible relative to the effect of population growth.

Lastly, we consider the theory of household division and private plots of Guirkingner and Platteau (2015). Owing to data limitations, they were able to test only the part of the theory that

deals with the partial individualization in the form of private plots. The estimated model is a simple probit model in which the dependent variable is the probability to grant private plots to (male) members. In accordance with expectations, the household head is more likely to distribute private plots when the land-man ratio is lower and when the family is larger.^{viii} Regarding the latter, the implication of the theory must be borne in mind: when the size of the workforce on the collective field is larger, the scope of the moral-hazard-in-team problem increases, which enhances the relative attractiveness of private plots where no efficiency problem arises. The two key explanatory variables –land availability and size of family workforce– have been instrumented with the help of historical data. In this way, the potential endogeneity of current land availability and household size –residential choices, and therefore household size, are likely to be directly influenced by land allocation– is addressed.^{ix}

The second main result of the above study is much less expected. When the family is decomposed into married men and other members, only the first category appears to have a significant influence on private plot allocation, and the effect is strongly significant. Moreover, the magnitude of the effect is far from negligible: thus, an increase of one unit in the number of married men increases the probability of individual plots by almost 10 percentage points. This suggests that the standard moral-hazard-in-team argument needs to be refined. As usually stated, this argument implies that the magnitude of the efficiency loss increases with the number of team members considered as equivalent units. Clearly, the assumption of an undifferentiated impact of group size is not applicable to the context of an extended or complex family.

Why is it that free riding on other members' efforts in collective cultivation is observed when several married men work together, and not when unmarried ones do? Two types of explanations are proposed by the authors. First, being strangers, daughters- or sisters-in-law tend to make the household more heterogeneous: they are not tied to the household by the same emotional and loyalty feelings as their husbands. The weakening of solidarity may also arise

from the behavior of the sons or nephews if, once they get married, they tend to identify with their nuclear family more than with the extended family. As a result, they may not feel as loyal as before to the large household unit, thereby fostering feelings of competition and rivalry. This mechanism is close to that suggested in an aforementioned paper by Kazianga and Wahhaj (2016) where stronger family ties are associated with more efficient allocation of production and consumption inside the household. Second, when the families of married men are of unequal size, the sharing rule is bound to look arbitrary to at least some couples. Thus, if the sharing rule provides for equal incomes to all married adults regardless of the size of their family, parents with more children feel discriminated. On the contrary, if shares are proportional to family size, parents with fewer children feel exploited because they work partly for the benefit of larger conjugal units. Interestingly, these two weaknesses of complex households are also stressed in anthropological and historical literature (see, for example, Worobec, 1995 p.81 for pre-communist Russia).

In another paper, Guirkinger and Platteau, together with Goetghebuer, have tested their theory through a different angle, that is, they have compared land productivity levels between collective fields and private plots (Guirkinger et al., 2015). In other words, they have put to a quantitative test their assumption that effort is more efficiently applied to the latter than to the former. When a variety of possible confounding factors (including variations in land quality, intensity of use of modern inputs, and crop choices) are controlled for, private plots turn out to be more productive than collective plots, and there is strong evidence that productivity differentials can be attributed to substantial variations in labour effort applied to cultivation. A second finding deserves attention because it provides indirect support for the incentive-based mechanism behind the theory: the productivity advantage of private plots exists for care-intensive crops yet not for care-saving crops. Because of the minor role of labour quality in the

production process of care-saving crops, these crops are less or not vulnerable to the moral-hazard-in-team problem.

How can we then explain that, in another contribution also devoted to Burkina Faso, Kanzianga and Wahhaj (2013) reached a conclusion opposite to the above? Comparing productivity of senior male plots (assumed to be collectively farmed) with junior male private plots and female private plots, they find that plots owned by the household head (common plots) are farmed more intensively and achieve higher yields than plots with similar characteristics owned by other household members. To account for this rather unexpected result, the authors emphasize the public character of the good produced on the family field: social norms exist that require the head to use all the proceeds of this field for the common good so that every member benefits from it. Moreover, junior partners are assumed to have a particularly strong preference for the public good thus generated and hence they are more willing to work on the collective field than on their private plots. A plausible explanation behind the difference between the two contrasting sets of findings is the following: households are more restricted in size and much more homogeneous in Burkina Faso (there are very few private plots controlled by siblings in their sample) than in the traditional, Bambara area of Mali where the study of Guirkingier, Platteau and Goetghebuer took place. Therefore, incentive problems on the collective field can be expected to be less serious in Burkina Faso than in Mali.

Lastly, it is useful to bring evidence that concerns the timing of land bequests and household divisions, using anthropological information collected in Russia. Extended households, wherever they existed, were placed under the authority of the head, or patriarch, who held absolute power over management of the household economy and the labour efforts of family members. This implied that he could encourage a son to take a job at a domestic industry, in which case he would have “to remit his wages, minus any expenses incurred while he was away on the job, to the household’s coffers” (Worobec, 1995 : 11). Household divisions

typically took place at the death of the patriarch, often as a result of internal tensions. In the words of Christine Worobec: “if a son became household head upon his father's head, he could not command authority over his brothers as had his father, since all brothers were treated equally in the devolution of property. The other brothers were intent on being masters of their own households” (p. 81). They preferred to break away from the stem household rather than submit to their elder brother's authority (Moon, 1999: 171).

Pre-mortem divisions were also observed, however, and they often arose from suspicions of free riding, for example, those caused by the unequal sizes of the different conjugal units forming the joint household.^x But there were many other pretexts or reasons nurturing jealous feelings among siblings, and the relationships between daughters-in-law and mothers-in-law inside households were particularly vulnerable to such feelings (Moon, 1999: 196). Let us now turn to the dynamics of pre-mortem household division. In the late 19th century after the abolition of serfdom and other reforms, improved outside opportunities in the form of expanding opportunities for wage labour contributed to a surge in pre-mortem fissions and the growth in nuclear family households (Worobec, 1995: 87, 115). Household divisions thus increased more rapidly in areas “where a substantial portion of the population derived its income from non-agricultural pursuits” (p. 105), a phenomenon particularly noticeable in the central non-black earth region and elsewhere in the forest heartland (Moon, 1999: 176).^{xi} The above situation, which is according to predictions of the theories of Guirkinger and Platteau (2015, 2016) regarding both household splits and the timing of land bequests, contrasts with that often observed in the Pre-Emancipation period in which communal elders, “who were heads of their own households, backed each other up in maintaining their authority over the younger generations”, which implies in particular that younger peasants were discouraged from leaving their stem households (Moon, 2006: 385). Still, pre-mortem household fissions occurred “in a substantial minority of cases” (Waldron, 1997: 71).

It is noteworthy that the above empirical evidence concerns rural areas since the corresponding theories were constructed with this context in mind. However, some insights gained from these theories can well apply to more urban contexts. This is obviously the case with the comparative static effect of changes in outside options: in the G-P model, an improvement in these options has the effect of encouraging household division. The argument is of course reversible and the occurrence of an economic crisis is then expected to delay division or even lead to a re-consolidation of the household. Strong evidence supporting both scenarios is available. In the context of South Africa, Klasen and Woolard (2009) show that unemployment delays the setting up of an individual household by young adults, sometimes by decades, and may even lead to the dissolution of existing households. Matsudaira (2015) shows that changes in the living arrangement of young adults in the United-States between 1960 and 2011 are largely explained by economic conditions. In particular, fewer jobs, low wages, and high rental costs all lead to increases in the numbers of men and women living with their parents. Relatedly, Kaplan (2012) and Cobb-Clark (2008) indicate that an important form of insurance against unemployment is the possibility for young adults (respectively in the United-States and in Australia) to move back to their parents.

3.2 Transformation of the household: lessons from European history

Introduction

A good amount of empirical research effort has been devoted to the study of family patterns and their evolution across Europe during the last decades. The outcome of these efforts is potentially of great value since not only the period covered is very long (from the early Middle Ages to the eve of the Industrial Revolution) but also the different regions inside the European territory have largely varying characteristics. This is especially so because conventional

knowledge about the timing and the conditions of emergence of the nuclear household in Europe is seriously called into question. According to a widespread view that held sway until recently, the modernisation of Europe went hand in hand with the individualization of (farming) households (and the concomitant development of private property rights): family households gradually evolved from rather collective to more individualised forms, that is, from complex, multi-generational and early-marriage patterns to simple, nuclear and late-marriage patterns. Institutional change is thus posited to be a monotonous process that gets started at some point marking the beginning of modern economic development.

Before the publication of the book of John Macfarlane “The Origins of English Individualism” (1978), the overwhelmingly dominant view was that the appearance of the nuclear family came rather late, stretching over the centuries immediately preceding the Industrial Revolution, a period then revealingly identified as “early modern” by most historians of Europe. Macfarlane’s work shook that approach to European modern history and contributed to spread the alternative view that England was an exceptional case where nuclearisation of households and the development of freehold or full-fledged private property rights, occurred much earlier, in the late Middle Ages. The temptation was then strong to infer causality from the observed correlation between the pioneer role of England with respect to the individualization of the household (and the establishment of private property rights) and her leading role in industrialisation.

More recent evidence is shattering the above picture in two main senses. First, the appearance of the nuclear form of the family and the farm can be dated back to even earlier periods than what is suggested in Macfarlane, and this phenomenon is not unique to England. Second, change in the family household has not been monotonous but has followed more complex patterns such as when individualised forms were succeeded by more collective forms that were in turn replaced by individualised forms. In the discussion below, we provide a rough

sketch of these three canonical steps in the transformation of European households. Thereafter, we mention alternative paths of evolution and discuss some factors underlying the observed variations. Finally, we end our foray into European history by examining the role of some key rules that govern the functioning of households.

A canonical model, Phase 1: early nuclearisation

Early nuclearisation of households in Europe has been linked by some scholars to the emergence of independent small-scale family farms towards the end of the Roman empire and the subsequent rise of women's age at marriage.

According to David Herlihy (1985) and Georges Duby (1974), as the slave economy of antiquity collapsed in the period of the late Roman Empire from the 4th century, and as the supply of slaves dried up with the stabilisation or erosion of Rome's frontiers (the so-called problem of the *agri deserti*, or "abandoned fields"), big landlords dealt with the shortage of agricultural labour by shifting to a system based on incentives. They thus allowed some slaves to marry and to settle on the empty lands. Although these erstwhile slaves paid some form of rent to their lords and patrons (usually under the form of "labour rents", that in the worst cases represented several days of work per week), they could hold permanent rights over the lands they cleared and the houses they built, including the rights to retain the greater part of the produce and to pass them on to their heirs. Their bargaining strength was reinforced by the emergence of the institution of the roman colonate which was created for the purpose of encouraging resettlement on the basis of small-scale family farms. The "coloni" were free cultivators granted the right to benefit from the labour efforts spent in clearing and cultivating the land and, contrary to the erstwhile slaves on estate lands, they did not have to pay any compensation to a lord. In a desperate move to stop the economic decline of the empire, the Roman government went as far as settling even barbarian contingents upon the land, again on

the basis of family farms endowed with permanent possession rights (Herlihy, 1985, pp. 59-61).

The mechanism through which the above circumstances promoted the nuclear family system is not clear however. Thus, for Hartman, the nuclear pattern is correlated with the development of the late-marriage system. Manorial records, which began to be rather widespread from the mid-8th century, reveal that “unlike the earlier Roman pattern of women marrying in their mid- to late teens and men in their late twenties, both sexes on the reorganised family farms married in their early to mid-twenties, with men only slightly older than women” (Hartman, 2004: 87). The argument is that, as a result of the emergence of improved tenure rights, the ability to bequeath land to children in particular, the value of labour greatly increased for both men and women, and parents became quite eager to keep daughters as long as possible within the household. The marriage of women was thus delayed. Unfortunately, we are not told why the practice of postponing daughters’ marriage explains the early dominance of the nuclear residential form (p. 99). To make the argument consistent, Hartman should also have mentioned the ability of the parents to retain their sons after marriage within the household, which would go against the trend towards nuclearization. In sum, even though there is sparse but serious evidence that nuclear households did exist even before the 10th century, we still do not understand well how they emerged.

A canonical model, Phase 2: complexification

In the parts of Europe where the feudal-seignorial system became gradually implanted after the demise of the Roman empire, family structures often evolved from simple to more complex living arrangements such as the joint or complex household. Newly married couples are then incorporated into the household to form an extended family structure led by a patriarch. He holds absolute power over management of the household economy and the labour input of family members within limitations set by the commune and the local community. In general,

this situation lasts until his death when authority is devolved to the most senior member of the family in the male line, either his eldest brother or his eldest son. At this point, other male family members had to decide whether to remain in the household or to split off from the household, and leave it with their inheritance share.

The shift to more complex households occurred when household heads underwent strong pressures from newly asserting manorial lords who were eager to keep their landholdings as large as possible for fiscal and other reasons that include labour mobilisation. Hence their desire to control both the size and composition of their dependent households. In England and in central Europe, the same motivation led them to impose, or try to impose, single-heir devolution to maintain peasant holdings intact. In areas of strong manorial control, this strategy seems to have succeeded well (Berkner and Mendels, 1978: 212; Brenner, 1985: 295-296). To the extent that the adoption of unigeniture was often accompanied by changes in co-residential rules or practices, the effect was to complexify the household. The inheriting son could thus be required to remain on the parental farm throughout his whole lifecycle, implying that he would take over the headship only upon the death of his parents. As a result, several conjugal units of different generations coexisted within the same household.

Although later, a similar process was also observed in Russia. Nuclear peasant families seem to have dominated until the 17th century when the re-enservment of the peasants led the serf owners in cahoots with the state authorities to impose more collective family forms, giving rise to the so-called “second serfdom” (Blum, 1957, 1961; see also Brenner, 1976, 1985). The motivation behind this institutional shift was to create large enough family units to allow easy collection of taxes and mobilisation of serf labour services. Revealingly, the Ministry of State Domains allowed household divisions only when the original household was so large that the new units would have at least three male labourers each. Offenders who dared set up new households without first seeking the bailiff’s permission were severely punished. In Russia, too,

estate owners attempted to impose single-heir devolution yet this rule was too antagonistic to prevailing customs to be acceptable by the peasantry. Thus, when during the pre-emancipation period, restrictive measures were adopted by the ruling class (serfowners and the Ministry of State Domains) with the purpose of establishing unigeniture in the countryside and thereby minimising the risk of defaulting on military and tax obligations, they failed to produce tangible results because of the peasantry's strong attachment to the norm of equal inheritance (Worobec, 1995: 84-87).

A canonical model, Phase 3: re-nuclearisation

When the feudal-seignorial system collapsed, farming households had the opportunity to become nuclear again. Interestingly, it seems that the incidence of the nuclear family pattern such as it could be observed in the early modern era coincided with the prior manorialised areas of the whole of Europe, not only of England (Hartman, 2004: 86). An interesting question is whether the demise of the feudal system was caused by strictly political factors or was also aided by economic forces. In the latter instance, it can be argued that economics played an important role in the re-assertion of the nuclear household.

This is precisely the point made by a number of historians for whom the Black Plague (or the Black Death) and its long aftermath stretching from 1347 to 1450 proved to be a critical period marked by an acute scarcity of labour relative to land. Western Europe then suffered a devastating and prolonged cut in her population that radically changed the balance of power in favour of the peasantry. This had two distinct effects. First, since land was now easily accessible outside the confines of the manor or the village community, young adults could make a move of their own without waiting that their parents award them land on the customary holding. In other words, the sudden rise of new exit opportunities conferred new bargaining strength upon the youth. Second, because they were eager to retain their customary serfs on the land or to persuade newcomers to take up vacant holdings, landlords were compelled to give way to the

peasants' most important demands, namely the reduction of land rents and the forfeiture of labour services on the demesne. As a consequence, a far-reaching mutation of the relationship between manor and village took place. Not only did the distinction between servile and free tenants fade, but also a number of structural changes occurred in the layout and the operation of the village economy.^{xii} These changes had the effect of loosening the bond between manor and village, breaking up demesne agriculture, loosening the anchorage of the peasant family cycle in the transmission of customary holdings from fathers to sons, eroding the influence of manorial customs based on an intricate web of duties and conditional rights and protections, undermining the power of manor courts (to the benefit of Royal courts), and diminishing manorial autonomy (Seccombe, 1992: 93-94, 133, 136-48; see also Herlihy, 1985: 153-55).

The weakening or even disintegration of manorial rules was clearly not confined to land rights and household composition and size. It also affected the regulatory framework for marriage, sparking the shift to late and non-universal marriage. As a result of that process, Seccombe speculates, the Malthusian explanation according to which land abundance should encourage rather than discourage early marriage and increase rather than decrease nuptiality does not hold. The idea is that in the feudal system, because they were eager to maximise the productive contribution of each tenant family to demesne agriculture, the lords were strongly reluctant to allow single people of either sex to take up tenancies while remaining unmarried, or to retain them without remarrying if widowed. In sum, the manorial lords had an economic incentive to hasten marriage and remarriage. This is precisely the situation that was profoundly disturbed by the mortality crisis of the Black Death: the lords were compelled to relinquish labour services and lease out demesne land, which undermined their incentive to exert pressure for early marriage and the quick remarriage of widows. Absent the meddling of the manorial lord in marital affairs, the local community tended to discourage early marriage by requiring

that sufficiently large parcels be assembled before assenting to a match (Seccombe, 1992, pp. 148-56).

In a recent paper, Voigtlander and Voth (2013) have also traced back the origin of late marriage in Europe to the Black Plague period. The detailed mechanism behind their explanation is depicted as follows:

“By killing between a third and half of the European population, it [the Black Plague] raised land-labor ratios. Land abundance favored the land-intensive sector –animal husbandry. Because plow agriculture requires physical strength, women have a comparative advantage in livestock farming. Hence, after the Black Death, female employment opportunities improved. Working in husbandry mainly took the form of farm service –a contract that required year-round labor services in exchange for money, room, and board. As a condition of employment, all servants had to remain celibate – pregnancy and marriage resulted in termination of employment. Because many more women began to work in the booming pastoral sector after 1350, marriage ages increased. This lowered fertility in the aggregate. In a Malthusian world, there were second-round effects: lower fertility reduced population pressure, ensuring that per capita output never returned to pre-plague levels.” (p. 2228)

It is thus the opportunity cost of women’s involvement in husbandry production rather than in grain production and children making that is the key variable behind the marriage pattern for women. Changes in this pattern in response to variations in women’s opportunity cost are explained within a particular decision-making framework where women are unconstrained maximizers of their own utility. An empirical test of the mechanism is provided that uses detailed data from England. Moreover, to account for the differential evolution of the marriage

pattern between northwestern Europe, on the one hand, and Mediterranean and Eastern Europe, and even China, on the other hand, Voigtlander and Voth propose an explanation based on the relative importance of grain and husbandry in the prevailing agricultural system, and the specific characteristics of the husbandry technology. In the Mediterranean regions, large herds could not be sustained throughout the whole year without resorting to transhumance. As a result, so they argue, there was no regular demand for women's labour services. In Eastern Europe (and China), husbandry remained uncompetitive vis-à-vis grain production, therefore reducing the need for women's labour. Another finding of Voigtlander and Voth is that, inside the late marriage societies, the change in age at marriage of women was, but only partly, reversible. Indeed, as the comparative advantage of animal husbandry declined vis-à-vis grain production, demand for women's labour declined thereby causing earlier marriages. The decline, however, was never so strong as to mark a return to the preceding system of early marriage.

In some regions, another force that contributed to the nuclearisation of households has an effect analogous to an increase in local or regional availability of land: the expansion of off-farm income opportunities. This became a systematic trend only with the development of cottage industries. Marking the beginning of proto-industrialisation, they were established only during the long 16th century when the population of Europe increased rapidly by pre-modern standards, and during the 17th century when they became increasingly based on specialised craftsmanship (Medick, 1981). The gradual rise of a labour market helped resolve a deep conflict between fathers and sons. Seccombe (1992) described the deadlock that this conflict created in the village economy in the following terms. Fathers in northwestern Europe were unwilling to retire and relinquish control of the family holding, yet at the same time they did not have sufficient authority to force their sons to marry inside the paternal household. In no position to make their father retire early, the sons could not either accept to remain under his headship upon reaching adult age, and they therefore pushed away from the household in order to acquire more

economic independence (p. 187). It is apparently during the 16-17th centuries in northwestern and central Europe, when land pressure increased considerably, that the spread of service in husbandry was fastest. It seems that the resulting change in the power balance between fathers and sons gradually prompted the former to make pre-mortem gifts of land to the latter (p. 103).

Even before that period, in some regions, local labour markets existed that allowed children from land-poor households to work on the farms of land-rich households, thereby helping to equalise land-labour ratios across farms. In some parts of England at least, the market for domestic service seems to have predated the Black Plague: according to one in-depth study of Essex, even before 1350, only a quarter of people passed their entire lives in the parish of their birth with the rest, who were primarily wage earners, regularly moving about (Poos, 1991). In northwestern Europe –in pre-industrial England, Iceland, Denmark, western Germany, Flanders, the Netherlands, and Austria–, it is in the early modern era corresponding to the late 14th and 15th centuries that the practice of domestic service for young single adults (from fifteen to thirty years) seems to have become commonplace (Seccombe, 1992: 197-98; Szoltysek, 2015: 10).^{xiii} Following a rather standard scenario, poor households delayed the marriages of their offspring and often sent them out as young adults to service in another, richer household where their wages could be accumulated in a fund earmarked for their eventual marriage settlements (money to purchase land for young men and to constitute the dowry for young women).

It bears emphasis that domestic workers were not attached or tied to their employers in any way. They worked on a contract basis, normally for one-year stints with the reciprocal option of renewal. While first placements were usually arranged by parents (which explains why it was not rare to see servants working in families related to their own), subsequent hirings occurred on a face-to-face basis. The portion of the wage paid in cash was paid out in a lumpsum at the end of the contract period. As for the portion paid in kind, it included boarding and

lodging and frequently access to a garden plot and the right to raise a sheep or two. Servants typically came under the continuous paternal jurisdiction of their master, and could not leave him with impunity till the contract period had elapsed. In the words of Seccombe (1992): “Service was not an alternative to the prolonged subordination of young adults to patriarchal authority, but an extension of familial discipline with a change of masters” (p. 198). What needs to be emphasized, however, is that discipline was exerted only within a limited labour contract period. Micro-level evidence thus indicates that in England, the majority of domestic servants actually moved after one year while in Germany, the average stay was one year and a half. In the interludes between two successive hirings, servants often returned home because they were unable to find work or their parents needed their assistance. Finally, it bears emphasis that most servants did not move far from home, the average distance between different postings not exceeding a few kilometers (pp. 198-99).

A picture of more radical change emerges from other accounts, though. In areas where manorialisation survived after the Black plague, it appears that the efforts of the landlords to restrict emigration did not succeed in preventing young women and men from displaying ‘astonishing mobility’: many of them left the manor of their birth temporarily for service on another, or permanently for marriage, or even abandoned manorial security altogether for the freedom of nearby towns (Hartman, 2004: 73).

In theory, not only labour but also land exchanges can correct land-labour imbalances across households. Evidence about active land sales markets in European history is nevertheless scant. Manorial court rolls indicate that there was an active market in freehold land in the Middle Ages but it was essentially limited to England and the recorded transfers are typically lease arrangements, not sales (Seccombe, 1992: 99). Moreover, when sales occurred, they were often subject to the limitation of reversionary rights, implying that there

was a marked tendency for land “to revert into the possession of either the original family who had alienated it or their ‘successor’ in the land market” (Blanchard, 1984: 242).

Variant paths

Not all the parts of Europe have actually followed the above-sketched sequence. For example, in some areas of Europe (England, Holland, Denmark) nuclear households seem to have persisted throughout the whole period covered (Todd, 2011: pp 399-407; 453-54). In other areas belonging to southern and eastern Europe, nuclear households became complexified and remained thus even to this date. In still other areas, the complex form was never really abandoned. To make matters even more complicated, variations could be observed inside regions not only with respect to household forms observed at a given point of time but also with respect to the transformation trajectory followed. In the presentation below, stress is again laid on the influence of micro-, meso-, or macro-political factors that were evidently at work in the transformation of household forms that we have just highlighted. The role of these factors testifies that assumptions of unfettered individual rationality of household members –for example, Voigtlander and Voth’ assumption that women are unconstrained maximizers of their own utility– is questionable in the presence of strong family headship (e.g., a patriarch) and/or upper-level political authorities.

As predicted by the G-P theory of household transformation, and illustrated by aforementioned historical evidence, the expansion of off-farm income opportunities encourages household division or, at least, the awarding of private plots to tenants or family members. What needs to be added now is that these outcomes may fail to materialise if young adults, especially women, are prevented by their parents and the local lord from moving to other locations if needed. In many regions of Eastern and Mediterranean Europe (like in Mediterranean France and medieval Italy), the existence of an unbroken tradition of strong patriarchal control in the

hands of the older generation, as well as deep-rooted taboos against, and fear of, premarital sex and all sorts of sexual misconduct, considerably slowed down the spread of service in husbandry (Seccombe, 1992: 103, 119, 125; Herlihy, 1985: 153-55; Le Roy Ladurie, 1976: 62-63; Berkner and Mendels, 1978; Szoltysek, 2015: 16). The same patriarchy-enforced customs also prevented young men and especially women from seizing potential employment opportunities in the post-plague era, testifying again to the conditioning role of institutions. Based on a comparative study by Goldberg (1992), Hartman (2004: 77) thus notes that “in England the labour shortage produced by the huge increase in mortality from the plague prompted an influx of unmarried women into the town, a rise in marriage age, and an increase in the proportion of women never marrying”. In Italy, on the contrary, “eligible young women remained at home, despite the jump in potential employment opportunities.”

Households in many parts of Italy remained vertically integrated as a result not only of patriarchal norms but also, and relatedly, as a result of the control exerted by big landlords. Thus, as documented in a micro-study of a Tuscan village over the 18-19th centuries (Derosas et al., 2014), more than one-third of the households representing half the total population were complex. The heads of these complex households tended to be wealthy sharecroppers upon whom local landlords exerted a strong control to ensure that land fragmentation and household division did not occur: not only were adult members prevented from leaving the family group but also their marriages were discouraged and delayed (Dribe et al., 2014: 95, 105, 107). In these instances, therefore, the practice of late marriage occurred within the framework of complex families.

The same influence of authority structures can be detected when intermediate forms of farm individualization are considered. Thus, the peasants’ rights over the land were minimal in the huge estates run as demesne manors by ecclesiastical orders –separate peasant plots were essentially non-existent– while, at the other extreme, peasants’ rights were most developed in

the manors of absentee lords which were often divided entirely into peasant plots (so that the lord's income exclusively consisted of rent in various forms) (Seccombe, 1992: 78).^{xiv}

Till recently, Russia and Eastern Europe have been typically considered as having followed a different institutional trajectory from Western Europe (see, for example, Pipes, 1995, 1999). In terms of family structures, their situation is closer to southern Europe and a common view is that the eastern regions have been trapped into a sort of collectivist trap that was reinforced at the time of the “second serfdom”. We have nonetheless fitted Russia into the nuclear-complex-nuclear scheme presented above, thereby departing from the conventional view. In fact, recent research justifies this choice and actually points to the danger of overstressing the differences between Russia and Eastern Europe, on the one hand, and Western Europe, on the other hand. Not only do the differences appear to be less dramatic than usually thought but also variations inside the former regions seem to be quite significant. In the words of Markus Cerman (2012), author of a recent survey on this question: “The idea of a structural difference between Western and Eastern Europe should be treated with extreme caution, in particular with respect to possible medieval roots. Some of the general trends influencing the tenant economy in late medieval Western Europe –such as the fragmentation of lordship, the reduction of demesne farming, urbanisation and changes in property rights and tenure– also occurred in East-Central and Eastern Europe” (p. 57).

More specifically, there was no such thing as a monolithic “second serfdom” in Russia and in East-Central and Eastern Europe: a substantial portion of the Russian peasantry, for example, was not submitted to demesne lordship. As a consequence, the image of a dualism in the European agrarian structure is too simple and must be questioned (Waldron, 1997; Moon, 1999, 2006; Dennison, 2011; Cerman, 2012). Cerman also warns us that “contrary to previous accounts, secure property rights among the rural population were the rule rather than the exception in demesne lordship. What is uncontested is that hereditary property rights of tenant

farms and smallholdings were practically universal in the late medieval period. The later existence of insecure property rights, caused by developments beginning in the sixteenth century, cannot be denied, but they were often confined regionally or to a specific period” (p. 29). The idea of a systematic expropriation of tenant farmers as a result of the extension of demesne farming from the late 15th century onwards is just a myth (pp. 58-61). The fact of the matter is that “the power of demesne lords was far from absolute and that there were legal and other ways for successful action and resistance by the rural population” which was better able to follow its own interests than had been previously assumed (p. 39). Finally, explaining the rise of early modern demesne lordship as a consequence of the Black Plague and the resulting assertion of lords’ power seems quite debatable (pp. 40-57).

The household as the locus of multiple rules: static considerations

A major finding coming out of the historical literature devoted to the European family is that the size and composition of household units are the result of a complex set of rules and economic constraints. These include: the marriage ages for men and women as well as the difference between them, the role of the family head in arranging marriages and rules governing marriage arrangements, the prevalence of celibate, the co-residence rules and the home-leaving pattern, inheritance rules, the strength of familial authority, family values, and the incidence of life-cycle domestic servants. It is evident that this multiplicity of variables would not pose much problem if they were well correlated. This is the presupposition underlying the well-known typology of families proposed by Frédéric Le Play, George Homans, John Hajnal, and Peter Laslett, in particular.

For Le Play (1871), the vertically extended family type, known as the ‘stem family’, is inextricably associated with unigeniture in inheritance whereas partible inheritance could give

rise to either joint, horizontally extended households or to nuclear families. Organized to preserve the integrity of the ancestral farm, the stem family provides that it should pass from the family chief to a single heir, usually the oldest but sometimes the youngest son or a son designated by the father. Only the inheriting son was allowed to marry, an option that he was able to use before the death or the retirement of the parents. His siblings, by contrast, could stay on the farm only if they stayed celibate. As a consequence, the stem family typically comprised three generations: the old parents, a single married son and his unmarried siblings, and the children of the young married couple. Where partible inheritance predominated, several brothers could decide to keep their common patrimony undivided, even after one or several of them had married. The resulting family type is the horizontally extended, joint household. Another solution, however, consisted of dividing the paternal farm upon the father's death, in which case partible inheritance would lead to a proliferation of small farms and nuclear families. Homans (1960) faithfully followed Le Play's typology when he attempted to classify the household structures found in England.

Hajnal (1983) and Laslett (1971) gave a lot of attention to the marriage system and, in so doing, they departed from the above characterisation yet clung to a dichotomous typology. In multi-generational families or complex households, marriage occurred at an early age, especially for women, and it was universal. In nuclear family households, on the contrary, marriage was late, not only for men but also for women, the age difference at marriage between the two sexes was small, and marriage was far from universal. For Hajnal, the two systems could be geographically delineated in a clear manner: the nuclear, late-marriage family system was a unique characteristic of northwestern Europe while the complex, early-marriage system was dominant to the east and south of a demarcation line running from St. Petersburg to Trieste, through central Europe. As for Laslett, although he proposed a geographical demarcation based on four rather than two zones, he retained Hajnal's view that western Europe (and England in

particular) was unique in its emphasis on the nuclear family household. The distinction between two sharply contrasting family systems, and its apparent usefulness in mapping out the whole European continent, were so appealing that they “came to represent a kind of historical and sociological orthodoxy” (Szoltysek, 2015: 7). Two scholars who later played a major role in pursuing the debate on the Hajnal-Laslett analytical scheme are Secombe (1992) and Hartman (2004).

Recent research based on detailed micro-evidence has revealed that not only the geographical divide proposed by Hajnal (and even Laslett) was questionable, but also that the classification of family systems was much too simple. As a matter of fact, the various dimensions of a family system are not well correlated together. For instance, in his study of the manor of Halesowen near Birmingham, Razi (1980, 1981) has shown that there was no clear relationship between the inheritance rule and family organization. Another example, as we already had the opportunity to illustrate, is the lack of systematic relationship between the age for marriage for girls and family organisation (Hartman, 2004). Moreover, simple families were common over substantial parts of early modern Europe outside its northwestern core. In the words of the author of a recent review article, Mikolaj Szoltysek (2015): “A long but discontinuous belt of other territories in which nuclear families predominated was shown to have stretched from southern Italy and Iberia, through certain areas in both northern and southern German-speaking territories, to seventeenth-century Bohemia” (p. 14). It has even become clearer that the pattern extends to the east and southeast of early modern Europe, in western Poland-Lithuania, in Wallachia (in present-day Romania), and western Ukraine, for example.

For Szoltysek, a serious problem that arises with Hajnal’s demarcation line is the misplacement of areas located in the western parts of Eastern Europe: in these areas, important features of the family system (such as the size and composition of the households, nuptiality

patterns, the recourse to domestic service, the timing of home-leaving and household formation) made them closer to the northwestern model than to the eastern and southern European one. This failure is obviously easy to remedy through an appropriate redrawing of the map that would join Poland, Lithuania, Estonia, Latvia, Hungary, the Czech and Slovak lands, and Western Ukraine to northwestern Europe. Harder to handle, however, is the conclusion that the northwestern part of Europe may have been much less homogeneous than was previously believed, or that a considerable degree of inter-regional variation in familial organisation prevailed within historical areas traditionally considered as having simple (and neo-local) household systems, such as in England, northern Europe, and central Europe (Wall and Robin, 1983; Wall et al., 2001). For example, joint or complex households could be found in many parts of historic Europe, including early medieval Germanic societies, 15th century Tuscany and central Italy, early modern central France, some parts of the Alps, Finland, and the Balkans (Szoltysek, 2015: 16; Todd 2011: 319-326; Albera and Viazzo, 1990).

Admitting such complexity of the European family patterns should not, however, lead us to reject Hajnal's intuition altogether, as some social scientists have done (see, e.g., Todd, 2011). Along some dimension, the difference between the adjusted northwestern zone and the southern and eastern zones is difficult to dismiss. This is especially true with respect to gender-based differences in the age at marriage, and to life-cycle domestic service.

The household as the locus of multiple rules: dynamic considerations

If we now adopt a dynamic perspective, a major lesson from the historical literature is that to go through the complex web of inter-relationships involved in family systems, we need to have a clear idea of which dimensions are invariant, slow-moving and fast-moving. Moreover we have to allow for the fact that the answer to this question may vary depending upon the specific circumstances obtaining in particular locations and particular periods of time. Only

then will we be able to sketch a theory that can underpin efforts to interpret empirical data. We illustrate the importance of the context by referring to the role of nuptiality and inheritance rules.

We begin with the nuptiality pattern. If the age at marriage is a fast-moving dependent variable, a sort of Malthusian nuptiality adjustment mechanism is at work. By contrast, if it reflects a deeply rooted social norm, it is by definition a slow-moving variable and other adjustment mechanisms will be set into motion such as the inheritance rule. The former scenario in which age at marriage and the incidence of celibacy quickly adjust to changes in the economic environment has been persuasively shown to be at work in England during the 17th-19th centuries (Wrigley and Schofield, 1981). Another example is provided by Oris et. al. (2014) in the context of rural communities in 19th century eastern Belgium. In this instance, under conditions of growing land pressure, parents used their influence to delay and discourage marriages so as to maintain the farm holding intact. Age at marriage and celibacy consequently increased.^{xv} The possibility also existed, as illustrated in the same study, that children refuse to stay home and move to nearby cities with a view to seizing job opportunities. In this way they hoped to earn enough income to set up their own household either in the city or in the countryside if they chose to return to agriculture once they had purchased enough land. As for the second scenario, it is well illustrated by the absence of response to improving labour market opportunities in Mediterranean Europe in the post-plague period. This lack of response reflected a deep-rooted resistance against any delaying of marriage, especially for women, and provides a neat contrast with the situation prevailing in England, as pointed out earlier.

Inheritance rules provide another illustration of the different ways in which the dynamics of household structures may unfold. When dealing with inheritance, economists typically assume that the rule, whether of impartible or partible inheritance, is fixed and exogenously given. The implication is that adjustment of the household to changes in the economic

environment takes place via other channels such as household size and composition, or the nuptiality pattern. In reality, however, inheritance rules may be flexible. Thus, evidence exists that, when land pressure increased beyond a certain point, the household head could choose to limit the fragmentation of the land by giving preference to one heir. In the words of Mary Hartman (2004), pressures of population growth on property “prompted serf families by the later Middle Ages to adopt a single-heir system throughout the manorialized region as a way of keeping their landed holdings viable as farming units” (p. 74).

It deserves to be stressed that, in the above example, the adaptability of the inheritance rule is conditional upon the local socio-political structure. This confirms the strong correlation often observed between the incidence of primogeniture and the extent of (past) manorialization: areas which adopted primogeniture coincided “remarkably faithfully” with areas of widespread manorialization (Howell, 1976: 117; Le Roy Ladurie, 1976: 58; Berkner and Mendels, 1978: 212). Impartible inheritance was actually born with feudalism and adopted mainly inside the high aristocracy.^{xvi} This class, indeed, was eager to protect the indivisibility of seigneurial authority and strongly determined to perpetuate the name, power, and prestige of the family. The integrity of the land and mansion thus became the physical symbol of the unity and indivisibility of the political and military functions associated with the lord’s estate, as well as of the sanctity of patriarchal relations. As has been hinted at earlier, the high nobles or overlords were also interested in imposing impartible inheritance on dependent households because imposing taxes and labour or other services on large, undivided farm units allowed them to minimise transaction costs and the risk of tax-defaulting (Berkner, 1976: 77; Brenner, 1976: 19; Hilton, 1985: 125; Platteau and Baland, 2001: 29-32). It is thus revealing that primogeniture was less dominant in France than in England where the portion of the surface fully in the hands of the lords was much larger (Brenner, 1985: 295-96). Also, in Lower Saxony (Germany), the area of Calenberg where impartible holdings were the rule had most of its land “under the

strictest manorial control” whereas in the area of Göttingen, where manorial control was weak (only minimal manorial dues were paid), land used to be divided into smaller fragments with each passing generation (Berkner, 1976: 80-82).

Under the influence of new outside economic opportunities, the inheritance rule could change in the opposite direction, from impartible to partible bequest. Seccombe (1992) thus notes that: “Even in impartible zones of stronger seigneurial pressure, the loss of viable arable and the development of a second income source relaxed the impartible imperative... Once the livelihood of future generations was no longer dependent on arable acreage, the impartible rule was placed in abeyance”. This was particularly the case “if common rights could be retained for all heirs no matter how minuscule their holdings” (pp. 183-84). Adaptation of the single-heir devolution rule was most often observed in areas where a scanty agrarian income could be supplemented by developing domestic industries and crafts, and this was particularly likely in the context of the development of cottage industries and proto-industrialisation (Thompson, 1976: 342; see also Habakkuk, 1955: 10). According to one account of the life of villagers in the canton of Zürich during the 17-18th centuries:

“The earning possibilities generated by the putting-out industry of Zürich, however, created an entirely new situation... the circumstances of inheritance rights were transformed... Previously fathers and sons avoided dividing fairly large and, even more, modest holdings, for they were concerned that each piece be able to nourish its holder. This fear vanished entirely with the diffusion of manufactures and cottage industry; and now the sons redivided the parcels received from their fathers, themselves the product perhaps of several divisions, because people are convinced that even a small field is enough to feed a diligent holder along with wife and children” (Braun, 1978: 311).

It must be finally remarked that the dynamics of inheritance rules could be even more complex than what has been just suggested. This is because neither impartible nor partible inheritance was prevalent as a pure type (Seccombe, 1992: 96). This was especially true for the ordinary peasants who tended to behave pragmatically and among whom written wills played a minor role due to the prevalence of pre-mortem inheritance and to the high proportion of them dying intestate. “While aristocrats generally adhered to principles such as primogeniture quite strictly, planning far in advance precisely how the steps of devolution would unfold, peasant heads could not afford to fulfil such codes to the letter” (p. 100).^{xvii} Even more important for our purpose is the fact that compensatory practices tended to predominate in areas of unigeniture and were generally based on the practice of inter-vivos gifts.^{xviii}

For instance, in the medieval parish of Halesowen (England) where the prevailing custom was impartible inheritance, parents often bestowed some holdings on younger siblings, while earmarking the major portion for the principal heir. This allowed the non-inheriting sons and daughters to start a family on their own even though they had to supplement the income obtained from their inherited portions through work as hired hands. Moreover, even the principal heir often helped his younger brothers or sisters to acquire land, sometimes assigning them parts of his own patrimony (Razi, 1980). Herlihy (1985) concludes as follows: “People, in sum, found ways around the customary rules. And, doubtless too, in regions of partible inheritance, parents might favour one offspring over the others. At all events, at Halesowen and surely elsewhere too, younger sons were not forced to remain celibate. The community was not divided into propertied household heads and their landless and celibate younger siblings. The requirement that younger siblings remain celibate, which the system of the stem family demanded, was simply too harsh to command full compliance” (p. 138). Evidence supporting this conclusion is plentiful (Goody, 1973; Berkner, 1972, 1976; Le Roy Ladurie, 1976; Berkner and Mendels, 1978; Gaunt, 1983; Dribe and Lundh, 2005).

The practice of compensations allowed for much more flexibility than would have been possible if unigeniture was strictly enforced. Thus, in conditions of land scarcity, the size of the provision for the younger children was left to the discretion of the heir –such as was the case, for example, over most parts of Germany outside the Rhineland and Thuringia (Habakkuk, 1955: 3).^{xix} He was then free to reduce the inheritance portions of his siblings in order to avoid de-capitalization of the family property. When the succession and the provision for the children were determined by the parents (for example, they were specified in detail in a settlement made on their marriage), though, the room of manoeuvre for the privileged heir was much more restricted and economic consequences could be rather similar to those produced by a system of partible heritance. In the area of Cambridgeshire, which was nominally one of primogeniture, for example, fathers made provisions for their younger children in their wills in the form of fragments of land and of cash sums for younger sons and of dowries for daughters, as well as maintenance for the widow. Yet, all these provisions which did not come out of accumulated savings of the testator, amounted “to a very considerable burden on the main holding and on the inheriting son”, with the result that many holdings of 15 to 45 acres broke down in spite of the rule of primogeniture (Spufford, 1976: 157).^{xx} In some places, however, parents willing to achieve some social justice between their children in conditions where compensations would have brought the family farm below viable size chose to establish a temporary co-ownership of the family land among siblings (for references, see Lundh and Kurosu, 2014: 29).

East and West: a comparative perspective

Unfortunately, the richness of empirical material available on the history of the European families contrasts with the dearth of evidence accessible to the international research community regarding the dynamics of families in other parts of the world. An interesting but

limited exception is the Eurasia Population and Family History Project launched in 1994 by historical demographers. It consists of a set of comparative micro-studies of Italy, Sweden, Belgium, Japan, and China. On the basis of these studies, the leading team has reached the conclusion that marriage patterns and family systems in Asia are substantially different from those observed in Europe. At the same time, important variations exist inside each region. In particular, the findings “verify the picture of early and universal marriage in Asia, especially for females, and of later marriages and larger proportions of people who never married in Europe” (Lundh and Kurosu, 2014: 443). Furthermore, while in the European populations marriage was closely associated with reproduction –first births typically occurred immediately or soon after the wedding–, in the Asian populations the time span was quite long between marriage and reproduction. This difference is to be related to the contrast between the widespread practice of arranged marriages in Asia and the large role of individual consent and choice in European marriages. While marriages are placed under the control of (extended) families in Asia, they tend to be the concern of the marriage candidates themselves in Europe, and this is true both psychologically and financially (pp. 456-57).

For the sake of comparison with Europe, the case of China is especially interesting. This is because, like most European countries, China has been subject to relentless land pressure since many centuries (Pomeranz, 2000). What has prevailed in this populous Asian country is typically the complex household system. Thus, in late imperial China, a period for which documents are relatively abundant, “married couples lived in a large household together with the husband’s parents, unmarried sisters, married brothers, and even cousins. Married brothers often continued to live together after their father’s death, especially among propertied families and especially while their mother or grandfather was alive... individual couples did not have to accumulate material wealth by themselves to establish separate households. Rather, the material wealth for marriage was allocated by the household head. Therefore parents, in consultation

with a wider network of kin, arranged marriages” (Chen, Campbell, and Lee, 2014: 395-96). While in elite families engagement could take place when sons and daughters were still children, lower status families had a shorter engagement period since they tended not to start the search for a partner until the children were older (p. 396).

Finally, patrilineal inheritance was pervasive in late imperial China, implying that women had no property rights either as daughters or as wives. Upon their marriage, women became subordinate to their husband. It is puzzling to note, however, that this situation was not observed before the 14th century. It is actually the Mongol invasion of China in the 13th century that seems to have precipitated a lasting transformation of marriage and property laws that deprived women of their property rights and reduced their legal and economic autonomy. As argued by Bettine Birge (2002), indigenous social forces actually combined with foreign invasion and cultural confrontation to bring laws more into line with the goals of the radical Confucian philosophers who wished to curtail women's financial and personal autonomy. As early as in the Sung dynasty (960-1279), these philosophers sought to reaffirm classical Confucian gender roles, questioning inheritance by daughters and instead encouraging agnatic adoption to carry on family lines. They also encouraged women to donate all or part of their dowry to their husband's household and, by the end of the dynasty, judges themselves toed that line and tried to prevent women from leaving marriages with their personal property (pp. 143-44). It therefore appears that in China, too, there has been no such thing as a monotonous transformation of family institutions, property rights and gender roles: in early times, the rights of women were remarkably well established.

In general, evidence regarding recent trends in household living arrangements in developing countries is far from settled. Due to lack of systematic census samples from these countries before the mid-twentieth century, there is an ongoing debate between two views. According to the first, economic development is associated with a decline in family complexity

and inter-generational co-residence, as attested by clear evidence from Japan, Korea and Taiwan. Upholders of the second view, however, suggest that there have been no clear trends in co-residence in developing countries (for references, see Ruggles, 2009: pp 250-51). In his own work, Ruggles (2009) compares the recent trends in the probability that elderly people stay with a child in developing countries (since 1950) to those detected in developed countries at comparable stages of economic growth. Controlling for the importance of agriculture in the economy and for demographic conditions, he concludes that the trends are similar. However, when the trends that are compared concern the importance of multi-generational families with two or more married children (that is, joint families), the trends appear to be different, with Europe and North America being much less likely to have this type of living arrangement (Ruggles, 2010).

3.3 Transformation of the family: Looking for the big picture in world and European history

Regarding the dynamics of the family, attention of the economics profession has been mainly focused on the way inter-personal transfers are affected by welfare state policies: this is usually referred as the crowding-out effect, which we are going to consider shortly in Section 4. Economists also often point out that the displacement of the insurance function of the family may be the result of market development. Here, alternative mechanisms mainly consist of insurance markets and self-insurance possibilities through savings accumulation and better income diversification. The process may not necessarily lead to the complete disappearance of the kinship group but, instead to its erosion and diminished effectiveness. This is evident if improvements in future income prospects benefit the best of the kinship group who are then prompted to exit, thereby making the rest of the group worse off (Platteau, 1991, Fafchamps,

1992). Beyond that rather narrow yet important concern, economists have contributed very little to the understanding of the issue of dynamic transformation of the family. Mention may be made of the aforementioned paper by Alesina and Giuliano (2015) which adduces evidence that market development displaces the family. Their analysis is based on reduced-form cross-country regressions and to measure the importance of the family, they rely on subjective variables drawn from the World Value Survey. The mechanism proposed (but not strictly tested) to explain family displacement is the increasing opportunity cost of participation in familial activities that market development entails (a point earlier made by Hoff and Sen, 2005: 183, for example). It is thus implicitly assumed that the multiple advantages provided by the family are not enhanced, or not enhanced too much, by market development. Using micro-level historical data, Aldashev and Guirkingner (2016) provide evidence of the decreasing importance of the family in regulating access to land and labour when Kazakh nomads sedentarized during Russian colonization in the early 20th century. Specifically they show how the rules governing land and labour allocation at the supra-household level evolved towards greater decentralization. This process of individualization at the clan level is similar to the processes described in the section on the individualization of farming households (Sections 2.1 and 3.1).

Compared to these limited contributions by economists, the works of historians and political scientists appear to be much more ambitious and of potentially greater significance. We shall see that recently a few economists have started to look at some aspects of the wider issues of family dynamics, where the family is considered as a network with multiple functions, not only economic but also political, administrative, military, and judiciary. One of the most fascinating questions that arise with regard to this dynamics can be stated as follows: why is it that, unlike many other regions in the world, Western Europe succeeded in suppressing the forces of kinship groups at an early stage of her history? Before we address this question, we illustrate very summarily the persistence of some form of clan-based organization in two

important regions of the world, the Middle East and China. Once this is done, we look at the experience of Western Europe and the dominant explanation for the early demise of clan-ism there.^{xxi}

The Middle East and China

Islam was born in a region riddled with tribal warfare and it is therefore not surprising that the Prophet and the succeeding caliphs were eager to build a state based on an unifying ideology. Because it emphasized universal human equality before God, the new faith was apparently well designed to transcend tribal affiliations and the associated loyalties. This theme has been recurrent in the history of Islam and great hopes were repeatedly placed in the capacity of Islam's central concept of umma (the universal community of the Muslims) to put an end to internal splintering and social fragmentation. The achievements of Islam as an unifying ideology have proven quite dismal, however (see Platteau, 2017). During the Umayyad period already, tribal divisions and animosities precluded the formation of a strong centralised state. It did not take long before the new Muslim elite "realised that the tribal identification was too well rooted in Arabian society simply to be abolished by decree or swept aside by a few measures that tended to transcend the exclusiveness of the tribal bond. The success of the integration of the tribesmen into a state, then, depended as much upon their ability to use tribal ties for their own ends as it did upon their ability to override those ties" (Donner, 1981, p. 258 –also cited in Fukuyama, 2012, pp. 195-96). Thus, under the Abbasid rulers who succeeded the Umayyads, power continued to rest less in abstractions like the 'state' than in the extended households of the leading figures of the military elites (Berkey, 2003, p. 214).

To overcome tribal or kinship divisions, Abbasid rulers resorted to a system known as military slavery: they recruited slaves of foreign origin to form the core of their army and thus

hoped to build up more reliable loyalty. Since they were kidnapped as children and then raised in artificial households, the slaves were expected to be intensely loyal to their master, the only person they could identify with. In the complete absence of kinship ties, their loyalty was owed to the caliph presented as the superior embodiment of the state and the public interest. The success of military slavery in defeating the centrifugal forces of tribal fragmentation did not prove durable, however. In the Ghaznavid and Egyptian Mamluk cases (the Ghaznavid empire was a Turkic successor state centered in Afghanistan), the decline of the state was essentially caused by the reappearance of kinship and patrimonialism within the Mamluk institution itself. In Egypt, this failure was compounded by the fact that the Mamluks escaped civilian control and turned the country into a military dictatorship (Hodgson, 1974b, pp. 39-57; 267-8; 415-22). As for the Ottomans, they were clearly more successful since, for nearly three centuries, they kept the military under firm civilian control while banishing patrimonialism and tribal-based cronyism from their state machinery. Yet, in Turkey too, patrimonialism eventually returned and the hereditary principle was reasserted from the late 17th century onward, sealing the gradual decline of the empire (Fukuyama, 2012, p. 201; Hodgson, 1974c, pp. 99-133). Furthermore, even during the era of stability and prosperity, the Ottoman state was much more successful in reducing the influence of tribal organisations in the Anatolian and Balkan heartland than in the Arab provinces, and particularly in the peripheral Bedouin communities (p. 230).

Interestingly, the deleterious process of what Fukuyama labeled the ‘repatrimonialisation’ of the state –the successful efforts of kin groups to reinsert themselves into politics– was observed not only in the Middle East but also in China, as witnessed by the decay and eventual demise of the Han dynasty. There, too, state institutions had been created to overcome the limitations imposed by clan-based societies and make the individuals loyal to the state rather than to their specific kin group (Fukuyama, 2012, Chap. 9, and p. 229). In fact, the whole history

of unified China can be seen as an endless struggle between the Confucian and the Legalist traditions, the former tradition serving to justify a family-based socio-political structure and the latter serving to advocate the establishment of a strong centralised state. Family and kinship were at the core of any Chinese patrimonial order that existed, and Confucianism is a philosophy that propounds a broad moral doctrine of the state modeled on the family. According to this doctrine, if a conflict of interest arises between duty to one's father and duty to the state, the former should always trump the latter: family obligations carry more legitimacy than political ones. By contrast, the Legalists saw Confucianism and its glorification of the family as a serious obstacle to the consolidation of political power. Their central concern was to make subjects obey a strong central authority even by inflicting the harshest punishments on them (pp. 119-21). In the succession of Chinese dynasties and during the chaotic transitory periods, impersonal dictatorial regimes inspired by the commandery/prefecture structure of the founding Qin monarchy, which the Legalists favoured, alternated with attempts to restore a feudal order that entrusted subordinate kingdoms to old families, which Confucianists promoted (pp. 128-32).

In late imperial China (during the Sung dynasty), a period to which we have referred in the previous section, the clans were obviously wielding significant administrative and judicial powers that the Chinese state delegated to them. They collected taxes from their members, were legally liable for their criminal conduct, and cooperated with the magistrates in the provision of public goods. This delegation was the outcome of a genuine cooperation between the state and the clans: the former, indeed, deliberately reinforced intra-clan cohesion by adopting regulations such as linking rights to purchase land to membership in local clans, regulating geographical mobility, and rendering the lineage collectively responsible for crimes committed by individual members (see references in Greif and Tabellini, 2011).

In the cases of both China and the Middle East, processes of reversion to patrimonial or clan-based rule (repatrimonialisation) were possible because clans and tribes continued to exist outside the ambit of the central state and posed a continuous threat to its persistence, or because the official classes wanted to emulate this dominant type of social organisation. In order to survive, central rulers had to tightly control clan heads and rely on their support (see Greif and Tabellini, 2010, 2011, for a comparison between China and Western Europe). Observation of the present and recent past in Muslim lands confirm that tribal affiliations have remained omnipresent and practically untouched in many places, especially through the Arab Middle East. This is particularly evident in the cases of Afghanistan, Iraq, Lebanon, Lybia, Syria, Yemen, Pakistan, and the Caucasus countries where Western powers and Russia learned the lesson through bitter experiences of failed interventionism. In Saudi Arabia, too, tribalism persisted to the present day. In this country, however, a single tribe, the Saudis, succeeded in appropriating power and establishing a strong monarchical rule resulting in political stability.

Western Europe

In the light of the above evidence, it is remarkable that local communities and groups organised around tightly bonded kinship groups claiming descent from a common ancestor disappeared from Western Europe a long time ago, before the advent of feudalism. The question as to how is it that, so early in her history, Western Europe succeeded in eliminating extended families and their communal logic even before the forces of the modern market and the industrialisation set in, is therefore of considerable importance. In the words of Fukuyama (2012):

“Rather than being the outcome of these great modernising shifts, change in the family was more likely a facilitative condition for modernisation to happen in the first place....

European society was, in other words, individualistic at a very early point, in the sense that individuals and not their families or kin groups could make important decisions about marriage, property, and other personal issues. Individualism in the family is the foundation of all other individualisms. Individualism did not wait for the emergence of a state declaring the legal rights of the individuals and using the weight of its coercive power to enforce those rights. Rather, states were formed on top of societies in which individuals already enjoyed substantial freedom from social obligations to kindreds. In Europe, *social development preceded political development*” (pp. 239, 231).

Fukuyama proposes an explanation based on the four following facts. First, an important step in the individualization process is the ability of individuals to dispose of their land and chattels as they see fit and without necessitating the approval of many kinsmen. Even more important is the emergence of women’s rights to hold, bequeath, and dispose of property, which marks a rupture with agnatic societies where women achieve legal personhood only by virtue of their marriage and mothering of a male in the lineage. In this regard, it is a noteworthy feat that from at least the 13th century, English women could not only own land and chattels but they could also sue and be sued, and make wills and contracts without permission of a male guardian. Such rights are inconceivable in a patrilineal society in which property is under the control of the lineage (Fukuyama, 2012, p. 233).

Second, as demonstrated by Marc Bloch (1961), large agnatic lineages tracing descent to a single ancestor had practically disappeared from Western Europe by the 12th century: “The Roman *gens* had owed the exceptional firmness of its pattern to the absolute primacy of descent in the male line. Nothing like this was known in the feudal epoch” (p. 137). Because Europeans in the Middle Ages did not trace their descent unilineally through the father, the boundaries between lineage segments could not be maintained, and “the group was too unstable to serve as

the basis of the whole social structure” (p. 138). One of the origins of this instability is the system in which the ties of relationship through women were nearly as important as those of paternal consanguinity, as witnessed by the fact that there was no fixed rule regarding name-giving: children took their names either from the father or the mother (p. 137). As a consequence, there was often no feeling of belonging to one family to the exclusion of the other, and blood feuds became confusing enterprises.

The central message is that in Europe, feudalism did not break large kin networks as is sometimes believed. Instead, individualised families formed the basis on which feudalism was erected. As a matter of fact, it is because the protection of individuals against the security threats caused by the disintegration of the Carolingian Empire could no more be properly guaranteed by kin networks that many people sought or accepted ties of personal dependence vis-à-vis strongmen. True, physical insecurity and the disruption of trade also pushed urban dwellers to retreat into self-sufficient villages which, combined with the collapse of larger political structures, did rekindle kinship groups to some extent. Yet, Europe’s agnatic lineages had been too weakened before to be a source of effective support for their members during these times of troubles, and an alternative had therefore become necessary.

Third, following an argument made by Jack Goody (1983), the transition to a new family system departing from the strongly agnatic or patrilineal pattern of the Mediterranean region can be attributed to the actions (and institutional interests) of the Catholic church. Reforms initiated by pope Gregory I (in late 6th century), later strengthened by those of Gregory VII (in the 11th century), had indeed the effect of dramatically transforming the structure of the family and the nature of gender relations. They consisted of a number of prohibitions against practices, called ‘strategies of heirship’ by Goody (1983, p. 42), that allowed kinship groups to maintain their control over property when it is transmitted across successive generations: marriages between close kin, levirate, adoption of children, concubinage, divorce, and remarriage. The

Church also curtailed parents' ability to retain kinship ties through arranged marriages by requiring that the bride gives her explicitly consent to the union. To understand the importance of the 'strategies of heirship', it must be borne in mind that in those times, the probability that a couple would produce a male heir surviving into adulthood and thus able to carry on the ancestral line was quite low. By severely restricting the avenues available to families for bequeathing land and property to descendants in the absence of a biological male heir, and by simultaneously encouraging voluntary donations to the Church, the Gregorian reforms created a situation in which this institution could benefit materially from a growing pool of Christian dying heirless. It is hard to imagine that these effects were unintended: "It does not seem accidental that the Church appears to have condemned the very practices that would have deprived it of property" (p. 95).

Women occupied a pivotal position in the church's strategy because, once they were given the right to own property and dispose of it as they wished, they became a large source of potential donations, mainly as childless widows and spinsters. Thus, if a widow is not compelled to remarry, she can enter a nunnery and her property would then escape the kinship group and accrue to the Church. By undermining the principle of unilineal descent, the awarding of property rights to women thus "spelled the death knell for agnatic lineages", and thereby ushered in a new family system in Western Europe (Fukuyama, 2012, p. 238). It is revealing in this regard that the kinship structures of the German, Norse, Magyar, and Slavic tribes dissolved within two or three generations of their conversion to Christianity, and that there is a large and significant negative correlation between the spread of Christianity (for at least 500 years) and the absence of clans and lineages (Korotayev, 2003).^{xxii} Fukuyama has characterised this massive change in a particularly vivid manner:

"Europe (and its colonial offshoots) was exceptional insofar as the transition out of complex kinship occurred first on a social and cultural level rather than on a political

one. By changing marriage and inheritance rules, the church in a sense acted politically and for economic motives. But the church was not the sovereign ruler of the territories where it operated; rather, it was a social actor whose influence lay in its ability to set cultural rules. As a result, a far more individualistic European society was already in place during the Middle Ages, before the process of state building began, and centuries before the Reformation, Enlightenment, and Industrial Revolution.” (p. 239).

Goody’s thesis seems to be supported by hard evidence. Thus, a recent study by Schulz (2017) has shown that countries with high cousin-marriage rates are more likely to be autocratic, and those with lower rates more likely to be democratic. Moreover, the Church’s ban on kin-marriages had a significant influence on political, economic, and demographic development: more comprehensive and longer-duration bans on consanguinity are associated with stronger state formation, higher population density, and more advanced urbanization. This is especially true of areas dominated by Western Christianity compared to those dominated by Eastern Christianity where the ban of the Church on consanguinity was actually less comprehensive.

Four, feudalism which substituted for weak kinship groups in times of troubles, resulted in the rise of an entrenched blood nobility that accumulated considerable wealth, military power, and legal prerogatives. That social institutions were based on feudalistic rather than kin relations proved to be critical for the subsequent political development of Europe. Indeed, although feudalism formalised a highly unequal and hierarchical society, it had the advantage of resting on contract obligations and broadening the understanding of legal personhood. It is no coincidence, therefore, that peasant revolts were framed in a language stressing breach of contract on the part of landlords. Moreover, once the rights of a feudal lord were legally established, they could not be constantly renegotiated in the way that authority within a lineage was (Fukuyama, 2012, p. 240). In China, by contrast, local power holders never had the legal

legitimacy that they earned in Western Europe, and they were never powerful enough to force a constitutional compromise on the monarch (p. 132).

Also supporting the idea that the disappearance of clan-based organisations in Western Europe worked in favour of that region is an argument developed by Avner Greif (2006a, 2006b). According to him, the decline of large kinship groups during a period in which the state was also disintegrating and the Church's secular authority was diminishing, created the need for a new solution to collective action problems. That solution turned out to consist of corporations, that is, voluntary, interest-based, self-governed, and intentionally created permanent associations possessing legal personality. Guilds, fraternities, universities, communes, and city-states are some of the corporations that have historically dominated Europe. They were to play a critical role in the long-term development of Western Europe. An illustration is provided in a recent paper by David de la Croix, Matthias Doepke, and Joel Mokyr (2016). The starting point is the following: it is mainly because she possessed superior institutions for the creation and dissemination of productive knowledge that Europe was able to pull ahead of other world regions at the times of the Industrial Revolution. Worth singling out are the apprenticeship institutions developed during the Middle Ages and based on the person-to-person transmission of tacit knowledge, the young learning as apprentices from the old (Mokyr, 2002). Institutions such as the family, the guild, and the market organised who was going to learn from whom. The original contribution of de la Croix et al. lies in a formal argument according to which medieval European institutions such as guilds, and specific features such as journeymanhood, offered Europe a decisive advantage over regions that relied on the transmission of knowledge within extended families or clans.

One of the reasons why guilds appeared in Europe is that the dominance of the nuclear family in this region created a need early on for organisations that cut across family lines. Moreover, because guilds had many antecedents that had a similar legal status, such as

monasteries, universities or independent cities, earlier institutional developments may have made the adoption of guilds in Europe much cheaper compared to clan-based societies. Other regions of the world had less to gain from adopting new institutions, since the clan-based system performed well for most purposes. China, for example, whose society was built on strong clan structures inherited from long time past, did not adopt the guild system presumably because the clan provided a number of advantages –mutual insurance, provision of public goods and intra-group cooperation, effective enforcement of contracts through kin-based ‘limited morality’– that would have made its abandonment quite costly (Platteau, 2000, Chap. 6-7; Greif and Tabellini, 2010, 2011, 2015 ; Greif, Iyigun, and Saxon, 2012 ; Greif and Iyigun, 2013). The same argument probably also applies to India and the Islamic world (Kumar and Matsusaka, 2009).

The conclusion drawn by Fukuyama (2012) emphasises the unique nature of the Catholic church which allowed it to play a central role in the economic and political development of Western Europe. Unlike in the world of Sunni Islam and in India where “religious authority never coalesced into a single, centralized bureaucratic institution outside the state”, the Church “is intimately bound up with the development of the modern European state, and with the emergence of what we today call the rule of law” (p. 241).

An unresolved problem with the above view of the historical role of Christianity, however, is the following: why is it that, until recently, some areas that are located in the heart of western Europe and were parts of the Roman Empire, such as Italy and southern France, have maintained comparatively large patriarchal families and the associated practices? In other words, it seems that the religious law was not equally enforced throughout Western Europe (as suggested by the aforementioned study of Schulz, 2017), and the reasons underlying this variation have not been properly elucidated. Moreover, as Goody was well aware, the motives behind the Gregorian reforms were self-interested and their positive long-term effects were

unintended and unanticipated. The defence of women's rights, for example, did not directly stem from Christian doctrine. Instead, it was opportunistically adopted as a means to fulfil a selfish objective of the Catholic church acting as a collective agent. The immediate implication is that contingent circumstances may well have driven Gregorian reforms and that another centralized church adhering to the same religious tenets may have behaved differently. It is telling that the Eastern Orthodox church did not undertake similar reforms, and that kin-based communities survived in most of the lands ruled by Byzantium (Fukuyama, 2012, p. 241). Even today, it is striking that in countries like Albania, Kosovo, Serbia, Montenegro, Romania, and Bulgaria, large family units and kin-based networks continue to be an important source of cultural identity and yield a pervasive influence on the way the economy, the society and the polity function.^{xxiii} And it is equally impressive that these networks have survived despite almost half a century of centralised communism. Precisely the same observation can be made in regard of the countries of Central Asia (Uzbekistan, Kazakhstan, Turkmenistan, Kirguizistan, Tajikistan) which were part of the Soviet Union. Unlike the Catholic church, the Russian Orthodox church proved to be a conservative institution unable to reform itself (Riasanovsky, 1993; Obolonsky, 2003).

The important and generally overlooked lesson from the foregoing discussion is that the family system may greatly impede the ability of a society to endow itself with an effective centralised state. Whether such a state is bent on improving the welfare of its people or to pursue the aim of self-aggrandizement is another matter that only shows that appropriate family structures are a necessary but not sufficient condition for long-term development. Since family patterns themselves embed deep-rooted cultural values, modernization typically requires or involves a cultural revolution. In Western Europe, it appears that in a rather inadvertent manner, the Catholic church gave a strong helping hand to such a revolution.

4. Transformation of the household and the family: public interventions

Our historical accounts have provided examples of the crucial influence that the state may have in triggering changes of the household and of the family. In this section we take a contemporaneous perspective and discuss the transformations of the household and the family resulting from two types of public interventions: welfare policies that unintentionally affect the organization of households and families, on the one hand, and family laws explicitly aimed at changing the family, on the other hand. In order to put these public interventions in the right perspective, we first need to highlight the motives which may prompt a state to initiate them. This implies that we carefully examine the main potential sources of inefficiency in households and families. Also, we should not lose sight of the fact that many public actions and laws are designed to correct inequalities and fight against institutional traits deemed to be unfair. Before embarking upon the discussion, a remark is in order. In this section, because many family laws affect both the household and the family, we look at those impacts simultaneously. For example, in matrilineal societies a law enhancing the inheritance rights of direct descendants of the deceased may not only encourage household nuclearization but also reduce the power of the matri-clan. We will see that the same argument applies to welfare state policies.

4.1 Efficiency of the household and the family

The issue of the efficiency of intra-household resource allocation is at the heart of most contributions of economists to the understanding of the household. In classic empirical analysis of consumption data from developed countries, efficiency is very rarely rejected (Browning et al. 2014) and this conclusion is reflected in the body of assumptions that underlay most theories of the household. The canonical model has thus become the collective model understood as a

decision mechanism leading to Pareto-efficient outcomes. In an analytically convenient form, utilities are assumed to be transferable, in which case efficiency becomes equivalent to simply maximizing the aggregate welfare of the household members. As pointed out by Browning et al. (p. 103) there are two situations in which the efficiency assumption fails to apply. The first situation is when existing social norms prescribe patterns of behavior that conflict with efficiency. In Section 3.2, we have thus seen that in patriarchal households (in southern Europe in particular), women may be prevented from seizing upon off-farm labour opportunities. The second situation may arise because some decisions are taken only once (or a few times), thus giving rise to a commitment problem. In this case, the repeated-game argument does not apply and any inability of household members to commit may obviously result in inefficient outcomes. This problem is serious as, for example, it is impossible to credibly commit not to divorce. This second situation raises concern about the relevance of the static efficiency assumption in collective models of household decisions.

This concern is all the more serious as empirical studies from developing countries, or studies based on experimental methods rather than on the analysis of consumption data, tend to reject efficiency in intra-household allocation. Following Udry (1996) who shows that labour allocation across family plots is not Pareto efficient using micro-data from Burkina Faso, a series of papers have confirmed that productive efficiency is violated in large households cultivating both collective and individual plots (Goldstein and Udry, 2008; Kazianga and Wahhaj, 2013; Guirkinger, Platteau, and Goetghebuer, 2015, Kazianga and Wahhaj, 2016). Another strand of the literature rejects inter-temporal efficiency in consumption by showing that risk-sharing is not perfect within households (Dercon and Krishnan, 2000, Duflo and Udry, 2004, Goldstein, 2004). Experiments offer another promising avenue to evaluate intra-household efficiency and the process of intra-household decision making. A recent review of this literature by Alistair Munro (2015) concludes on the basis of evidence from more than 20

different countries that “evidence of joint payoff maximization between spouses is rather thin on the grounds” (p.36).

In the above discussion, it is clear that attention is limited to what happens inside the household. The issue of *inter*-household resource allocation is therefore ignored. This would not matter if markets were perfect or if a perfect state could substitute for imperfect markets. As we know, however, such an assumption is especially restrictive in the context of poor developing countries. As a consequence, the organization of the family (a household-linking network) becomes fundamental and an analytical approach limited to the question of intra-household efficiency is unsatisfactory. For instance, splitting of a stem household may be seen as a response to imperfect land markets. The question as to whether the branch household remains or not part of the family then becomes crucial since continued membership of the family may condition access to critical services (e.g. insurance, credit, asset pooling, information, etc...). And if the family operates as a perfect “internal” market or as a perfect mini-state, first-best efficiency could be achieved. This is very unlikely, though, because the size of the family is typically predetermined and it may be infra-optimal for the efficient fulfilment of services (such as credit, insurance, etc...), and because the family is vulnerable to collective action problems.

Supporting evidence for family imperfections comes primarily from the literature dealing with informal insurance and with contract enforcement. Regarding insurance, all recent survey papers emphasize the following: while intra-family risk-sharing undoubtedly exists, it is only partial, not complete, and the poorest category of people tend to be excluded (Morduch, 1999, Platteau, 2006, Cox and Fafchamps, 2008, Fafchamps, 2009). These findings confirm the theory according to which informal insurance is plagued by incentive problems. Concrete examples of the existence of these incentive problems are found in recent contributions showing that people may resort to costly strategies to avoid their obligations vis-à-vis their families

(Baland, Guirkinger and Mali, 2011, Jakiela and Ozier, 2015, Boltz, Marazyan and Villar, 2015). Insurance-oriented voluntary transfers are increasingly distinguished from asymmetric transfers that tax the successful individuals to dampen inequality. These taxes have obvious efficiency costs as they discourage investment and risk-taking, and it seems that these costs increase as market opportunities expand (Platteau, 2014). As for contract enforcement, bear in mind the aforementioned works of Avner Greif who lays stress on the fact that the size of the community (family), which typically has multiple functions, is not determined by the need for effective contract enforcement alone. It may therefore be suboptimal from that point of view, and it risks being increasingly so as market opportunities are expanding.

The problem of the inefficiency of the family is compounded when administrative, judiciary, political and military functions are considered. Indeed, families may wield enough power to block political change at the upper level, thus preventing the rise of a strong state able to perform the tasks required for modernization. These tasks include the integration of the economic space, the building of communication and other infrastructures over the national territory, the creation of law and order institutions over a unified political space, as well as the generalization and systematization of the use of uniform measures and standards, all steps that have the effect of encouraging market integration and division of labour. In short, familial authorities may defend a political order that suits their own immediate interests at the price of dynamic efficiency losses.

In a context of absent or highly imperfect markets, and of imperfect families and central state, second-best efficiency is the best outcome that can be aimed at. Reflected in trade-offs that imply efficiency losses, it is well illustrated by most models reviewed in Section 2.1. Consider first the model of Foster and Rosenzweig (2002). Although intra-household resource allocation is assumed to be optimal, an efficiency loss is unavoidable in so far as preference heterogeneity conflicts with scale economies. The former requires an organization of the

household (its division in smaller units) that is potentially too small to optimally exploit scale economies (if they turn out to exist), and vice-versa. In theory, the above conflict could be avoided if household composition could be adjusted in such a way that members have homogeneous preferences. But this condition is not satisfied in reality. In another model, that of Delpierre, Guirkinge, and Platteau (2016), the potential trade-off is between productive inefficiency and risk-sharing. The former arises from a moral-hazard-in-team problem while the latter takes the form of equal distribution of the farm collective output and private, voluntary transfers. Since the private transfers are also allowed in the event of splitting, the model implicitly assumes that a family subsists after splitting and fulfills an economic role. Because of that assumption, it may be the case that the above trade-off vanishes and the household splits (still the outcome is second-best efficient owing to commitment problems).

In the model of Guirkinge and Platteau (2015), the assumption of household-level efficiency is relaxed: asymmetric information between a patriarch acting as principal and household members acting as agents gives rise to two kinds of inefficiencies: one caused by the moral-hazard-in-team problem and the other arising from a share contract of labour remuneration. The decision to allocate private plots or to split the household depends on the way the trade-off between productive efficiency and the rent extracted by the principal is resolved in a context of imperfect markets.

Lastly, the model of Bardhan et. al. (2014) is peculiar in that no trade-off persists at equilibrium. This is because the authors assume not only intra-household allocative efficiency but also the existence of perfect input markets. These markets allow households to achieve a size that precludes any productive efficiency loss. More precisely, they assume that there exists a collective action problem at the level of the household, yet this problem can be overcome through a recourse to the labour and land markets.

A last but important remark is in order. Public interventions are not only justified on the grounds of efficiency but also for the purpose of improving equity. At the level of the household, among inequities that call for mitigation, the one that has drawn most attention from social scientists is gender asymmetry. Note that in this case, equity costs are often accompanied by efficiency costs (as in the case of social norms barring women from outside employment). Another important type of intra-household inequalities that also gives rise to inefficiencies, lies in the asymmetry of power between the older and the younger generations. Thus, the existence of a strong patriarchal authority may have been justified when solving collective action problems was crucial for the subsistence of household members. Yet it becomes an obstacle to development when the young generation possesses modern skills and knowledge that the older generation lacks.^{xxiv} All these problems arise not only at the level of the household but also at the level of the family or the clan. In this connection recall the aforementioned theory of Pensieroso and Sommacal (2014) according to which, when technical progress is fast enough, an efficient transition occurs from coresidence to non-coresidence and the social status of the elderly should deteriorate. If, however, the shift in living arrangements is explained by cultural factors, as reflected in the direct taste for co-residence, the economy experiences a reduction of the growth rate along a balanced growth path.

We are now ready to consider a variety of public actions designed to remedy a number of failures at the level of the household or the family. Before looking at them, we say a few words about public actions whose impacts on the household and the family were unintended, welfare state policies in particular.

4.2 Public actions with unintended effects on the household and the family: welfare policies

One of the primary objectives of welfare state policies is to provide effective insurance to people. In order to correctly assess their effects, a question that naturally arises is to what extent welfare schemes substitute for family risk-sharing arrangements. This has been a topic of interest to economists since data on interpersonal transfers has been more widely available. More specifically, economists have tried to estimate the reduction in inter-household private transfers following an increase in public transfers. Cox and Fafchamps (2008) provide an excellent and very detailed review of this literature. They indicate that there is an “exceedingly wide” range of estimates of crowding-out in the literature, with a modal or medium transfer derivatives suggesting that an increase in 1 dollar of public transfer decreases inter-household private transfers by about 20-25 cents. To explain the wide differences in the estimates of the crowding-out effect, they mention differences in data collection, in estimation strategies but also in transfer motives. They also point out that “the current state of the art is not sufficiently developed to easily reconcile existing differences.” The handful of more recent empirical papers who report the extent of substitution between public programs and inter-household transfers (Juarez, 2009, Amuedo-Dorantes and Juarez, 2015, Hidrobo et. al., 2014, Edmonds and Shrestha, 2014) confirm that the extent of crowding-out varies substantially across studies (from nearly 0 to almost 100%).

It is remarkable that the crowding-out literature focuses on inter-household transfers when co-residence living arrangements probably constitute the most important form of insurance and redistribution. Indeed effects of social policies on household size and composition are typically overlooked in the evaluation of public interventions. An important exception is the recent paper by Hamoudi and Thomas (2014) who look at the effect of the expansion of the South African Old Age Pension program on living arrangements of beneficiaries. They show that beneficiaries of the program are more likely to co-reside with

children or grandchildren who are disadvantaged in terms of human capital. The authors speculate that the underlying mechanism is as follows: pension recipients demand greater elderly care and they seek co-residence with family members who are in a better position to care for them. Those tend to be less educated people whose opportunity cost of time is comparatively low. An important lesson from this study is that any impact evaluation of social programs that takes household composition as fixed is likely to yield biased results. The authors cite the case of PROGRESA (in Mexico) that conditions receipt of the transfer on continuously residing in the same household. As a consequence, this program reduces the incentive for an individual to leave the household or migrate out of the community in search of better prospects.

This literature suggests that in so far as states develop and take up the insurance and redistributive functions of families, the latter may reduce their involvement in those functions. Other things being equal, the expansion of social security programs is expected to reduce the role of the family and to enhance individual autonomy, particularly that of the younger generations.^{xxv} Given the varied functions that families fulfil, however, the emergence of the welfare state does not imply that they will disappear. In addition, when the state fails in condition of economic crisis, the family has been shown to be an ultimate fall-back option for impoverished members (see supra). Evidently, the family may more readily play this fall-back role when it has subsisted and be kept alive because of its other functions, such as assistance in job-search, provision of start-up capital and support for uninsurable shocks.

4.3 Legal actions aimed at changing the household and the family

Family laws immediately come to mind when one thinks of legal initiatives explicitly designed to transform the household and the family. Other laws nevertheless exist that may

have an important effect on these institutions although they are not directly concerned with matters of personal status. Laws setting minimum farmsize belong to that category and, in this instance, the lawmaker's intent is clearly to prevent excessive subdivision of farmland. This type of regulation, if effectively enforced in areas where partible inheritance prevails, should prompt household heads to shift to more exclusive rules of bequest. The size and the composition of the household would be simultaneously modified in the event that excluded children decide to stay in the stem household. Assuming effective enforcement nevertheless appears to be quite unrealistic. In pre-genocide Rwanda, for example, where land pressure was extremely high, a state decree provided that no agricultural land can be alienated or subdivided if its size is below two hectares. However, André and Platteau (1998) have argued that, although it was well known, the law was continuously violated by people eager to follow their erstwhile custom of partible inheritance. Similarly, we have seen earlier that in tsarist Russia peasants strongly resisted top-down attempts to establish unigeniture. The 20th century world experience actually confirms that it is only in brutal authoritarian regimes that such kinds of laws are likely to be strictly applied.

Family laws, to which we now turn our attention, are mostly aimed at modifying inheritance rules, enhancing women's rights, promoting monogamy, and regulating marriage and divorce. Before examining their impact on family systems, it is useful to contrast the recent evolutions of family laws in the Western world and in developing countries. Radical changes have been made to family laws in the last century in many Western countries, including authorizing and then simplifying divorce procedures, changing the rules governing property rights within marriage and child custody, and changing inheritance rules (to the benefit of the surviving spouse). It is more difficult to summarize recent changes in family laws in the developing world as wide heterogeneity exists and degrees of enforcement may substantially vary. In their review of legal traditions in family laws in the "global South", Htun and Weldon

(2012) distinguish four traditions that have undergone distinct changes in recent times: (i) Islamic family laws; (ii) multiple legal systems; (iii) civil law and (iv) socialist and communist law. It is beyond the scope of this review to summarize the characteristics of each system, as described by these authors. We refer the interested reader to Appendix I where the main trends of recent family reforms under the different systems are briefly sketched.

There are unfortunately very few studies that assess the impact of family laws in a reliable manner and in the context of developing countries (there are indeed many attempts to measure the impact of divorce laws in the United States). Existing studies are mainly concerned with changes in inheritance law, the 2005 reform of the Hindu Succession Act in India, in particular. Undertaken in some states, this reform grants the same rights to daughters and sons. Deininger et. al. (2013) review the effect of the law on inheritance practices and educational outcomes. They conclude that the legal reform has improved the situation of the daughters on both counts. However, these results are challenged by Roy (2015) who convincingly shows that the reform did not increase the propensity of a daughter to inherit land, but instead increased the compensatory transfers to daughters in the form of dowries or increased education. Interestingly, social scientists have also pointed to this type of indirect and moderate effect. For example, as a way of compensation for their de facto exclusion from land inheritance, women of Niger receive part of the crop harvested on the family land by their brothers under an arrangement known as *aro* (Cooper 1997: 78).

Four other studies by economists have shown how the above change in the Indian law has yielded even more subtle effects on other planes of women's life and wellbeing. Thus, Rosenblum (2015) suggests that it has had adverse effects on female child mortality. Anderson and Genicot (2015) find that it decreased the difference between male and female suicide rates, but increased both female and male suicide rates. They rely on a model of intra-household conflict to explain their results: increased access to inheritance raises a woman's bargaining

power with the consequence of engendering more conflicts over household resources. In the same line, Bhalotra et al. (2016) have highlighted another perverse effect of the inheritance legal reform in the form of increased female foeticide. The apparent reason is that the reform raised the cost of having daughters, thereby exacerbating son preference. Finally, Mookerjee (2015) argues that women's bargaining power increased as a result of the reform, yet not at the expense of the husband but rather at the expense of the members of the extended family. Specifically, she finds that (i) the reform enhanced the propensity of young couples to reside in nuclear rather than in joint households (with the husband's parents), and (ii) even when they reside with the husband's parents, they are more likely to be involved in consumption decisions.

A couple of recent studies have examined the impact of change in inheritance laws in other countries than India. La Ferrara and Milazzo (2014) examine the effects of a reform of inheritance law in Ghana that affects matrilineal groups but not patrilineal groups. They show that the law decreases investments in son's education and they interpret the result as indicating that parents were overinvesting in education to substitute for land inheritance. Harari (2014) explores the effects of the change in statutory law that granted women equal inheritance rights in Kenya. Exploiting differences in pre-reform inheritance rights across religious groups, she finds that the pro-women inheritance reform increases their education, reduces the probability of female genital mutilation, delays marriage and improves marriage outcomes. In short, the reform empowers women, even in a context of poor enforcement. Carranza (2012) exploits changes in Islamic inheritance law to explore the determinants of son preference in Indonesia. She shows that when the Koranic inheritance exclusion rule is strictly applied, whereby the brothers of a deceased man are inheriting his wealth unless the deceased has a surviving son, couples exhibit a strong preference for sons and practice sex-differential fertility stopping. Finally, Hallward-Driemeier and Gajigo (2013) look at the effects of a reform in family law in Ethiopia. They conclude that expanding wives' access to marital property and removing

restrictions against their working outside the house raised women's outcomes on the labour market.

We evidently need more studies to confirm the above highlighted effects. This is because the existing studies concern a very limited number of countries, the identification problems inherent in attempts to measure the impact of legal change are particularly serious and the time frame used is excessively short. An interesting lesson that nonetheless emerges from the available studies is the following: any law aimed at modifying personal status and position within such a vital fabric as the family is bound to generate complex and indirect effects. It is therefore crucial to have an adequate model of the family to be able to accurately anticipate what these effects can be. This is not an easy task, however, as attested by the fierce debates around the effects of the introduction of unilateral divorce law in the United States. What appears, indeed, is that the predicted effects may vary a lot, and even be inverted, depending upon the specific setup of the model chosen (for a short review of the literature on the impact of this law, see Appendix II). In the context of developing countries where customs are typically pervasive and where families still have multiple functions, top-down changes that typically favour some categories of people are bound to generate antagonistic reactions. Since families are characterized by infinitely repeated and highly personalized relations, they are eager to avoid adversarial or confrontational relations among their members. It is not coincidental that informal justice systems are bent upon saving the faces of all the parties involved and that they use compensations as a key mechanism to settle conflicts. When changes are imposed from above, the tendency is either to ignore them or to mitigate them in a way that best preserves the tradition. This is evident when in patriarchal societies daughters do not receive land inheritance even when it is mandated by the law, but are granted material compensations to indemnify them (see above).

The question of the time frame deserves special attention in the context of family change. Precisely because of the aforementioned fact that changes in personal status are often delicate –they affect the immediate social order in which individuals are embedded in a deep manner– we do not expect them to take place in a short period of time. We have seen in Section 3.3 that the Western European family is claimed to have been deeply transformed as a result of changes in the religious law that occurred early on (as early as the 7th century). The changes spanned over centuries yet we do not know precisely how long it took for the transformation to be completed and how gradual the process of change was. In the light of this evidence, empirical economic analysis of the impact of legal changes appears to be strangely short-sighted. To stick to the reforms enacted by the Catholic Church in Europe, it appears that the impact may not even materialize over a very long period of time. This is attested by the situation observed in southern and eastern Europe. The differential impact between these regions and northwestern Europe suggests that initial family forms and/or the economic, demographic and political environment in which they operated and later evolved differed between these two broad regions. The complexity resulting from the multi-dimensional nature of the household and the family, and the varying influence of social norms governing the behavior of members vis-à-vis each other, probably explain the observed intra-European differences in the responses provided to the same legal shock.

A theory is available that sheds useful light on the complex dynamics of family change following a legal shock (Aldashev, Chaara, Platteau, and Wahhaj, 2012a, 2012b; Platteau and Wahhaj, 2014). Based on the idea of legal pluralism, it accounts not only for the less-than-perfect impact of a new family law but also for the gradual unfolding of its effects over time. According to this so-called “magnet effect” theory, there are two channels through which the impact of a legal change can make itself felt. First, there is the effect felt by the plaintiffs who go to the formal court to have a conflict around the implementation of the law settled. Formal

judges are expected to apply the law, and its impact at this level is therefore perfect. Second, there is the effect felt by those plaintiffs who prefer to maintain their ties with their original community (extended family) and therefore ask the informal local mediator to resolve the conflict. The mediator or customary authority applies the custom, yet the custom is not an unchanging norm: it may actually evolve in the direction of the law (which thus acts as a magnet) because the informal judge does not want that too many community members opt out of his judicial domain, thereby reducing his prestige and authority. Overall, therefore, the effect of the law cannot be complete. On the other hand, however, it cannot be inferred from evidence of low recourse to the formal law that the latter has a zero or negligible impact.

Furthermore, the impact of the law may increase gradually over time for the following reason. When people choose to leave the ambit of their community, they can simultaneously avail themselves of increased outside opportunities, say, urban employment or self-employment opportunities. A sudden expansion of such opportunities has an effect analogous to the one of a legal reform that antagonises the custom: in both instances, the welfare prospects of individuals discriminated by the custom, say, the women, are being improved, enhancing their incentive to move from the informal to the formal (urban) sector. Now, if the outside opportunities continuously expand, two effects occur. On the one hand, more women leave their original locations in the countryside for cities where they enjoy the twin benefits of better employment prospects and more favourable judicial outcomes (in the event of a conflict). On the other hand, forward-looking informal judges or mediators, anticipating the adverse effects of this transformation for themselves, respond by relaxing the custom and pronouncing judgements that get gradually closer to the statutory law. The impact of the law thus becomes increasingly complete.

Suggestive evidence exists in support of the theory of “magnet effect”. For example, the PNDC Law 111 (1981) whereby the Ghanaian government attempted to regulate practices of

intestate succession in favour of the wives and children of a deceased man seems to have encouraged a partial shift of the inheritance custom in the direction of the Law among the Akan people traditionally governed by a matrilineal system (see Aldashev et al., 2012b; Platteau and Wahhaj, 2014: 666-72). This theory may nevertheless fail to provide a correct representation of reality in all cases, or in some important cases at least. Its main merit, perhaps, is that it points the way toward the sort of analytical effort required to achieve a more comprehensive understanding of the impact of legal reforms of the family and the (concomitant) role of the economic environment. It also yields conclusions that lie in-between excessively negative and unduly optimistic assessments. “Laws are dead letters” is a statement often pronounced by law anthropologists while among economists there is a tendency to expect quick and measurable effects of legal reforms if they can be effectively enforced.

5 Conclusion

The present review has chosen to focus on the transformation of family systems, and the whole progression of the arguments has been governed by the critical distinction between the household (a co-residence arrangement) and the family (a network linking people with consanguineous ties). Economists have studied both forms but in each case they have adopted a partial standpoint. With few exceptions, households are viewed as collective agents that, thanks to transferable utilities, can achieve efficient resource allocation. This approach assumes away the effect of social norms, such as gender patterns, and their influence on the sharing rule. In addition, it precludes the analysis of all situations where decisions are taken only once and thus give rise to commitment problems (who can commit not to divorce?).

As for families, they are mainly viewed as imperfect risk-sharing networks based on decentralised inter-individual relations. This implies not only that other critical functions of the family are ignored, in particular administrative, judiciary and political functions, but also that the existence of authority structures is generally denied. This is an unsatisfactory situation: because families are vulnerable to a number of important imperfections which include rent capture and abuse of authorities, they cannot perfectly substitute for imperfect markets and state institutions. The question therefore arises as what is the second-best optimal mix of state, markets, and families. The problem is actually more tricky than what an analysis based on the assumption of independent state, market and family institutions might suggest. As a matter of fact, insofar as families exert political influence, they are liable to block or retard the development of well-functioning markets and a strong and effective central state. Thus, familial authorities may negatively react to an encroachment of their customary prerogatives that results from new state policies and legal reforms. Their resistance often takes the form of efforts to impede or mitigate the enforcement of such reforms. Likewise, they may distort the emerging markets through nepotistic and other discriminatory practices.

Clearly, we need an approach that not only adopts a general equilibrium perspective featuring the state, the market and the families, but also allows for feedback and other dynamic mechanisms. Economists need to study how families relate to the wider society and to the polity, in a broader perspective than that adopted by the crowding-out literature. Moreover, households themselves must be analysed as parts of a family since the family sets the rules that determine the size and the composition of the households as well as their internal mode of operation (gender roles, marriage arrangements, etc.).

The dynamic aspects stressed above have to do with the interactions between the state, the markets and the families. Yet, the process of transformation of the households and the families themselves has also been under-studied by economists. The contributions of other

social scientists, family historians especially, has been much more significant and this explains why they have received great attention throughout all this survey. They have revealed that adaptation of household patterns and family systems to evolving economic, demographic and technological circumstances is conditional upon prevailing social norms, political conditions and authority systems. Inside Europe, inter-regional variations in such conditions have given rise to different paths of evolution of living arrangements: in the northwestern part of Europe, individualization of the household has been observed since the times of the decay of the Roman empire while in the southern and eastern parts, the process has been much more unequal and unstable.

Two other highly instructive lessons from our foray into history bear emphasis. First, the path of transformation of both the households and the families is not generally monotonous as is explicitly assumed in the modernisation theory and implicitly assumed in many economic approaches to long-term economic growth. For example, nuclear households may have been collectivised (that is, transformed into joint or complex households) before being re-nuclearised. Second, it is remarkable that in northwestern Europe the influence of families as kinship groups has been apparently undermined by events and religious legal reforms dating back to as early as the 7th century. In contrast, families have remained quite powerful in many other parts of Europe including in Mediterranean Europe (despite belonging to an area affected by the same legal reforms) and the Balkans, and the same diagnosis applies to Africa, the Middle East (with the notable exception of Iran), and Asia. It is again striking that transformation trajectories have not been monotonous. In the Middle East and China, in particular, periods of assertion of a strong centralised state have alternated with periods of re-patrimonialisation during which kinship groups returned to the front stage of the society and polity.

Dynamic processes of change in family institutions are therefore highly heterogeneous and complex. In spite of commendable attempts by social scientists, we are still a long way from a reasonably good understanding of the mechanisms underlying these diverse and non-linear paths of transformation. Through their analytical lens, economists should do much more to shed new light on the issues involved. Not only are such issues far from trivial but they also entail high stakes as reflected, for example, in the large efficiency and equity costs resulting from the persistence of clan-ism in many contemporary developing countries.

Finally, we cannot end this chapter without laying stress on the fact that most works of economists have centered on agricultural households and rural family networks. This focus implies that the issue of land division has received primary attention. Since intergenerational and extended households also seem to prevail in the urban areas of many developing countries, there is a clear research gap here. This gap needs to be remedied because conclusions about agricultural or rural households cannot be straightforwardly applied to their urban counterparts: traditional land-sharing arrangements, for example, cannot be found in city surroundings, even in peri-urban areas. How family firms differ from family farms and how they foster capital accumulation and growth in non-food sectors, manufacturing in particular, are thus issues of utmost relevance that have been largely ignored.

APPENDIX I: Changes in family laws in the developing world

- (i) Islamic family laws (for example, in Egypt, Indonesia, Iran, Morocco, Pakistan or Saudi Arabia) have typically changed relatively little since their recent codification throughout the 20th century. Most common adjustments were: an increase in the minimum legal age at marriage, restrictive conditions on polygamous marriages, and an expansion in women's rights to divorce. An important exception is Morocco where a major change in the family law "virtually overnight [...] eliminated most of the disadvantage suffered by women". Countries where Islamic family laws prevail sometimes go through periods of regression from the point of view of women rights. In Iran for example, the age at marriage was decreased to 9 years old for girls and 15 years for boy after the Islamic revolution. In Indonesia, the law of 1991 removed equal inheritance rights for women and the need for their consent in regard of marriage.
- (ii) Multiple legal systems are characterized by the formal coexistence of customary, religious and civil/common law. Most former British colonies are ruled by multiple legal systems in the area of family laws (for example, Bangladesh, India, Kenya, Nigeria, Malaysia, South Africa), partly as a result of the principle of non-interference in the personal laws adopted in British colonies. Legal pluralism typically leads to complex law systems that are particularly hard to implement. Also, reforms often concern one body of law but not another. Thus, in India, the reform of the Hindu Succession Act granted inheritance rights to women in 2005 while no such change occurred in the Muslim personal law of the same country.
- (iii) Civil law is the most widely used system in the world, including in Latin America, China, Korea, Japan or Ivory Coast. Family law in most civil law countries has

undergone profound transformations in the last century. Married women's property rights and civil capacity were reinforced and the clause of obedience to husband was revoked. Finally, divorce became an option. Some countries legalized divorce in the late 19th century, other in the 20th, and some in the 21st (Chile).

- (iv) Finally, socialist or communist law from civil laws have often played a key role as a vehicle of change in family matters. Thus, the Soviet decree on marriage and divorce of 1917 and the Family Code of 1918 stood in sharp contrast with the religious principles previously guiding family law. The main changes concerned divorce (made much easier) and the equality between parents. Communist states in the South (North Korea, China, North Vietnam, South Yemen, Cuba) adopted similar family laws and insisted on the free choice of the spouse (in China in particular).

APPENDIX II: The complex effects of changes in divorce law in the United States

Theoretically, most discussions on the expected impacts of a simplification of divorce procedures take Coase theorem as a benchmark (Mecholan, 2005). This theorem suggests that if a change in the law does not affect the gains from marriage, then it should not change divorce rates (the initial distribution of legal entitlements does not matter as long as they are tradable). The idea is that the law may be bypassed through ex-ante contracting between spouses intent on maximizing gains from marriage and defining property division in case of divorce. This results rest on strong assumptions regarding intra-household decision making: full information at time of marriage, no transaction costs, enforceable pre-nuptial and transferable utilities between spouses. Mecholan (2005) notes that none of these assumptions are defensible in regard to the issue of marital dissolution. Under more reasonable models of intra-household behavior, predictions about the impacts of divorce laws are more complex and critically depend on modelling choices (regarding intra-household bargaining, household production and the transferability of utilities, in particular). Wickelgren (2009) or Browning et al. (2014) explore specific cases in detail. An important insight emerging from these studies is that modelling assumptions crucially affect not only the predictions about divorce and marriage rates but also the expected welfare implications of the legal change.

Beyond the question of the adequate model of intra-household bargaining, a general equilibrium perspective suggests that a change in the law has additional effects on the selection into marriage and on the composition of the marriage pool. Matouschek and Rasul (2008) describe these selection effects under various theories of marriage.^{xxvi}

Turning to the empirical literature, there has been fierce debates on the impacts of the no-fault divorce reforms in the United States on divorce rates. Friedberg (1998) concluded that

“the change in the law raised divorce rates significantly, strongly and permanently”. Yet Wolfer (2006) argues (using the same data) that the divorce rate increased for one decade but that the effect reversed in the following decade. The recent work of Gonzales-Val and Mircen (2012) suggests that these studies have confounded the effect of the no-fault divorce reform and the simultaneous changes in child custody rules. They conclude that the divorce reform has led to a long term increase in divorce rates after all.^{xxvii}

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ⁱ This is because commitment problems plague voluntary transfers. A trade-off therefore subsists between inefficient joint production where income-pooling de-facto obtains and efficient individual production where commitment problems prevail.

ⁱⁱ Such a system has been widely observed, for example in the post-Carolingian manors of medieval Europe, in American plantations using slave labor and in Russian boyar estates using serf labor (Van Zanden, 2009: 56, fn. 13; Blum, 1961; Kolchin, 1987), in feudal Japanese farms during the Tokugawa era (Smith, 1959), or among estate landlords of Latin America, such as those employing inquilino laborers in Chile after the middle of the 18th century (Bauer, 1975; de Janvry, 1981).

ⁱⁱⁱ The production function used is subject to increasing returns to scale, an assumption that gives an undue advantage to collective production and therefore artificially restricts the possibilities of pre-mortem division.

^{iv} Note that the trade-off would persist, albeit in a mitigated manner, if the household head is assumed to be imperfectly altruistic.

^v It bears emphasis that the public good is excluded from the utility functions in the dynamic analysis. Therefore, the only rationale for co-residence is a greater availability of resources: young people choose co-residence if by doing so they get more resources for themselves

^{vi} When levels of altruism are so high as to correspond to those in which full risk-sharing is achieved, there is simply no history dependence.

^{vii} In primary socialization, the child does not apprehend his significant others as institutional functionaries, but as mediators of the only conceivable reality: in other words, he (she) internalises the world of his (her) parents not as one of many possible worlds, not as the world appertaining to a specific institutional context, but as *the world tout court* (p 154).

^{viii} This result continues to hold if what is explained is not the presence or absence of private plots but the share of the family land that is earmarked for individual cultivation.

^{ix} More precisely, endogeneity would be present if sons are prone to leave the family farm when no individual plots are awarded by their father. The absence of individual plots would then appear, spuriously, to arise from small families and land abundance.

^x Thus, “a brother resented having to work twice as hard, or so he believed, because one of his brothers had twice as many children” (Worobec, 1995: 81).

^{xi} The tendency for households to split in such conditions was accentuated by the fact that wage-earning members sometimes resented having to pay towards the upkeep of their father's households. If so, they tried to keep all or part of the money for themselves, rather than hand it over to the head, which could lead to severe conflicts and determine them to demand partition “so that they could become the masters of their own households” (pp. 176, 196).

^{xii} In particular, peasants started regrouping their fields in contiguous parcels near their farmsteads, some customary holdings were converted into leasehold thereby activating a land market, labour hiring became the dominant contractual relationship, tenants were increasingly mobile both within and across villages with the consequence that family continuity through inheritance was under threat, and the leasing out of demesne land to tenants by absentee landlords became increasingly frequent.

^{xiii} Note that this definition of early modern history departs from the conventional definition that extends from the 16th to the 18th century.

^{xiv} The crucial difference between freeholders (a minority of peasants in the Middle Ages) and villeins is that the former paid their rents in money or kind, and were therefore exempt from the labour services which the latter were compelled to supply to their lord (Seccombe, 1992: 88). It is therefore more justifiable to analyze villeins than freeholders as agents possessing private plots inside a collective hierarchical structure to which they must provide labour services.

^{xv} In a rural sample, marriage was so late that only 40 percent of the unmarried people under the age of 25 lived with both a father and a mother who were still alive (Neven, 2003: 245 – cited from Oris et al., 2014: 272).

^{xvi} All the old legal traditions –Roman, Lombard, Germanic, and Frankish– envisioned that land should be partible among heirs, and it is revealing that there were no powerful overlords in the corresponding territories. With the spread of feudal tenure in the post-Carolingian age, more varied inheritance rules began to prevail that affected real property and the organization of families. It is only in a second phase of evolution starting roughly in 1300 and continuing well into the modern age that landed noble families adopted ever more commonly the rule of unigeniture, typically primogeniture. Before that date, fiefs tended to be both heritable and partible. It is also striking that the new practice, and the dynastic lineage intimately connected with the rise of feudal principalities, were not universally followed by the nobility, being much more widespread among the high feudal nobility (the territorial princes and the great barons) than among the rear and petty vassals and the knights who were often granted the right to partition their fiefs (Herlihy, 1985: 88-95).

^{xvii} For example, even in the case of primogeniture, whereas nobles selected an heir on the basis of strictly predetermined criteria (typically, birth order), among the peasantry the ‘hearth heir’ custom allowed a father to choose a successor on his merits (competence and commitment to the family farm). Following this flexible principle, peasants were inclined to give a preference to a son who had remained loyally at home over another who had migrated and whose return was uncertain.

^{xviii} The origin of pre-mortem inheritance, it is speculated, lay in the seigneurial drive to replace the elderly, elderly widows in particular, with young and vigorous males. In this process, impatient heirs eager to move into full tenancy were tactical allies of local lords (Seccombe, 1992: 101)

^{xix} As a matter of course, the objectives of compensating non-heirs (including daughters in the form of dowries) and retaining the family holding intact was easily met when the family was rich enough to provide them with non-land assets or cash sufficient to form a good starting capital (Howell, 1976: 139, 153-55).

^{xx} In Chippenham, in particular, the granting to younger sons of small portions of land which were not in themselves adequate for support “merely weakened the main holding” in the sense that it could not be maintained intact and could even be brought close to ruin. This is because it had to support the burden of compensations which could not be provided without eroding the farm’s capital. On the other hand, the small bequests of land to the younger sons often ended up in the hands of rural moneylenders-cum-landowners (enterprising yeomen who built up their holdings by acquiring mortgages while they were still farming) because they were not viable economic concerns and could not weather bad harvests or other adverse shocks. The same effects frequently obtained when, instead of receiving portions of the family land, the younger sons received a cash sum “to start them off in life” (Spufford, 1976: 161-66; see also Thompson, 1976: 346; Schofield, 1989 and Todd, 1990: 38, 44).

^{xxi} This part is heavily inspired from Platteau (2017, Chap. 10, Sect. 3).

^{xxii} Even among the Germanic tribes, by as early as the 8th century, the term ‘family’ denoted one’s immediate family and it did not take long till the tribes became institutionally irrelevant. In England, court rolls testify that in the 13th century even cousins were as likely to be in the presence of non-kin as with each other (Greif, 2006b, p. 309).

^{xxiii} In rural Montenegro, for example, villages may carry the names of the founding ancestor family and be mainly inhabited by offspring households. They then vote cohesively for a member of their clan regardless of ideological preferences based on party programmes and policy orientations (personal observation of Jean-Philippe Platteau, 2012).

^{xxiv} The increase in life expectancy complicates this problem.

^{xxv} However, if state benefits are more specifically targeted to the older age categories, household size may actually increase because the incentives to stay together are enhanced for both younger and older members.

^{xxvi} Specifically, they show how a decrease in divorce costs has opposite effects on divorce rates whether ones considers that (a) marriage provides some exogenous benefit to the couple, (b) marriage serves as a commitment device, and (c) marriage serves as a signaling device.

^{xxvii} Other impacts of the divorce law reform have been analyzed by economists including fertility (Alesina and Giuliano, 2007; Drewianka, 2008), female labour supply (Gray, 1998; Genadek et al., 2007; Stevenson, 2008), domestic violence and suicide (Dee, 2003; Stevenson and Wolfers, 2006).