



Family Types and the Persistence of Regional Disparities in Europe

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abstract

This article examines the association between one of the most basic institutional forms, the family, and a series of demographic, educational, social, and economic indicators across regions in Europe. Using Emmanuel Todd's classification of medieval European family systems, we identify potential links between family types and regional disparities in household size, educational attainment, social capital, labor participation, sectoral structure, wealth, and inequality. The results indicate that medieval family structures seem to have influenced European regional disparities in virtually every indicator that we considered. That these links remain, despite the influence of the modern state and population migration, suggests that such structures are either extremely resilient or in the past were internalized within other social and economic institutions as they developed.

Acknowledgments

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The role of institutions as factors that shape human activity has attracted enormous attention in recent years. It has become increasingly clear that institutions, such as political systems (Acemoglu, Johnson, and Robinson 2001, 2005); the legal rights of the individual (North 1990); or the various forms of “social capital” among groups (Putnam 1993, 2000; Storper 1997, 2005) can have a significant bearing on a society’s ability to generate innovation, wealth, and growth. Yet, despite this growing interest, there is little consensus about the type of institutions that have the greatest impact or how institutions and their effects evolve over time. This article examines the role within Europe of an often-overlooked institution, the family, and concludes that its importance in determining socioeconomic outcomes may have been greatly underestimated. Furthermore, the use of an historical data set allows us to present hypotheses regarding the persistence and evolution of institutions and their influence on contemporary European social and economic disparities.

The importance of institutions is usually deemed to lie in their role in reducing the risks and transaction costs of investment and exchange (Parto 2005). Dealing with another member of a community to which you belong and so with someone you either know personally or through a mutual acquaintance reduces the risk of fraud, unreliability, or incompetence (Putnam 1993, 2000); such examples can be deemed “informal” or “community-type” institutions and include norms, traditions and social conventions, interpersonal contacts, relationships, and informal networks (Rodríguez-Pose and Storper 2006, 1). Dealing with a person who is bound by law to honor a contract or a person who has been checked via a credit bureau, for example, illustrates that similar benefits can be gained at a societal level through official institutions (North 1990; Acemoglu, Johnson, and Robinson 2001, 2005). These institutions can be termed “formal” or “society-type” institutions and are usually defined by more transparent and codified rules (Rodríguez-Pose and Storper 2006, 2). Both formal and informal institutions are deemed to have an influence on socioeconomic outcomes (Putnam 1993), and both have been strongly associated with indicators of innovation and dynamism (Schumpeter 1926; Putnam 1993; Storper 1997, 2005). In fact, some studies have suggested that the role of institutions, in general, may be fundamental to explaining both economic growth and economic disparities. The substantial body of

work in recent years by Acemoglu, Johnson, and Robinson (2001, 2005), for example, has argued powerfully that the richest and poorest nations of the world owe their position more than anything to the political and legal institutions they developed or inherited from their colonial masters.

Institutions can also act as a hindrance to economic development, however. With regard to formal institutions, an overdeveloped system of laws and regulations can increase transaction costs to the point where exchange or investment becomes unattractive. In terms of informal institutions, the very formation of a group implies the exclusion of nongroup members and the lack of transparency and predictability, which may engender inefficiencies and corruption. Most work in the field of social capital has focused on the strengths of formal or “society” institutions, in contrast to the weaknesses of informal, “community” institutions (North 1990; La Porta, López-de-Silanes, Shleifer, and Vishny 1999; Rodrik, Subramanian, and Trebbi 2004), or vice versa (Granovetter 1985; Coleman 1988; Putnam 2000), while others have debated which of the two is more significant (Durlauf and Fafchamps 2004). Typically since Weber (1968 [1921]), society-type institutions have been seen as more modern and efficient and conducive to an industrialized economy, while community-type institutions have been seen as backward. More recently, others have attempted to synthesize “society” and “community” by noting how each type operates most beneficially in the presence of the other (Storper 2005; Rodríguez-Pose and Storper 2006). The latter approach posits that a balance of community and society is required to generate best-case outcomes in terms of microeconomic confidence, social policy, and problem solving, all of which are then linked to economic dynamism and growth.

However, the literature has rarely considered the role of one of humanity’s most basic forms of institution, the family, in determining either economic disparities or other forms of social or economic outcomes that have, in turn, an influence on economic development. Although this may underestimate the role of the family as a unit of both production and reproduction, researchers have traditionally assumed that the impact of family structures tends to be lower than that of other institutions, such as the state, religion, or the law, if only because of their small size, the limited range and influence of the transactions that take place within them, and their heterogeneity (see Todd 1990a, for a discussion of this point). However, some academics have noted strong patterns of family structure, with clear regional variations and persistence over time and linked them to significant social and economic outcomes. They have included Emmanuel Todd (1990a, 1990b), whose work we drew on considerably for this study, and Greif (2006a, 2006b).

In our study, we used Todd’s (1990a) classification of family types to determine whether the existence or persistence (either directly or through intermediate determinants) of medieval family types is associated with existing regional differences, including household size, educational attainment, labor force participation, social capital, sectoral structure, and economic wealth and inequality, across regions of Europe. In so doing, we hypothesized that the fundamental drivers behind the persistence of regional disparities across Europe may be rooted in institutional factors, such as family types and structures, whose origins can be traced at least to the Middle Ages, if not earlier. We used regression analysis to establish the strength of the correlations between family structures and the dependent variables, which enabled us to offer some initial ideas regarding the role of family structure both in the development of other institutions and in economic development in general about which, to date, “surprisingly little” has been known (Greif 2006a, 308).

The article is structured as follows: in the first section, we examine Todd’s classification of family structure and present a map showing how different family types are spread

throughout Europe. In the second section, we explain some of the issues surrounding the concept of the persistence of family types throughout history and review some of the theories that link family structures to regional economic and institutional outcomes. In the third section, we describe the model, and in the fourth section, we present our results and then analyze them with a view to understanding how they may fit into existing conceptual frameworks. We conclude by observing that there appear to be strong links between family types and our dependent variables and offer some initial thoughts on how the findings may affect our understanding of institutional and economic development in modern European history.

Todd's Classification of Family Structures

26 We used Todd's (1990a) characterization of family types to form our key explanatory variable. Todd's classification of families has two main organizing principles. First, families differ in how parents and children interact. At one extreme, children leave the parental nest as soon as they reach early adulthood and become independent from parental authority at an early age. At the other extreme, children remain subjected to their parents' authority long after they reach adulthood and even after they marry. In other words, the relationship between parents and children can be thought of as either "liberal" or "authoritarian." The second organizing principle refers to the nature of the relationship among siblings. At one end, siblings (or, at least, brothers) may be treated as equal, whereas at the other, parents may favor one particular child (often the eldest) at the expense of the others. On this basis, families can be characterized as "equal" or "unequal."

These two oppositions, liberal/authoritarian and equal/unequal, are interesting for several reasons. First, they capture two fundamental dimensions, liberty and equality, which matter within both families and the wider society. With early childhood experiences having some bearing on adult values and behavior (see Gross and McIlveen 1998, chaps. 39, 43, and 44, for an introduction to the vast psychology literature on these issues, and Bisin and Verdier 2000, for an economic discussion of cultural transmission in the United States), these categories indicate an obvious channel of transmission from "family values" to broader economic outcomes. Second, this two-dimensional characterization avoids more simplistic oppositions (such as strong versus weak families), which, as we show in our results, are difficult to substantiate empirically. On the other hand, this typology avoids too much complexity and subtlety, which would be difficult to apply to the data. Third, these categories are easy to measure empirically, and most regions of Europe typically fall into one category or the other for both dimensions. Furthermore, it appears that different family types seldom coexist in the same area.

To measure liberal versus authoritarian families, Todd (1990a) looked at the cohabitation of generations within families, particularly of parents and their married children. Where familial authority is strong, the eldest son does not leave the family home when he marries but remains under the authority of his father. Similarly, unmarried adult daughters typically remain in the family home under the authority of, first, their father and then their brother. This type of family is termed a "stem" family, in contrast to the "nuclear" family, in which familial authority is said to be weak. Nuclear families remain together only while the children are growing up, and once the children reach adulthood or marry, they leave the parental home. In effect, such children also leave behind their dependence on their parents and the authority that their parents hold over them.

To obtain systematic data for Western Europe, Todd first used censuses from Western European countries in the 1950s and 1960s. Using the administrative divisions of the time, he identified regions of stem families as regions with a "high" proportion of adult

children living with their parents, conditional on the fraction of the population who worked in agriculture (since, all else being equal, parents and married children tend to live together more often in rural areas). By the 1950s and 1960s, the proportion of adult children who were living with their parents in stem family areas was typically low, often less than 10 percent. To check that these areas were historically dominated by stem families, rather than merely “backward” or otherwise anomalous, Todd reviewed numerous historical monographs about particular regions (nearly 200 are cited in his 1990a book) and verified whether they contradicted his classification. He claimed to have found no indication contrary to his original classification and to have made only small adjustments. Since some of these monographs go back more than 500 years, this classification strongly suggests that the patterns have been lasting and stable (for this reason, we refer to family types as medieval). There is some evidence that these patterns could be even older than 500 years. For instance, the prevalence of stem families in French Brittany, northwestern Spain, Wales, and Scotland coincides with areas where Celtic populations took refuge two millennia ago. The area of egalitarian families with strong parental authority in central Italy ties in closely with the area of Etruscan civilization in pre-Roman times.

To measure equality, Todd followed the same approach of using relatively recent data for the whole of Western Europe while checking whether the patterns that he uncovered were reflected in historical monographs. The key indicator of equality and inequality is what happens to family property after the death of the parents. Equality is said to be the strongest when family property is divided evenly among siblings or (more usually) among brothers. Areas in which equal familial systems are operating are identified, therefore, by inheritance laws and practices. Some care is needed, however. In areas of nuclear families, inequality is easily identified by the institution of wills and testaments to define the final holder of the family property. In these areas, one child tends to inherit at the expense of his or her siblings. Families that combine inequality and liberalism are called “absolute” nuclear by Todd (1990a). In the remaining areas of nuclear families, wills and testaments are unnecessary, since children, at least sons, inherit equally. This “egalitarian nuclear” system encourages the persistence of slightly stronger relations among children until the inheritance is completely divided after the parents’ death (Todd 1990a, 37–38).

Wills and testaments are also unnecessary in areas that are dominated by authoritarian stem families because the property is passed by strength of tradition to the eldest son, resulting in an institutionalized system of inequality. Todd explained that this is the case in all stem family areas, even though laws often state that all children should inherit equally. Todd (1990a) claimed that in these latter areas, classified as being dominated by “incomplete” stem families, the strength of the primogeniture tradition tends to override any such egalitarian lawmaking. Finally, Todd termed another category of family “communitarian,” in which both familial authority and equality are strong. In areas that are dominated by this family type, married brothers continue to live and work in the family home, under the authority of their father, but with the expectation of an equal inheritance. Table 1 summarizes the interaction between the equality and the authority dimension, while Table 2 summarizes the main characteristics of the five family types.

It is important to note that Todd’s data are available only on a map (see Figure 1 for a translated version of Todd’s 1990a map), and Todd derived his conclusions from a simple visual comparison between his map of family structure and a series of economic, political, and social maps of Europe. Furthermore, the regions he used are often outdated administrative units. In some cases, like France, these units roughly correspond to current administrative divisions (even though a few French departments have been created in the past 40 years) and are being used today by Eurostat (the main provider of data at the

Table 1

Family Types Defined by Authority and Equality

	Egalitarian	Nonegalitarian
Strong authority	<i>Communitarian</i>	Stem (whether of an “absolute” or “incomplete” nature)
Weak authority	<i>Egalitarian nuclear</i>	<i>Absolute nuclear</i>

Table 2

Main Characteristics of Family Types

Family Type	Main Characteristics
Absolute nuclear	Total emancipation of children in adulthood to form independent families made simply of a couple and their children. Division of inheritance among children by testament or will, usually to a single individual, often the son. Brothers and sisters are treated as independent individuals (Todd 1990a, 37).
28 Egalitarian nuclear	Total emancipation of children in adulthood to form independent families made simply of a couple and their children. Equal division of inheritance among children. This system encourages the persistence of slightly stronger relations between parents and children until the inheritance is completely divided after the parents’ death (Todd 1990a, 37–38).
Stem family	An extended family with several generations living under one roof. One child—generally, but not always, the eldest—marries and has children who remain in the household to preserve the lineage. The rest have the choice of remaining unmarried within the household or of marrying and leaving the home or becoming soldiers or priests. The house and the land are inherited by the son who stays at home. Others may receive some financial compensation. The inheriting son, who stays at home, remains under the formal authority of the father (Todd 1990a, 38).
Incomplete stem family	The same as the stem family, but with more egalitarian inheritance rules (in principle, but rarely in practice).
Communitarian family	An extended family in which all the sons can get married and bring their wives to the family home. Equality among children in inheritance, with family wealth and estates divided after the death of the parent (although a period of cohabitation between married brothers after the death of the parents is possible) (Todd 1990a, 39–40).

European level) for other variables. In other cases, such as the United Kingdom, the administrative map that Todd used differs significantly from the current regional map. To retrieve Todd’s data on family structure, we first digitized his main summary map of family structures in Europe (1990a, 74). Then using GIS software (ArcInfo), we overlaid NUTS III European regions, the smallest regions for which data are broadly available in Europe. This operation required a careful adjustment of Todd’s original map, which does not appear to have been generated by any standard projection. We then used ArcInfo to determine for each NUTS III region which proportion of its area was attributed to each family type. At the NUTS III level (1,031 regions for 14 countries), a large majority of regions are homogeneous according to Todd’s classification. We also made two small corrections to Todd’s data. His original map labeled the French region of Languedoc and the Spanish regions of Andalucía as indeterminate. However, his text indicated that Languedoc should be classified as incomplete stem and Andalucía as nuclear egalitarian.¹ Finally, given the paucity of European data at the NUTS III level, we aggregated our data at the NUTS II level (where NUTS III regions were weighted proportionately to their land area).

¹ Our results are not sensitive to these two minor changes.

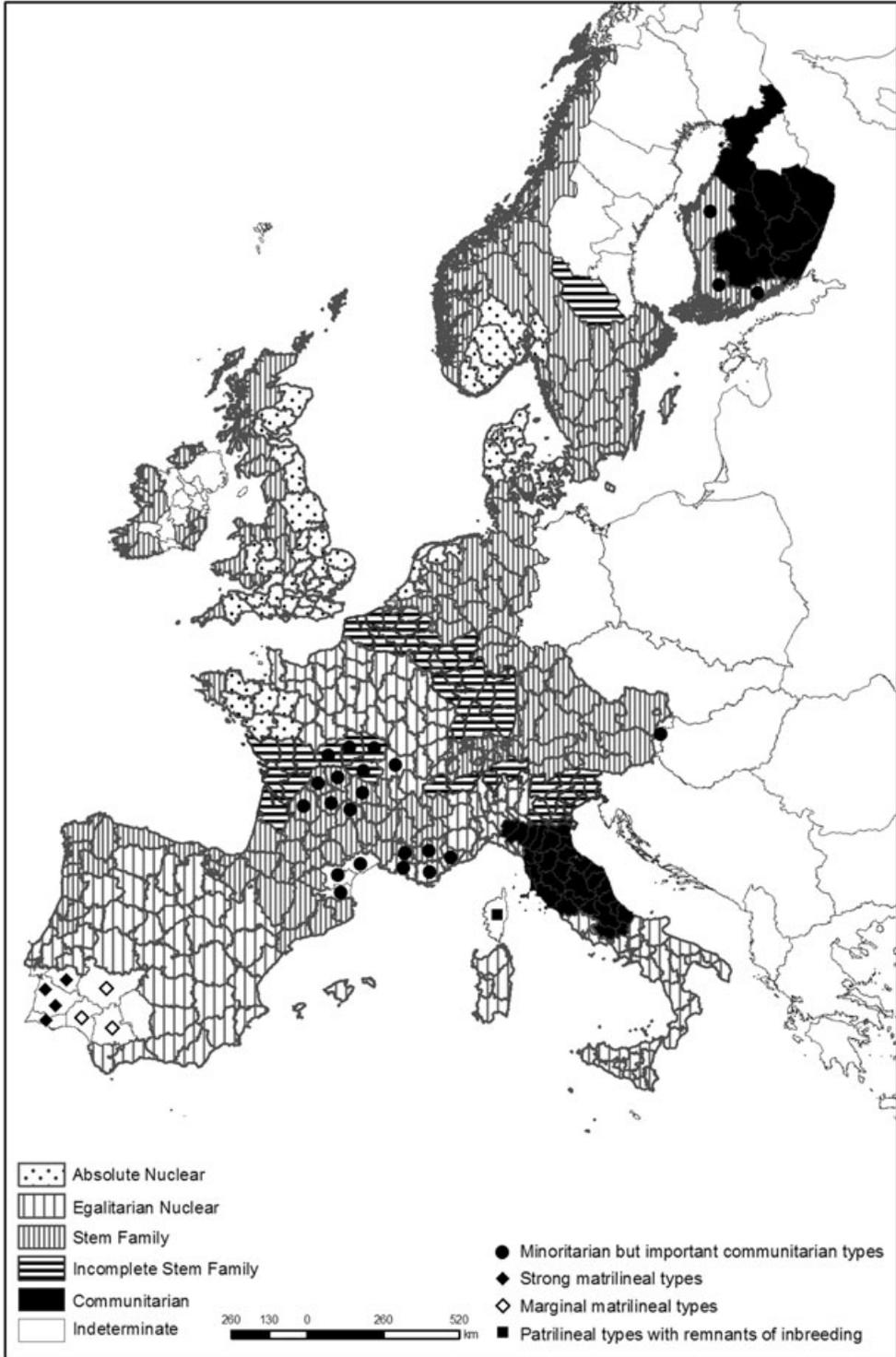


Figure 1. Todd's map of family types in Western Europe. Source: Todd (1990a).

Figure 2 represents a mapped version of our final output.² It presents the geographic spread of the family types throughout Europe that Todd identified. It also shows a sixth category, “indeterminate,” where information is unavailable, family types do not conform to the other categories, or no single category dominates. As the map indicates, the absolute nuclear family was dominant in southern and eastern England, eastern Scotland, north-west France, Holland and other coastal regions of the Netherlands, Denmark, and southern Norway. The absolute stem family prevailed in the west of the British Isles, northern Spain, and southwestern France; much of Germany, Austria, and German-speaking Switzerland; and much of southern Sweden and coastal Finland. Egalitarian nuclear families were the strongest in northern and eastern France, most of Spain, and southern and northwestern Italy. As Todd noted, the areas dominated by incomplete stem families lie on the borders between complete stem and egalitarian nuclear families, reflecting their mixture of egalitarian law and nonegalitarian practices. These areas cover Belgium, Luxembourg, and large areas of the upper Rhine valley between Germany and France, as well as the regions of Poitou-Charentes and Gironde in western France and Veneto and Trento in Italy. Communitarian families are relatively uncommon, occupying areas of central Italy and large parts of the interior of Finland.

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Note that this map does not necessarily present current information. As we already highlighted, some of these patterns seem to reflect old historical divisions. Beyond the Etruscan and Celtic areas mentioned earlier, it is hard not to notice that regions in which equality among siblings is prevalent tend to have been core regions of the Western Roman Empire. In particular, the border between equality and inequality in northern France (which, it is interesting to note, does not correspond to the French-Belgian border) closely approximates the historical border between French and Flemish-speaking (or, for that sake, between Latin and Germanic-speaking) populations that dates back to Roman times. This map of family structure does not appear to reflect an opposition between northern and southern Europe. Communitarian families are heavily concentrated in a few areas, whereas stem and nuclear families can be found nearly everywhere. Even more important, these family divisions do not coincide with national borders, and most countries exhibit a high level of heterogeneity. France, for instance, contains nearly all types of families, and no country considered in the analysis (except Luxembourg) is entirely homogeneous. Thus, we were able to identify the effects of medieval family structure and condition out national effects. This point is important because even though family types do not solely reflect a North-South opposition (or any other geographic distinction), there may be some correlation between countries and family types (where, for instance, stem families seem to be overrepresented in northern Europe).

The Persistence of Family Types and Their Economic Significance

Although our information on family and kinship links and inheritance customs dates back, at least, to the Middle Ages, an underlying assumption of both Todd's and our work

² To create the adapted map presented in Figure 2, we used the following boundary data sets: Continental Europe and Ireland: ESRI (2004): “Europe Basemap: Level 1 and 2 Provinces.” In ESRI Data and Maps—World, Europe, Canada, and Mexico (Level 1: Sweden, Luxemburg, Norway, Denmark, Netherlands, Austria; Level 2: Finland, Portugal, Ireland, Belgium, Switzerland, France, Germany, Italy, Spain). U.K.: Edina UKBORDERS (2004): English and Welsh Counties and Scottish Regions for 1981, based on data provided through EDINA UKBORDERS, with the support of the ESRC and JISC, and using boundary material (copyright of the Crown). NUTS Regions in the EU: GISCO (2003): “Administrative/NUTS Regions: NUTS1M7,” in EU Boundaries CD ROM, Version 1.

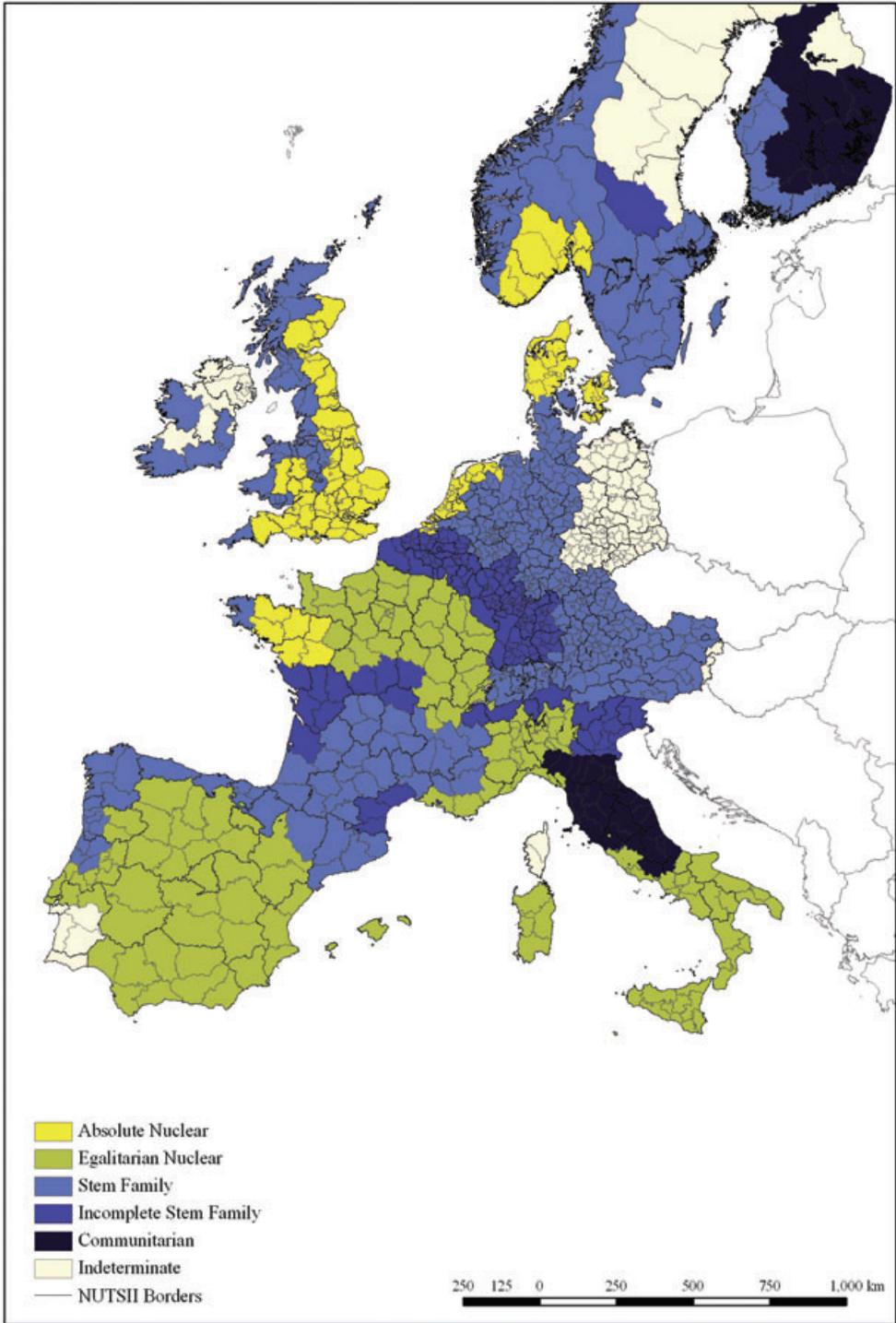


Figure 2. Family types in Europe.

Table 3

Superseding Institutions

Original Institution	Superseding Institution	Associated Authors
Family	Social capital	James Coleman (1988, 1990)
Community	Society	Max Weber (1968 [1921])
Kinship families	Nuclear families	Avner Greif (2006a)

32 is that these family types have persisted in some way to the present day. This persistence may be direct, evidenced today perhaps by the relatively late age at which the offspring of Mediterranean families leave home compared to their northern European counterparts (Reher 1998, 205). This form of persistence seems intuitively likely, given the probability that children are brought up to consider their family traditions as proper and so re-create them with their own children. Alternatively, the persistence may develop through intermediate factors, such as the nature of political or economic institutions, that have been shaped first by family structures and have continued to influence our society today in a path-dependant manner.

However, a broad range of academic work in a variety of different fields has either argued against these hypotheses or otherwise assumed that the persistence of family structures, whether direct or indirect, is not significant. For example, some of the most influential work on social capital, such as that of James Coleman (1988, 1990), has assumed that highly developed social capital is a replacement for family structures which, as a result, have become irrelevant. In this view, social capital is seen as more modern and beneficial than family structures and, once established, allows traditional family structures to wither away. Those who have studied the variety and influence of different family types have also used the idea of modernity and superseding institutions within the analysis of family types themselves. For example, Greif (2006a, 2006b) argued that nuclear families superseded other “kinship” forms of family structure as part of the modernization process throughout Europe, suggesting that while nuclear family types encouraged industrialization, industrialization helped to bring an end to nonnuclear forms of family (Greif 2006a, 310).³ Overall, then, the idea that family types or institutions persist has been challenged in three different ways, each a description of one type of institution superseding another, as summarized in Table 3.

Demographers, however, are less confident that nuclear families have spread so rapidly as a result of industrialization and, indeed, regard this view as something of a myth. Scott Smith (1993), for example, claimed that demographers have argued consistently that the most notable thing about family structures is not their changing but their constancy over centuries. He noted that economists as far back as Alfred Marshall and Adam Smith have used family structure to help explain disparities in economic growth and development and that few demographers have disagreed with them since. Astone, Nathanson, Schoen, and Kim (1999) also criticized those who have written about social capital without paying attention to the work of demographers, remarking directly on the work of Coleman (1988, 1990), for example:

We disagree with Coleman’s assessment of the declining importance of the family in industrialized societies, and we argue that family formation is among the most important types of

³ Indeed, Greif (2006a, 309) argued that the domination of Europe by the nuclear family was under way as early as the eighth century.

investment in social capital made in all societies. On this basis we contend that sociologists and other social scientists interested in social capital would do well to attend to the substantive findings of family demographers. (Astone, Nathanson, Schoen, and Kim 1999, 5)

The essence of the demographers' approach, as expressed by Astone, Nathanson, Schoen, and Kim (1999), is that family structure is the origin and shaper of social capital and is built upon rather than superseded. Family structures may become internalized and reproduce themselves through communitarian interpersonal networks (Portes 1998), for example, or through repeated behavior within communities that ends up embedding cultural norms and values, leaving an indelible imprint across society (Hofstede 1980). Reher (1998) described how family structures may directly reproduce themselves, even in the face of significant social upheaval:

Regardless of their historical origins, attitudes toward the family and the individual make up the cultural tapestry of societies, and thus they are models that are learned at a very young age and that societies—individuals, families, institutions—help perpetuate. Learning these behaviour patterns is the cornerstone of the socialization of children. They are attitudes shared by the society as a whole. Perhaps because of this, they have been so resistant to the otherwise corrosive effects of economic, political, social and demographic modernization. Even though the changes of this past century have tended to make cultures and mentalities more uniform, they have done little to erase the historic profiles of family systems in Europe. (Reher 1998, 215)⁴

If the differences between family structures that Todd identified do indeed persist to the present, then they may have a variety of economic impacts, which may help to explain current regional disparities and the difficulties of reducing them. Both Todd (1990a, 1990b) and Greif (2006a) attributed an extremely influential role to family structures in the European Industrial Revolutions and subsequent economic growth. For example, it has been argued that the relative independence of the children of nuclear families and their tendency to leave home early in pursuit of economic opportunities made them a far more likely proletarian workforce than the offspring of communitarian or stem families. The latter were much less inclined to move away from the family to new cities or factories and may have thus favored the persistence of agricultural practices (Todd 1991, 38). The lack of any future inheritance for the majority of children in inegalitarian family areas may have also spurred the need to educate and train, in contrast to regions with more egalitarian traditions. Todd (1991, 144) used this argument as part of his explanation of why northwestern France, dominated by the absolute nuclear family, adapted to the crises of heavy industry in the 1970s by shifting to different types of production more effectively than other areas of France. This ability was seen as a reflection of the dynamism and adaptability engendered by the independence and drive of those who were brought up within the absolute nuclear tradition. In general, the increased mobility of people in absolute-nuclear-family-dominated areas could also be used to explain either greater entrepreneurial capacity or lower levels of structural unemployment.

⁴ Reher went on to argue that although the historical persistence of family structures is significant, the distinctions between stem and nuclear and egalitarian and hierarchical are unnecessary. Instead, a simpler distinction between weak family ties in northern Europe and strong family ties in southern Europe is all that is deemed necessary to explain the significant differences between the two areas (Reher 1998, 221). As we show, our results have some bearing on this debate.

On the other hand, the significance of family structures in the much-discussed success of interlinked small family firms in the Third Italy (Becattini 1987; Storper 1997, 137–46), for example, offers one way in which close-knit communitarian family structures can have advantages over looser nuclear family types. Stem families may also have some advantages in certain economic and historical conditions. The inbuilt inequality that is associated with this family structure may lead to concentrations of capital or land that would facilitate or create the appropriate incentives for the investment required for leaps in industrial development. It could also be argued that while the offspring of nuclear families are more mobile, the offspring of stem families are more likely to work efficiently within the authoritarian labor systems of mass production. Overall, these various advantages and disadvantages of family types in terms of their suitability for various types of economic development may make it possible to construct a historical narrative in which different family types turn out to be more efficient at different times. Although stem-family-dominated areas may be at the fore in times of industrial mass production, nuclear-family-dominated areas may be better off when, as now, the economic context calls for adaptability and entrepreneurialism.

34 As we suggested earlier, however, the influence of family structures may also persist through intermediate factors, even if the original nature of the family has since changed (perhaps, for example, becoming homogeneously nuclear throughout Europe, in Greif's 2006a view). For example, it may initially be argued, following Greif (2006a), that nuclear-family-dominated regions were more likely to develop formal associations, or "corporations," whereas stem-family-dominated areas were prone to informal community-type institutions within which transactions and agreements were framed. It may then be hypothesized that even if the nuclear family type spread across Europe, superseding all other types of families, the institutions that had originally been shaped in different ways by family structures had become resistant to further change, have persisted to the present day, and so continue to shape economic outcomes.

We discuss these and other theories more thoroughly in light of our results later. This article does not claim to address the question of whether family structures persist directly or indirectly through intermediate factors. Our hypothesis and results simply address the question of whether or not the influence of family structures persists in some way. Neither do we address whether family types are the primary cause or a symptom (or a first-order outcome) of deeper historical, cultural, or even geographic determinants that may shape either the nature of family structures themselves or both family structure and other effects that are correlated with it. For example, even if links were confirmed between nuclear families and higher levels of social capital, the correlation may be the result of a shared, fundamental cause, such as levels of assimilation into the Roman Empire or the practice of certain pre-Christian religions, rather than any direct causal relationship between the variables. Further analysis in this area can be found in the work of Mamadouh (1999) or Tabellini (2005), while the nature of the potential causative links between the variables is discussed in more detail in our analysis of results.

The Model

Our starting hypothesis is that medieval family types—either directly, through their survival over time, or indirectly, through their internalization in values, customs, and culture—are strongly associated with current regional disparities across Europe in the areas we considered. The disparities in question dictated our dependent variables and fall into several categories. We studied demographic data in terms of average family size in 2000 and with regard to educational attainment, measured by the percentages of the

Table 4

Dependent Variables and Sources

Factor	Variable	Source
Demographic structure	• Average household size in 2000, measured in number of individuals per household	• European Community Household Panel (ECHP)
Educational attainment	• Percentage of the population with education beyond the secondary level in 1997	• EUROSTAT
Labor force participation	• Employment levels in 2003 as a percentage of the total adult population	• EUROSTAT
	• Female participation in 2003 as a percentage of the total adult population	• EUROSTAT
Social capital	• Membership in clubs in 2000 as a percentage of the population included in the sample	• ECHP
	• Percentage of people who met with friends at least once a week in 2000 as a percentage of the population included in the sample	• ECHP
Sectoral structure	• Percentage of employment in manufacturing in 2003	• EUROSTAT
	• Percentage of employment in services in 2003	• EUROSTAT
Economic performance	• Per capita GDP in 2004, measured in constant euros (base 1995)	• Cambridge Econometrics
	• Personal Gini coefficient, measuring inequality in per capita income in 2000	• ECHP
	• Growth of per capita GDP 1975–2004, measured in constant euros (base 1995)	• Cambridge Econometrics

population with education up to the primary level and beyond the secondary level in 1997. We measured labor force participation in terms of overall and female employment, social capital in terms of memberships in clubs and the percentage of people who meet with friends at least once a week, and sectoral structure by using the percentages of employment in manufacturing and services. Finally, we examined economic conditions and performance using the per capita gross domestic product (GDP) in 2004, growth in the GDP between 1975 and 2004, and inequality as measured by Gini coefficients in 2004 (see Table 4). We selected these variables because of their potential relevance to current debates on regional disparities in Europe. By selecting a wide range of indicators, representing demographic, social, and economic fields of study, we hope to offer a set of similarly broad conclusions and to identify which factors are affected by which aspects of family type.

Our simple ordinary least-squares model used the following form:

$$y_i = \alpha + \beta_1 F_i + \beta_2 ND_i + \varepsilon_i, \quad (1)$$

where y represents the dependent variables included in Table 4 and F_i is the dominant family type in region i . We used six family types corresponding to Todd's classification: F1: absolute nuclear, F2: egalitarian nuclear, F3: stem family, F4: incomplete stem family, F5: communitarian family, and F6: undetermined family types. ND_i are national dummy variables, which we used to capture the effect of nationally defined factors on the dependent variables. F1, the absolute nuclear family, and France were used as the family type and country of reference and therefore were not included in the regression analysis.

All coefficients then can be interpreted as relative to the family type and country of reference.⁵ Finally, β_1 and β_2 are the regression coefficients, and ε is the error term.

The territorial unit of analysis is made up of 190 European NUTS II regions. Note that the national dummy variables play an important role in this regression. On the one hand, they ensure that the coefficient on family types does not pick up national effects. On the other hand, they capture the effects of family types to the extent that a dominant family type in a country will affect the outcomes for the country through its national institutions, for instance. In this respect, Todd (1990b) argued that French institutions tend to reflect nuclear egalitarian values that come from the greater Paris region, which implies that our coefficients on family types probably underestimate the association between family types and regional outcomes. The results of the analysis are presented in Table 5.⁶

Family Types and Regional Disparities in Europe

36 The main result of the analysis is the favorable position of absolute nuclear families, in comparison to all of the other five family types, with regard to current levels of GDP. Areas in which absolute nuclear families dominate or have dominated in the past also have higher levels of inequality than do regions with stem incomplete, communitarian, or indeterminate family traditions (although the difference with either egalitarian nuclear or absolute stem family areas is not statistically significant). The recent growth in GDP has also been higher in absolute nuclear areas than in both types of stem family, egalitarian nuclear, and indeterminate areas, but not in communitarian areas. The employment data also indicate some striking differences. Once again, the results for areas in which absolute nuclear families predominate are better than those for three other types of areas (those dominated by egalitarian nuclear, absolute stem, and undetermined families) but are not different from those for either communitarian or incomplete stem areas.

There appears to be a clear dividing line between nuclear families, on the one hand, and stem and communitarian families, on the other, with regard to employment. Employment in nuclear-family-dominated areas is more likely to be in services, while employment in stem- or communitarian-family-dominated areas is more strongly linked to manufacturing. One social capital indicator is notable, showing that the people in egalitarian nuclear, absolute stem, and indeterminate family areas are less likely to join clubs or associations. The other social capital indicator is notable only in that our national dummy variables appear to be of much greater relevance than is family type in determining how often we meet with friends. Finally, demographic and educational data also isolate absolute nuclear family areas. These areas typically have smaller households than do egalitarian nuclear or incomplete stem family areas and have a greater proportion of people who were educated to the university level than do absolute nuclear families, while communitarian family and indeterminate family areas are similar to absolute nuclear families with regard to both indicators.

⁵ The choice of the absolute nuclear family as our base category was motivated by the general belief that nuclear types are now the dominant forms of family structure (Greif 2006a, 2006b) and by the perception that absolute families are the most adequate family structure for the promotion of innovation, adaptability, and economic progress (Todd 1991; Greif 2006a).

⁶ We did not control for spatial autocorrelation because it is unclear, from a theoretical perspective, whether we could expect spillovers in this case. Were we to find some positive effects of the neighboring regions' family types on regional performance, it is unlikely that family types would be the key factor behind that spatial dependence, as they could be masking other factors, such as market potential effects. In any case, the risk of spatial dependence in this case is either limited in space (Rodríguez-Pose and Crescenzi 2008) or can be regarded as a secondary concern in comparison with specification issues (Briant, Combes, and Lafourcade 2008).

Table 5

Summary of the Results

Family Types	Average Household Size	Education Beyond the Secondary Level	Percentage Working in the Total Population	Ratio of Women to Men in the Working Population	Membership in Clubs	Meeting Friends Once a Week
Egalitarian nuclear	0.157* <i>0.084</i>	-3.289* <i>1.778</i>	-0.022* <i>0.012</i>	-0.038* <i>0.022</i>	-0.065*** <i>0.017</i>	-0.007 <i>0.024</i>
Stem	0.011 <i>0.058</i>	-2.545** <i>1.237</i>	-0.015* <i>0.008</i>	0.003 <i>0.015</i>	-0.025** <i>0.012</i>	0.022 <i>0.016</i>
Incomplete stem	0.196** <i>0.086</i>	-4.468** <i>1.832</i>	-0.008 <i>0.0125</i>	-0.009 <i>0.023</i>	0.010 <i>0.018</i>	0.031 <i>0.025</i>
Communitarian	0.061 <i>0.127</i>	-3.147 <i>2.536</i>	-0.007 <i>0.017</i>	0.038 <i>0.031</i>	-0.042 <i>0.026</i>	0.028 <i>0.036</i>
Undetermined	0.062 <i>0.083</i>	1.132 <i>1.683</i>	-0.046*** <i>0.011</i>	0.017 <i>0.021</i>	-0.064*** <i>0.017</i>	-0.129*** <i>0.024</i>
National dummy variables	Included	Included	Included	Included	Included	Included
<i>df</i>	15,151	17,171	18,171	18,171	15,151	15,151
Number of obs	167	189	190	190	167	167
<i>F</i>	32.76	23.22	16.92	22.74	85.59	136.65
<i>R</i> -squared	0.77	0.70	0.64	0.71	0.89	0.93
Adj <i>R</i> -squared	0.74	0.67	0.60	0.67	0.88	0.92

Family Types	Employment in Manufacturing	Employment in Services	GDP per Capita	Personal Gini Coefficient	Growth of GDP (1975–2004)
Egalitarian nuclear	0.031 <i>0.024</i>	-0.041 <i>0.027</i>	-5122.8*** <i>1910.5</i>	0.002 <i>0.014</i>	-0.295* <i>0.204</i>
Stem	0.029* <i>0.017</i>	-0.036* <i>0.019</i>	-2848.4** <i>1329.3</i>	-0.005 <i>0.009</i>	-0.249* <i>0.142</i>
Incomplete stem	0.0765*** <i>0.0245</i>	-0.074*** <i>0.028</i>	-3981.7** <i>1968.2</i>	-0.024* <i>0.014</i>	-0.455** <i>0.211</i>
Communitarian	0.114*** <i>0.034</i>	-0.110*** <i>0.039</i>	-5172.9* <i>2724.5</i>	-0.040** <i>0.021</i>	-0.060 <i>0.292</i>
Undetermined	-0.004 <i>0.023</i>	-0.005 <i>0.026</i>	-9380.0*** <i>1807.8</i>	-0.070*** <i>0.013</i>	-0.515** <i>0.237</i>
National dummy variables	Included	Included	Included	Included	Included
<i>df</i>	17,170	17,170	18,171	15,151	18,162
Number of obs	188	188	190	167	181
<i>F</i>	3.67	6.27	11.63	35.02	18.85
<i>R</i> -squared	0.27	0.39	0.55	0.78	0.68
Adj <i>R</i> -squared	0.20	0.32	0.50	0.75	0.64

Notes:

Coefficients relative to those of absolute nuclear families.

Standard errors in italics below coefficients.

***, **, * denote significance at the 1-, 5-, and 10-percent level, respectively.

In general, our results appear to confirm that medieval family types in Europe have a significant and strong association with current regional disparities in household size, educational attainment, social capital, labor participation, and sectoral structure, as well as with wealth and inequality. Four main causal paths could account for these associations. First, family structures may persist to the present and continue to affect economic outcomes directly. Second, family structures may have caused changes to other institu-

tions in the past, which, in turn, have caused the current disparities we observe today. Third, reverse causation is also plausible: that differences in economic and institutional factors across regions have themselves caused the variation in family structures. The fact that the Industrial Revolution took place first in England, for example, may have caused that country's families to establish or strengthen their "nuclear" traditions. It would also be a simple matter to combine these two directions of causation within hypotheses based on bidirectional or circular causation. Fourth, as we mentioned earlier, another possibility is that family structures are merely an outcome of a deeper, underlying determinant (such as religion or culture), which may represent the true cause of the variations we observe. In this case, family structures would be endogenous to the causal process and of little explanatory value. The first two types of causation just described are the main focus of the analysis presented here, with a discussion of reverse and circular causation where relevant. However, proving or eliminating the fourth possibility, by establishing empirically if both family structure and its correlates are outcomes of some other common cause, would require further testing and is beyond the scope of this article.

38 Theories regarding similar associations between family structures and economic and social indicators were investigated by Todd (1990a, 1990b, 1991), Mamadouh (1999), Schultenover (1999), and Berry (2000) and provided a framework within which our hypotheses were developed. The persistence in Europe of family structures throughout the past 2,000 years has been used in the past to help explain, for example, the relative levels of welcome or resistance to tides of change, such as Protestantism and secularism (Todd 1990a, 1990b; Schultenover 1999); political culture in general (Todd 1990a, 1990b; Mamadouh 1999); and specifically economic processes, such as industrialization and modernization (Todd 1990a, 1990b). Some of these theories were mentioned earlier and offer an excellent starting point for much of our analysis.

Our clearest and most significant results appear to suggest that areas that are dominated by absolute nuclear families generally enjoy an advantage in terms of per capita GDP over every other type of region. Once the national effect is controlled for, regions with an absolute nuclear family tradition had a per capita GDP in 2004 that was, on average, close to 3,000 euros (\$4,100) higher than those with a stem family tradition; close to 4,000 euros (\$5,400) higher than in incomplete stem areas; more than 5,000 euros (\$6,800) higher than in egalitarian-nuclear- or communitarian-dominated areas; and more than 9,000 euros (\$12,300) than in indeterminate areas (see Table 5). These regions have also enjoyed better recent GDP growth than have stem-family-dominated areas. Between 1975 and 2004, the growth of per capita GDP in areas with a tradition of absolute nuclear families outstripped that of areas with egalitarian nuclear, stem, and indeterminate family traditions by 13 to 15 percent and that of incomplete stem family areas by close to 20 percent. Only areas with a communitarian family tradition kept up with absolute nuclear family areas in terms of recent economic growth (see Table 5). It would be tempting to draw some simple conclusions regarding this correlation and argue that the absolute nuclear family structure is better suited to economic development. However, one need only reflect on the difficulty of defending this position in the late 1970s, when the United Kingdom was considered the "sick man of Europe" despite the dominance of the absolute nuclear family form, to understand that no such simple conclusion is possible. Different countries have led European economic development at different times, and at no time since the 1870s has it been possible to argue that the stem-family-dominated area of Germany, for example, has been economically backward.

It is possible to build a more subtle and powerful explanation of how family types may influence economic development, using some of the arguments we already described. First, the nuclear family's tradition of emancipation increases the potential for movement

away from the family home, which can facilitate the pursuit of independent economic opportunities. Second, the inability to rely on the family for income and housing could be said to generate a more entrepreneurial spirit of self-reliance, as well as greater motivation to work. Third, in absolute nuclear families, the principles of primogeniture may exaggerate these two tendencies further because noninheriting children are left even more reliant on their own initiative. As a result, we would expect the offspring of absolute nuclear families to move farther faster and to take greater risks to take advantage of economic opportunities, especially in times of structural economic adjustment.

As a concrete example of this type of argument, let us consider Todd's analysis of the stark economic and sectoral divides within France (Todd 1991, 38). Todd argued that, in the nineteenth century, the creation of an industrial workforce was possible only in the nuclear-family-dominated north, since the offspring of southern stem families were unwilling to uproot themselves from their family homes to work in urban factories. Todd also suggested that the difference between egalitarian nuclear and absolute nuclear families may account for the differences in economic dynamism between northeastern and northwestern France as Western Europe adjusted from manufacturing to service economies in the late twentieth century. He contended that the current areas of decline and structural unemployment in egalitarian nuclear northeastern France compare unfavorably to the dynamism and flexibility of both northwestern France and England, where the economy has adjusted more successfully. The lack of adaptability and dynamism, it is argued, is related to the relative lack of pressure on the offspring of egalitarian families because of their expectations of inheritance. The statistically significant correlations between absolute nuclear families and GDP, recent growth, and inequality would all appear to support these interpretations.

Our results concerning the proportion of the working population in the industrial and service sectors demonstrate what appears to be a clear dividing line between stem and communitarian families, on the one hand, and nuclear families, on the other. While in 2003 communitarian-family-dominated areas had a share of employment in manufacturing that was more than 11 points higher than that in absolute-nuclear-family-dominated areas and the share in incomplete stem and stem areas was 7.6 and 3 points higher, respectively, than in absolute-nuclear-family-dominated areas, the roles were reversed when employment in services was considered. In this category, the differences were 3.6 points with respect to stem-family-dominated areas, 7.3 points with respect to incomplete-stem-family-dominated areas, and 11 points with respect to communitarian-family-dominated areas, always in favor of absolute nuclear family-dominated areas (see Table 5). Given the hypothesis that absolute nuclear families should be more able to adapt to new economic structures, we would expect these regions to reflect a more modern sectoral balance, which appears to be the case. It could be argued that the nuclear-family-dominated areas industrialized first, grew faster, and are now further along the path of modernization, having transformed more quickly and fully into service societies. However, while the absolute-nuclear-family-dominated United Kingdom did indeed industrialize first, there are many instances of stem-family-dominated areas industrializing before other absolute nuclear areas, and it would therefore be unwise to attribute an industrial takeoff or economic development, in general, solely to family structure.

A finer version of this story could be developed by returning to the discussion on dynamism, flexibility, and entrepreneurialism. Rather than simply being "further ahead," the offspring of absolute nuclear families, being less dependent on their families and more entrepreneurial in spirit, are more likely to be able to adapt, move, or change in response to any given economic change or sectoral shift. That is, to acknowledge that

while many factors exogenous to family structure are likely to be the cause of major economic changes, family structure itself may be a key determinant of the ability to adapt to such changes. Having made a similar argument about northwestern and north-eastern France, Todd added (1991, 150) that areas in which the number of people working in services increased also saw increases in the number of people working in industry. This point would appear to strengthen our interpretation that absolute-nuclear-family-dominated areas may simply be more adaptable, regardless of the circumstances, rather than merely “ahead” in terms of the transition from industry- to service-based economies.

The advantage of this view is that it takes account of the obvious fact that factors other than family structure may produce economic change. That is, even when family structure is not the fundamental cause of change, it can determine how a region may react to a wave of change caused by something else. A key part of this adaptability may lie in the availability and nature of social capital, and here again our results can be used to support our general hypothesis. The results in Table 5 suggest that the offspring of absolute nuclear families are among the most likely to form associations and join clubs.

40 One possible reason for this finding is that they are less able to depend on their families for support and so must form other networks in order to compensate. Since these are networks built among people who do not necessarily have kinship ties, they have a greater potential for expansion and are more likely to have formal rules and hence greater transparency. As a result, they may be more efficient and conducive to growth. Greif (2006a, 308) suggested something closely related to this point when he described how nuclear families, in medieval times, facilitated the establishment and growth of what he called “corporations”⁷: “When they substitute for kinship groups [nonnuclear family structure] and provide social safety nets, corporations complement the nuclear family. An individual stands to gain less from belonging to a large kinship group, while the nuclear family structure increases its gains from membership in such a corporation.”

Thus, Greif presented a virtuous circle whereby causation works in both directions—nuclear families providing encouragement for the establishment of corporations and the related economic and social transformation encouraging the domination of the nuclear family across Europe. He went on to reflect that nuclear families seem to encourage both flexibility and independence and that societal institutions are developed, in part, as a response to the lack of a safety net or associational benefits that are provided by nonnuclear family types. Greif then used the growth of corporations to help explain why the influence of the British monarchy waned and the interests of the merchant class began to have more significance. This is a familiar argument and reminiscent of Acemoglu, Johnson, and Robinson’s (2001, 2005) view of economic and political development. The link between nuclear families, the lack of informal social safety nets, and the rise of compensating institutions is also supported by accounts of the birth of the welfare state in the United Kingdom. Richard Smith (1996) traced the history of the welfare state back to the Poor Laws of 1601, which was revised and reformed throughout its subsequent 400-year history, and argued that its existence owed much to the structure of English families, which we define here as “nuclear.”

However, the plausibility of reverse causation, suggested by Greif’s account, whereby the modern economy acts to spread the prevalence of the nuclear family, requires further attention. Although Greif’s argument proposes that causation runs both ways, it could be argued that the most significant causal explanations of the correlations described here

⁷ Defined as “intentionally created, voluntary, interest-based, and self-governed permanent associations” (Greif 2006a, 308).

between family types and economic changes and disparities are those that run from the latter to the former. If this were the case, then much of the explanation we presented would lose its value. For example, the correlation between nuclear families and early participation in the Industrial Revolution may be the result of the Industrial Revolution pulling children away from families at an earlier age and encouraging them to travel farther. This version of the causative link may view the existence of stem-family-dominated areas in western Britain, Ireland, and southern Europe as the result of the fact that industrialization occurred later and less dramatically in these areas. Plausibly, it could be argued that the recent economic booms in Spain and Ireland will help complete the process of change from stem to nuclear families as children leave home earlier and travel farther in pursuit of greater economic opportunities elsewhere. In a similar vein, it is possible that the correlations between education and absolute nuclear families indicate that improved education frees children from dependence on their parents, rather than that absolute nuclear families promote higher education to facilitate their offspring's independence.

However, there are several reasons not to dismiss the causal role of family structure in the correlations we have observed. First, it can be argued that the differences in family structure are of an older and more permanent nature than the differences in economic outcomes that we have attributed partly to them. Todd established the distinct patterns of family structure from records dating back to a time long before the Industrial Revolution. As a result, it is difficult to attribute the establishment of distinct family structures to economic developments in the modern era. Second, while it is likely that industrial development has had an impact on all family structures and helped create a convergence toward the absolute nuclear family type, this in no way precludes the significance or the plausibility of nuclear, liberal family types helping to provide the conditions in which industrialization could take off in the first place. Third, current regional disparities, such as the structural changes toward the service sector, continue to develop in correlation to family structure patterns, even though the revolutions in industry, technology, and universal education have spread more or less evenly throughout Europe. The norms, social rules, and conventions that affect socioeconomic disparities could—using Binmore's (2005) "cultural evolution" framework—be transmitted from generation to generation via persuasion and emulation, directly using instruments, such as family types, or indirectly through the reproduction of these family types in other institutions.

While the reverse causation from economic or other social changes to changes in family structure is of obvious and undeniable importance, it complements, rather than contradicts, our general hypothesis; as Greif suggested, both directions of causation probably interact in a self-reinforcing manner.

The position of social capital in this account also has the potential for controversy. Whereas Greif (2006a) and others (Coleman 1988, 1990) have seen the growth of social capital as replacing family structures throughout Europe, it may be possible to argue that absolute nuclear family structures have merely allowed the formation of a particular sort of social capital in certain regions that did not become so prevalent elsewhere. This view is certainly supported by the results in terms of egalitarian-nuclear-family-dominated and absolute-stem-family-dominated areas but not in the cases of incomplete-stem-family-dominated or communitarian family-dominated areas. The persistence of strong family relations, at least until the death of the parents, in nuclear-egalitarian-family-dominated areas, such as southern Italy or central and southern Spain, it has been argued, acted as a hindrance to the development of fully fledged societal institutional systems and, eventually, as a barrier to economic development (compare Banfield 1958 or Trigilia 1992 for the case of the Italian Mezzogiorno). The measure of social interaction with friends, however,

shows virtually no correlation with our categories—and the national dummy variables indicate that this special interaction is determined much more by national habits than by family structure.

Associations between education and household size may also be used to support our general hypothesis. The results in Table 5 indicate that the offspring of absolute nuclear families are more likely to be educated beyond the secondary level. Education can also be linked exogenously to absolute nuclear family structures by arguing that if you cannot depend on either the support of your family or on an inheritance, you have a greater motivation to ensure that you are educated and able to take advantage of whatever economic opportunities are presented. Education may also be linked to household size, by pointing out that two of the three family types that have lower levels of postsecondary education (egalitarian nuclear and stem incomplete) tend to generate larger households. Thus, it may be possible to argue that a smaller family size, and therefore a greater concentration of resources, makes it easier for absolute nuclear families to send their children to universities (Becker 1960). Indeed, Todd (1991) argued that inegalitarian families are likely to be smaller than are egalitarian families because it is more difficult to see more children settled when only one child receives the bulk of the inheritance. Our results offer support for this view.

Our general employment indicator suggests little directly, hinting merely at the overall superior economic performance of the absolute-nuclear-family-dominated areas. This finding fits the overall story of the generally advantageous position of absolute nuclear family areas and supports Reher's (1998, 216) theory that, in general, areas around the Mediterranean (dominated by egalitarian nuclear and stem absolute family types) have a higher rate of unemployment, which is partly related to the greater ability of the family to provide support. As with many other social (as opposed to economic) indicators, there is also a difference between egalitarian and absolute nuclear family types in terms of the ratio of women in the workforce. In this case, we note that our findings concur with the view that women are more likely to enter and/or remain in the workforce when they have fewer children (Wong and Levine 1992)—supported tentatively by the correlation in our data between average household size and this ratio.

The final indicator to be considered shows that areas with an absolute nuclear family tradition have greater inequality than do areas with indeterminate, communitarian, and incomplete stem family traditions. There is no significant difference, however, between areas with absolute nuclear and either egalitarian nuclear or absolute stem families. Given our argument so far, and its support of the traditional views of the "Anglo-Saxon" and continental models, the higher level of inequality in absolute-nuclear-family-dominated areas is perhaps unsurprising. It is also to be expected, perhaps, that inegalitarian absolute stem families do not show a marked difference. However, the lack of any statistically significant difference between absolute-nuclear-family-dominated areas and egalitarian-nuclear-family-dominated areas in this regard is surprising. It could be hypothesized that in the latter case, the source of inequality may be higher structural unemployment that is due to stagnation, rather than economic dynamism, but this is clearly only the most tentative suggestion.

To summarize the identified characteristics of each family type, we suggest the following.

Regions with absolute nuclear families tend to be associated with smaller households, a more educated population, and a higher percentage of the population who are employed. As a rule, they have higher levels of formal club membership, perhaps as a form of compensation for the lack of socialization within the family. They are generally associated with service societies and tend to have richer and more dynamic regions,

although more inequitable societies. Regions with an imprint of absolute nuclear families seem to be early adopters, first in terms of the transition from an agricultural to an industrial society and then from the industrial to the service society. It thus may be that the higher economic dynamism of these areas is most evident in periods of change and less so in periods of stability.

Regions in which egalitarian nuclear families tend to predominate have larger households, a population with lower overall levels of education, lower activity rates, and lower female participation in the labor force. A small but more universally available inheritance may be seen as a deterrent to higher education, as may the larger family size. While there is no big difference in sectoral structure, inequality, and dynamism in absolute-nuclear-family-dominated areas, these regions tend to be poorer, perhaps as a result of their weaker ability to adapt to sectoral shifts in the economy.

Regions with a tradition of stem families seem to be associated with larger households, lower levels of education, and lower participation in the labor force, but not necessarily with lower female participation in the workforce. They are currently predominantly industrial societies and tend to be poorer and less dynamic than nuclear-family-dominated areas, especially in times of structural change.

Regions with communitarian family traditions are surprisingly not linked to bigger households, less educated populations, or less overall participation in the workforce. Such regions tend to be manufacturing societies and poorer, but more equal, than areas with absolute nuclear family traditions.

A potential criticism of these results may be to the focus on family structure as the sole explanatory variable and the omission of a host of other variables that may have an influence on our independent variables. Differences in wealth, economic growth, family size, education, employment levels, or female participation in the labor force may be the consequence of a host of factors that go beyond family structures, and no explanatory variable is completely robust against the addition of extra variables (Sala-i-Martin, Doppelhofer, and Miller 2004). In fact, most of our dependent variables could be used as independent variables to explain, say, differences in wealth or economic growth. Education, labor force participation, and sectoral structure, for example, are generally regarded as key determinants of growth. There are, however, several reasons why we overlooked what can be considered “proximate” (for example, education, sectoral structure, employment), rather than “deep” (for example, family structures) causes of regional disparities. The first is the fact that the problems of endogeneity mentioned earlier are more prone to exist with the use of “proximate” factors. It is more likely for recent economic growth to affect employment levels, female participation in the labor force, or education than regional family structure traditions. Second, other “proximate” causes may, in turn, reflect “deeper” factors. Finally, when family structures are regressed together with other “proximate” factors, such as demographic structure, education, labor force participation, social capital, or sectoral structure on economic performance, the family structure factors are more robust than are any of the “proximate factors.”⁸

But what about other “deep” factors that may influence existing regional disparities in Europe? It is true that other “deep” factors, such as history, culture, or religion, may affect regional change and disparities. However, the introduction of country effects controls for a large amount of the variation that may be potentially caused by national institutions. In addition, the use of other “deep” historical or institutional factors may create problems,

⁸ The results of these regressions are available on request.

Table 6
Family Types versus Religion

Independent Variables	GDP per Capita	Growth of GDP (1975–2004)
Family types		
Egalitarian nuclear	–5,329.9*** 1,955.9	–0.375* 0.206
Stem	–2,992.6** 1,365.7	–0.289** 0.143
Incomplete stem	–4,390.6** 2,118.3	–0.642*** 0.222
Communitarian	–5,410.7* 2,770.9	–0.152 0.291
Undetermined	–9,430.5*** 1,856.5	–0.548*** 0.240
Religion		
Mainly Catholic	712.8 1,570.2	0.416** 0.167
Mainly Anglican	–713.1 2,910.5	–0.055 0.231
National dummy variables		
<i>df</i>	Included 20,169	Included 20,160
Number of obs	189	180
<i>F</i>	10.30	17.72
<i>R</i> -squared	0.55	0.83
Adj <i>R</i> -squared	0.50	0.69

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since we expect not only that history or institutions affect families but also that families become a channel for the transmission of history and institutions. Consider the case of religion, whose current geographic distribution took place later than the formation of the family structures used in this article. Family structures may have been one of the factors that shaped the diffusion of Protestantism after the Reform, while the establishment of Protestantism may have affected family structures to a certain extent. When we included family structures and religion together in one regression to explain current disparities in two of our dependent variables (regional wealth and economic growth)⁹ (see Table 6), we found that while the coefficients of the different family structures are barely affected with respect to those reported on Table 5, the religious characteristics of regions tend to be dissociated from either current levels of wealth or recent economic performance. The sole exception is the higher performance of regions with a Catholic majority during the past three decades as a consequence of the higher recent dynamism of regions in Ireland and Spain or of the Italian regions during the 1980s.

Conclusions

The arguments put forth in this article indicate that the links between family structure and socioeconomic outcomes deserve attention and may offer significant progress toward

⁹ Regions were classified into those with a Catholic, Protestant, or Anglican majority, depending on the main religion of the population. Regions with a Protestant majority were used as the base category. The sources of our data were <http://www.cia.gov/cia/publications/factbook>, http://commons.wikimedia.org/wiki/Image:Europe_religion_map_de.png, and http://csi-int.org/world_map_europa_religion.php.

understanding why some regions are richer, have different levels of social capital, are more able to adapt to sectoral shifts, or are more unequal than others. This is the case whether or not stem and communitarian families in the areas in which Todd identified them still remain or have been replaced by nuclear families; what is clear is that at least some associations seem to persist and that these links have rich explanatory potential. Although settling the controversies regarding the direction and nature of the causal processes involved is beyond the scope of this article, our most plausible hypotheses all suggest some causative influence flowing from family structure to the persistence of disparities in social and economic development across Europe. It is also worth noting that these results seem to suggest that Reher's (1998) criticism regarding the overcomplexity of Todd's classification is misplaced, since we can see that significant differences emerged not just between northern and southern Europe but also along the lines of authority and liberty and equality and inequality that Todd identified.

Our conclusions go beyond merely reinforcing the belief that the societies and economies of southern and eastern Britain, northwest France, and the shores of the North Sea are stronger and more adaptable. By appearing to confirm that either family structures or their influence persist to the present and may have a strong influence on growth and dynamism, our research suggests that any attempt to replicate that dynamism, labor mobility, or sectoral shifts elsewhere in Europe through targeted projects and investment may reap weaker dividends than expected. As well as the traditionally cited causes of regional disparity, such as peripherality or lower endowments of human capital and infrastructure (Rodríguez-Pose and Fratesi 2004), policymakers may need to deal with institutional barriers that are related to inherited family structures and cultures particularly resistant to change. Indeed, it could be argued that this is part of the evidence required to explain why the impact of policy intervention was limited in the past.

The results presented here may also have a bearing on the current debates in social capital regarding the origins, roles, and value of community and societal institutions. Families or kinship groups could be seen as "concentrated" or exaggerated forms of community, given their even more limited geographic spread, the more intense personal relationships, and even stronger barriers to entry. However, nuclear families are somehow less "family-like" than other, stronger forms of kinship in communitarian- or stem-family-dominated areas, since there are much weaker personal links and more movement and mixing. Thus, it could be argued that, in some ways, the differences between nuclear and stem families reflect the differences between society and community described in the literature on social capital. Alternatively, we might investigate, as Greif (2006a) did, whether different family structures produce different emphases on community and society, where nuclear families may be expected to lead to stronger society-type institutions and stem and communitarian family structures to stronger community-type institutions. Whatever interpretative framework is used, it is reasonable to conclude that family structure deserves to be a fundamental component of the society and community debate.

To some extent, we have established only that there are important questions to answer, rather than actually providing answers. Apart from attempting a further analysis of the nature of the causative processes that produced our correlations, other questions emerge. How much longer will the influence of family structure last, and what shape may it take in the future? Given that the upheavals of the past 200 years appear to have had little effect on the associations that family structure has with social and economic outcomes, perhaps we should expect its persistence to remain. On the other hand, it may be the case that mass migration and globalization will finally cause the patterns identified here to fade away.

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