Alma Mater Studiorum - Università di Bologna

Department of Economics

Second-cycle/Master's Degree
in

Economics

Blood of my blood? Family Ties, Connections and Economic Outcomes

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Graduation Session of July

Academic Year 2023/2024

To my mother, for her unconditional love and understanding
To my brothers, for their enthusiasm and support
To my sister and nephews, for their joy of life
To my friends, who stood by me through hard times

In loving memory of my father,
whose guidance continues to inspire me every day

Contents

1 Introduction

Despite being among the oldest and most fundamental of human institutions, kin-based institutions have received relatively little attention as potential contributors to global variations in economic prosperity. For a long time, economists have focused on the so-called proximate determinants of growth, emphasizing the accumulation of factors of production such as investment in physical and human capital. However, recent economic literature has increasingly shifted towards identifying the 'deep causes' of long-run economic development. Key factors highlighted in the literature include climate, geography and natural resources (Sachs and Warner, 1995; Gallup et al., 1999; Masters and McMillan, 2001), life expectancy and disease (Sachs and Malaney, 2002; Ashraf et al., 2008; Lorentzen et al., 2008), political institutions (North, 1989; Acemoglu et al., 2002; Rodrik et al., 2004; Papaioannou and Siourounis, 2008), colonialism (Acemoglu et al., 2001; Dell, 2010; Dell and Olken, 2020), the slave trade (Nunn, 2008), genetic differences (Galor and Moav, 2002; Spolaore and Wacziarg, 2009; Ashraf and Galor, 2013).

Other works look instead at the set of cultural norms, values, beliefs and socially transmitted preferences that people hold across different societies. Economic literature has explored various facets of culture including historical persistence of traits (Guiso et al., 2006, 2016; Tabellini, 2010; Nunn, 2020), trust (Zak and Knack, 2001; Algan and Cahuc, 2010; Bjørnskov, 2012), patience (Sunde et al., 2021), gender roles (Alesina et al., 2013), religion (Becker and Woessmann, 2009; Coşgel et al., 2012; Strulik, 2016), individualism (Gorodnichenko and Roland, 2011), moral systems (Enke, 2019).

A crucial aspect of cultural traits is the transmission of values that occurs from parents to children (Bisin and Verdier, 2000, 2001; Doepke and Zilibotti, 2008). The family represents one of the most primal forms of human institutions regulating individual interactions. It is pervasive in a society and shapes many of its economic, social, and political aspects. Family ties and kin-based institutions play a critical role in shaping social norms and behaviors, which in turn influence economic and political development. Strength and weakness of family ties, defined as the network of relationships, obligations, social norms and values that govern interactions and support within the family unit, help explaining living arrangements and labor market outcomes of younger generations, and influence the relative returns to forms of favoritism towards kins, thereby encouraging practices such as political connections, nepotism and corruption. The persistence of family characteristics and associated values over long periods suggests that these institutions may have profound effects on contemporary economic practices and governance structures.

Overall, this work underscores the significant role that strong family ties play in reducing geographical mobility and increasing clientelism, connections and unemployment. It engages with two major strands of literature. First, it enriches the research on the impact of family ties on various economic and social outcomes (Giuliano, 2007; Alesina and Giuliano, 2010, 2013; Alesina et al., 2015), intergenerational transmission of values (Bisin and Verdier, 2022), and the broader field of cultural economics (Lowes, 2022). Second, it contributes to the literature that investigates the determinants and the effects of corruption (Mauro, 1995; Mo, 2001; Goel

and Nelson, 2010), nepotism (Scoppa, 2009; Fafchamps and Labonne, 2017; Chassamboulli and Gomes, 2021) and connections (Goldman et al., 2013; Choi et al., 2021; Akcigit et al., 2023). By integrating these perspectives, the work provides a comprehensive analysis of how family ties shape economic and social landscapes, offering valuable insights into the interplay between culture and economic development.

The rest of the thesis is organized into the following sections. In Section 2, I review the salient features of the vast literature from evolutionary biology, sociology, anthropology and economics on the structure and role of families as social institutions. In Section 3, I present some motivating evidence to lay the grounds for the models in the following section. In Section 4, I develop two simple theoretical frameworks on the relation between family ties, connections and unemployment. In Section 5, I conduct an empirical analysis to substantiate the main predictions of the model. Finally, in Section 6, I present some short conclusions and potential directions for further research.

2 Literature Review

2.1 Biology and Culture of Family Values

The love for one's kin is inherent in humans, much like in the animal kingdom. Within families, individuals are typically treated more kindly and are the primary recipients of altruistic acts. Family values are generally associated with higher levels of tolerance, sympathy, empathy, and trust towards relatives. But what exactly drives a mother to love her child and vice versa? According to Pinker (1997), the answer lies in our genetic heritage. From the perspective of natural selection, genes compete with each other for survival into future generations. Relatives share more DNA fragments than non-relatives, so if a gene prompts an organism to benefit a relative, by protecting or feeding them, it increases the chances of its own survival. Parental love is closely linked to biological relatedness, with the objective being the maximization of the number of genes in the next generations. The positive feelings one has towards a relative reflect the likelihood that an altruistic act will help propagate copies of one's genes, which depends on the relative's proximity in the family tree. Thus, parents, who donate fifty percent of their genes to their offsprings, hold the deepest love for their children, while cousins care for each other but not as intensely as siblings do, and so forth. Therefore, family values certainly have a genetic component.

Another line of research focuses on the intergenerational transmission of cultural traits within the family. It is well established in psychology literature that early childhood experiences have some bearing on adult values and behavior (Gross and McIlveen, 1998). In the context of family values transmission, Trivers (1974) posits that parents aim to socialize their offspring to be more altruistic and less self-centered than the offspring would naturally be, while the offspring often resist such socialization efforts—a phenomenon known as parent-offspring conflict. Within this framework, the personalities, traits, and attitudes of children are partially shaped during their formative years by parental investment in socialization. Building on the pioneering work of Cavalli-Sforza and Feldman (1981) in evolutionary biology and Boyd and Richerson (1985) in

anthropology, economists such as Bisin and Verdier (2000, 2001) have introduced mathematical models of cultural transmission into economics, allowing for endogenous socialization choices by parents. These models explore how parents decide to impart their own traits to their children, motivated by their evaluation of their children's actions. This evaluation is based on a form of *paternalistic altruism*, where parents assess their children's actions according to the parents' own preferences. Consequently, each parent strives to socialize their children to adopt their own preferred traits.

The cultural dimension of family ties seems particularly relevant when it comes to the analysis of the heterogeneity in the strength of family ties across societies. The notion that a culture centered around strong family ties may hinder economic development is not new. This perspective dates back to Weber (1904), which posits that deeply ingrained family values can constrain the growth of capitalist economic activities. According to Weber, these activities demand a more individualistic approach to entrepreneurship and a lack of nepotism, both of which may be at odds with strong family-oriented cultures. In relation to Italy's North-South divide, Banfield (1957) explores the socio-cultural underpinnings of economic stagnation in a small village in southern Italy, attributing the lack of economic development to what he terms "amoral familism," a social norm where individuals prioritize the immediate needs and interests of their nuclear family over the welfare of the broader community. This pervasive mindset results in a lack of trust and cooperation beyond the family unit, hindering collective action and the establishment of institutions that could promote economic growth and social progress. Amoral familism leads to widespread corruption, nepotism, and clientelism, as individuals leverage personal relationships and familial ties to navigate socio-economic challenges. These practices perpetuate a cycle of underdevelopment by discouraging meritocracy and institutional trust, thereby maintaining the status quo of poverty and inefficiency.

Coleman (1990) discusses the role of family values in shaping social capital and educational outcomes. He emphasizes that parental involvement in education and the transmission of values and norms within families profoundly impact children's academic achievement and social integration and underscores how these factors contribute significantly to the development of social capital. The discussion on the broader implications of social on governance and economic development is then fueled by Putnam (1993) who, comparing Northern and Southern Italy, examines how civic engagement, trust, and reciprocity within communities—elements that can be influenced by family values—affect the effectiveness of institutions and collective action. Regions or societies with higher levels of social capital tend to exhibit better governance, public services, and economic performance.

Fukuyama (1995) analyzes four different countries with low-trust, family-oriented societies: China, Italy, France and Korea. In these societies family-owned businesses are more prevalent than impersonal corporate structure. He argues that since family enterprises are based on kinship and pre-existing emotional bonds and social group they can thrive despite weak institutional frameworks lacking property rights protection and efficient commercial laws. However, he stresses how family-owned businesses are only the starting point of development for organizations and as the scale of the enterprise increases, it becomes ever more complex for the

single family to operate it given the limited supply of competent managers within a family. Consequently, family-owned businesses face limitations as they grow and many family firms remain small-scale, contributing to a skewed size distribution of firms in these countries.

2.2 Taxonomy and History of Family as an Institution

Several anthropologists emphasize the significance of family types in shaping socio-economic development. Todd (1985, 1990) in particular, argues that family structures are remarkably stable over time and have a profound impact on various aspects of society, including ideological convictions, state formation, constitutional structure, and post-constitutional outcomes. Todd (1990) bases his taxonomy of family systems identifying four premodern European family types along two major dimensions, which embody the core values of the French Revolution: *libertè* and *egalitè*.

Table 1: Todd's Taxonomy of Family Types

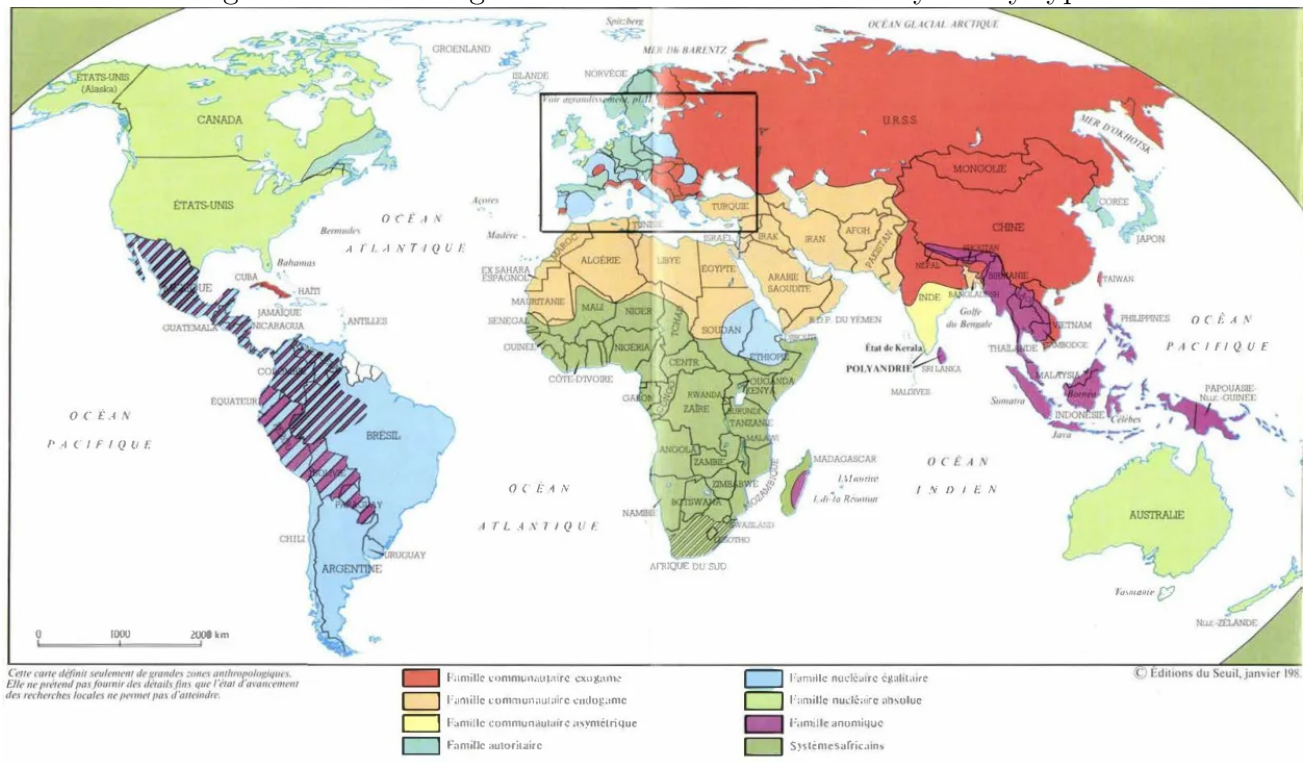
		Liberty	
		Authoritarian: married son stays with parents	**Liberal**: married son moves out
Equality	**Low**: unequal treatment of brothers	Stem (e.g., Norway, Sweden, Germany, Ireland)	Absolute nuclear (e.g., England, Canada, USA)
	High: equal treatment of brothers	Communitarian (Endogamous/Exogamous) (e.g., Pakistan, Morocco)	Egalitarian nuclear (e.g., Italy, Spain, Greece)

The first dimension (Liberty) concerns the nature of parental authority and child independence. At one extreme, children leave the parental home shortly after reaching early adulthood and become self-sufficient, whereas at the other extreme, children remain under parental authority long after reaching adulthood and even after marriage, living with or under their parents. This dichotomy can be described as either "liberal" or "authoritarian." According to Todd, the degree of intergenerational co-residence within a family is a crucial characteristic that shapes the level of individual liberty. He argues that the permanent co-residence of younger generations with older generations tends to diminish the freedom and autonomy of the younger members within the household. The second dimension (Equality) focuses on the relationship among siblings. In some families, siblings are treated as equals, especially in terms of inheritance, whereas in others, parents favor one child over the others, often the first-born. This distinction can be characterized as either "equal" or "unequal". Egalitarian inheritance rules promote a lasting connection between parents and children, as they are more inclined to maintain a close relationship and reside together for a longer period.

The "absolute nuclear" family is characterized by a liberal and non-egalitarian approach. Upon reaching adulthood, children are completely free to establish their own independent families, and inheritance is distributed freely according to the will of the parents. This structure is marked by a lack of concern for equality. In contrast, the "egalitarian nuclear" family is both liberal and egalitarian. Upon reaching adulthood, children are also free to establish their own families, but inheritance is distributed equally, indicating a continued connection between parents and children throughout their lives. The "stem" family, on the other hand, is authoritarian and inegalitarian. Multiple generations often live together, with the eldest child inheriting the family property and headship, ensuring the continuation of the family line. Other children typically leave the family home to marry or pursue careers in the military or clergy. Lastly, the "communitarian family" is authoritarian but equal. Multiple generations live together until the eldest die, at which point the inheritance is divided equally among the remaining family members. Todd further refines the classification by introducing a third dimension, examining the social acceptance and desirability of consanguineous marriages. He divides the "community" category into two subtypes: exogamous and endogamous communities. In exogamous communities, marriages within the family are not socially accepted, whereas in endogamous communities, cousin marriages are often encouraged. Both types share the characteristic of equal inheritance rules for brothers and the practice of sons remaining in their parents' household after marriage. Todd notes that a significant geographic region, spanning from Pakistan in the East to Morocco in the West, is characterized by this family type. This binary choice excludes societies that were indifferent to the issue of cousin marriage, which Todd ascribes to the anomic family system.

Duranton et al. (2009) uses Todd's classification to investigate the relationship between me-

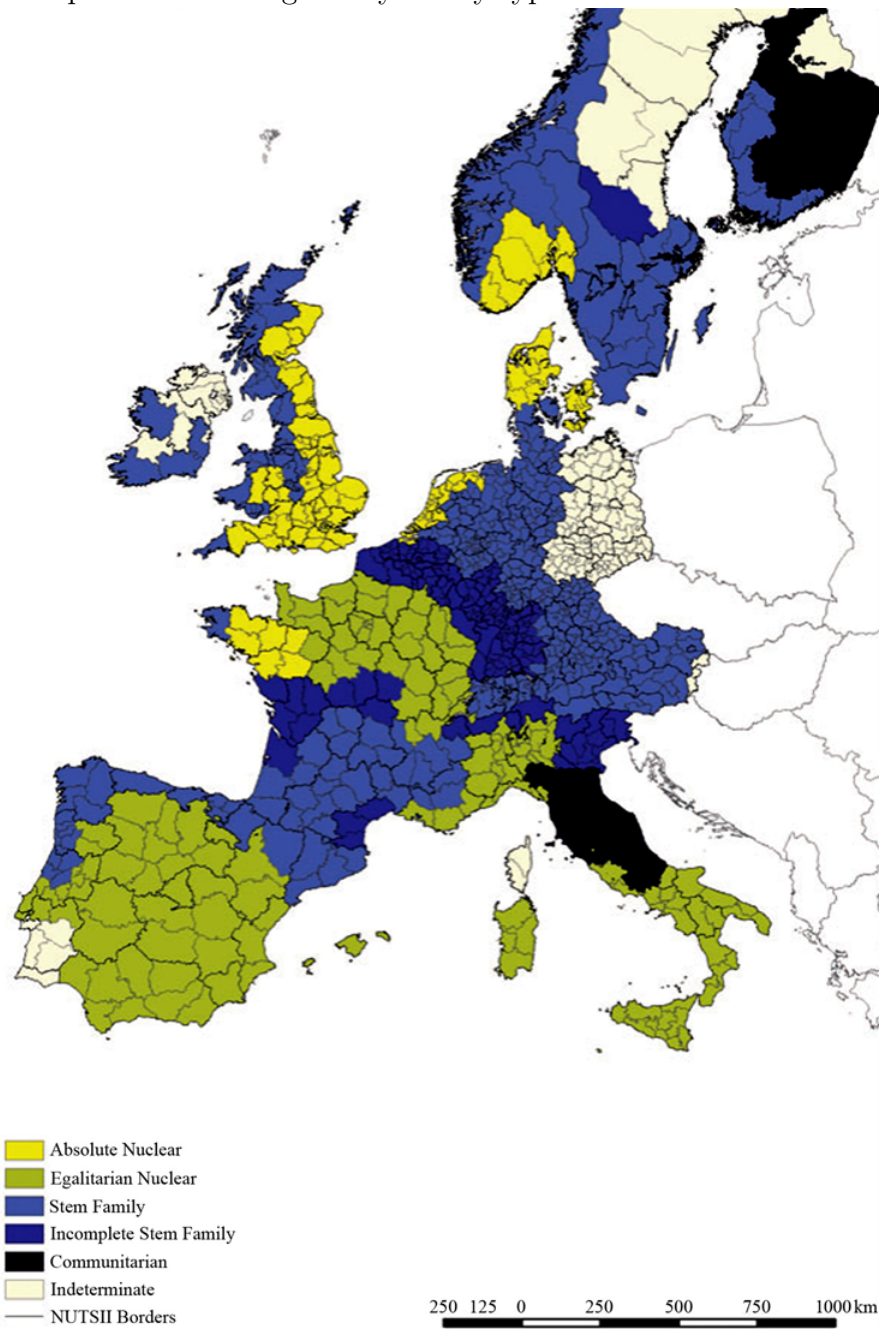
Figure 1: Todd's original classification of countries by family type



dieval family types and regional disparities in Europe, examining various indicators such as household size, educational attainment, labor participation, social capital, and economic wealth and inequality across European regions. The study found that medieval family structures persistently influence regional disparities in these indicators, suggesting that these structures are either extremely resilient or were internalized within other social and economic institutions as they developed. The study particularly highlights the favorable position of absolute nuclear families in terms of GDP per capita and employment data. The authors attribute this to the nuclear family's tradition of emancipation, which increases the potential for movement away from the family home and facilitates independent economic opportunities. Additionally, the inability to rely on the family for income and housing may generate a more entrepreneurial spirit and greater motivation to work. These factors, combined with the principles of primogeniture, may lead offspring from absolute nuclear families to be more proactive in pursuing economic opportunities, especially during times of structural economic adjustment.

Murdock (1949) also provides a comprehensive analysis of family structures and kinship systems across cultures. He posits that the family is a universal social institution found in all human societies, performing four essential functions: sexual regulation, economic cooperation, reproduction, and socialization of children. These functions are crucial for the stability and continuity of society. Murdock identifies various types of family structures, including nuclear families, extended families, and polygamous families, categorizing these based on the composition of family members and their living arrangements. He delves into kinship systems, the social relationships that define familial connections, and explores different kinship terminologies and their influence on social organization and behavior. Kinship systems can be patrilineal, matrilineal, or bilateral, affecting inheritance, residence patterns, and family roles. Marriage practices are another focus of Murdock's analysis, encompassing monogamy, polygyny, and polyandry. He examines how these practices are regulated and their implications for family structure and social stability. Murdock also highlights the economic cooperation within families, noting that families often function as economic units. This cooperation includes shared responsibilities for food production, child-rearing, and other economic activities essential for the survival and well-being of family members. Reproduction and socialization are emphasized as critical roles of the family, with families bearing the primary responsibility for raising children and instilling cultural values, norms, and skills necessary for their integration into society. Murdock's work is notable for its extensive cross-cultural comparisons, using data from various societies worldwide to illustrate the diversity and commonalities in family structures and kinship systems. Murdock's theoretical contributions are significant, particularly his argument for the universality of the family and his functionalist perspective. He asserts that despite cultural differences, the family exists in some form in all societies because it fulfills essential societal needs. More recently, Rijpma and Carmichael (2016); Gutmann and Voigt (2020) investigate the consistency of Todd's classification of countries by family systems with the ethnographic data compiled in Murdock's Ethnographic Atlas, which details various family traits. They extend their analysis by comparing these historical data sets with contemporary data, revealing that family characteristics and the values associated with them exhibit remarkable persistence over long periods.

Figure 2: European NUTS3 regions by family type. Source: Duranton et al. (2009)



Henrich (2020) examines the historical evolution of family structures from extended kinship ties and clans to nuclear families, focusing on how these transformations have shaped Western societies. Henrich divides human history into three stages to which a different form of social structure is attached. First, early human societies of hunter-gatherers were predominantly organized around extended kin-based institutions, made of (small) groups around loose networks of kin that would permit foragers to span over vast territories, access scattered resources and provide mutual insurance. These groups were essential for survival. Secondly, with changes in global climate occurred around 20000 years that made weather more predictable, seasonable and warmer, the fertility of land and the consequent productivity of agriculture and herding became increasingly more attractive to the local population. The shift towards more sedentary, non-nomadic communities modified the existing kinship institutions into intensive unilineal forms of

kinship structures- the clans- with a clear hierarchical structure. Clans evolved to foster strong in-group loyalty, cooperation and collective identity with the aim of securing properties and organize economic activity on a larger scale. Thirdly, a major shift began with the influence of the Catholic Church during the Middle Ages. The Church introduced policies that discouraged close-kin marriages (e.g., cousin marriages) and promoted monogamous nuclear families. These changes were part of a broader effort to dismantle the power of kinship networks and increase the Church's influence over individuals. The Church's policies gradually led to the decline of extended kinship systems and the rise of nuclear families. This transformation encouraged individuals to form smaller, more independent family units, often moving away from clans and lineages. The shift to nuclear families had profound psychological and social effects. It fostered greater individualism, self-reliance, and a focus on personal achievement. These traits became characteristic of the WEIRD (Western, Educated, Industrialized, Rich, Democratic) societies, contrasting with the collectivist orientations of societies that maintained strong extended kinship ties.

Greif (2005, 2006) argues that the growth-conducive changes brought by the establishment and growth of the economic and political corporations in late medieval Europe are shaped by the family structure of European regions. Historically, clans and tribes often secured the lives and property of their members. However, corporation-based institutions can substitute for large kinship groups in providing social safety nets. Greif posits that the nuclear family structure increases an individual's benefits from being part of a corporation, creating a virtuous circle where the emergence of corporations and the related economic and social transformation encourage the dominance of the nuclear family across Europe. He notes that nuclear families foster both flexibility and independence, which are essential for economic growth. Institutional changes develop in response to the lack of safety nets or associational benefits provided by non-nuclear family types. Individuals in nuclear families must form alternative networks to compensate for the lack of family support, leading to the development of more formal and transparent rules and organizations. Duranton et al. (2009) provide empirical support for Greif's hypothesis by showing that the offspring of absolute nuclear families are more likely to form associations and join clubs.

2.3 Family Ties in Economics

The role of family ties in economic development has garnered increasing attention in recent years as economists have sought to understand the deep-rooted cultural factors that influence economic behaviors and outcomes. Family ties are a critical element of social capital, influencing trust, cooperation, and the transmission of values across generations. Guiso et al. (2006, 2016) and Tabellini (2010) have explored how cultural values persist over time. These studies argue the persistence of cultural traits, including family ties, shape social norms and trust levels, which in turn affect economic performance and institutional quality.

Early theoretical work by Becker (1981) emphasized the family's role in the intergenerational transmission of human capital and social norms. Becker's model suggested that family ties impact educational outcomes, labor supply decisions, and the allocation of resources within

households. Bisin and Verdier (2000, 2001) develop a theoretical framework to understand how cultural traits and preferences are transmitted across generations. They propose a model where parents socialize their children into their own cultural traits and preferences. The authors identify two main mechanisms of cultural transmission: vertical transmission, driven by parental preferences, and horizontal transmission, arising from interactions with peers. Tabellini (2008) constructs a model to analyze the dynamics of cooperation among individuals under varying moral regimes: limited and generalized morality. Norms of limited morality are restricted to an inner circle of relatives and friends, within which trust and cooperation prevail, but cheating is tolerated and often practiced with outsiders. Conversely, generalized morality encompasses a broader application, where respect for abstract individuals and their rights is extended to everyone, fostering widespread trust and cooperation. Building on this work, Enke (2019) proposes a framework where differences in moral systems affect the returns to cooperation and economic development. He shows that as technological progress advances, societies with tightly knit kinship structures lose their comparative advantage to more loosely knit societies. This shift occurs because the efficiency gains from cooperating with people outside of one's kinship circle become increasingly significant. Greif and Tabellini (2017) develop a model of coevolution of institutions and cultural values to analyze the institutional divergence in China and Europe. They argue that while China developed kin-based institutions that emphasized strong familial ties and collective responsibility within clans, Europe evolved with city-based institutions that promoted broader, impersonal cooperation beyond kinship lines. These differing cooperation models led to contrasting norms and governance structures, influencing economic performance and political development.

Empirical studies have examined the impact of family ties on economic development, labor market participation and mobility. Recent studies (Bahrami-rad et al., 2022; Posch et al., 2023) establish a robust and economically significant negative association between kinship intensity, economic development and innovation. Alesina and Giuliano (2010, 2013) found that strong family ties are associated with lower labor force participation among women and lower geographical mobility among younger generations. The reliance on family support networks reduces the necessity to seek employment or migrate for economic opportunities, which can hinder economic dynamism. Living arrangements are another area where family ties exert significant influence. Giuliano (2007) demonstrated that strong family ties correlate with extended family living arrangements, where multiple generations reside together. This contrasts with societies characterized by weak family ties, where nuclear family structures and independent living are more common. These differences in living arrangements have implications for the allocation of resources and the provision of social support. Other works (Bertrand and Schoar, 2006; Yuan and Xie, 2021) have put emphasis on the role of family firms, showing that regions with a stronger family culture are more likely to have a larger share of family-owned businesses.

Family ties also play a role in fostering nepotism and corruption. Political scientists like Banfield and Putnam highlighted how strong family loyalties can undermine broader social trust and institutional integrity. In societies with strong family ties, personal connections and favoritism often take precedence over meritocratic principles, leading to higher levels of corruption and weaker governance structures. Studies by Durante et al. (2011) and Akbari et al.

(2019) have provided empirical evidence supporting the link between strong family ties and increased corruption. For instance, Italian mafia clans deliberately adopt the term "families" because trust within the family is indispensable, while maintaining complete distrust towards outsiders constitutes a fundamental aspect of mafia structure (Gambetta, 1993). Other works have produced both empirical and theoretical frameworks that may relate strong family ties to lower tax morale, distrust towards political institutions, corrupt public sector and a higher concentration of the underground economy (Buonanno and Vanin, 2017; Marè et al., 2020; Litina and Varvarigos, 2023). Several studies have examined the impact of nepotism, family structure, and inheritance norms on the performance of family businesses. Research by Pérez-González (2006), Villalonga and Amit (2006), and Morck et al. (2000) indicates that the decline in family firm performance is significantly associated with the transfer of active management and control from the founder to their descendants, while Carillo et al. (2019) illustrates that in societies with strong kinship ties, family-inherited firms generate a misallocation of managerial talents, thereby hindering productivity and economic growth. Evidence of nepotism is also prevalent in the public sector. For example, Scoppa (2009) reports a 44% higher likelihood of an individual working in the public sector if their father is a public employee. Similarly, Fafchamps and Labonne (2017) demonstrates that relatives of current office-holders are more likely to secure better-paying positions.

Family culture has also been shown to significantly shape economic welfare and policy preferences. Galasso and Profeta (2018) show that the strength of family bonds correlates with the design of a country's pension system. In societies with strong family ties there is less demand for public welfare since families provide support, leading to a reliance on informal family networks. Moreover, individuals who have strong family ties tend to participate less in political activities and exhibit lower interest in public policies, the common good, and broader political matters (Alesina and Giuliano, 2011). The strength of family ties is also shown to be an important determinant of voters' support for economic reform. Altruistic behaviors within families can diminish support for reform during economic crises (Brumm and Brumm, 2017), which may explain why Southern European countries refrained from enacting significant labor market reforms despite facing severe unemployment following the 2008 crisis. Alesina et al. (2015) delve into the intricate relationship between family ties and labor market institutions, proposing a feedback mechanism where cultural norms influence economic preferences and outcomes. They argue that societies with strong family ties tend to favor regulated labor markets over flexible ones, which require higher geographic mobility. This preference stems from the utility individuals derive from familial proximity. In their model, individuals inherit strong or weak family ties probabilistically, impacting their utility under different labor market policies. Those with weak family ties generally prefer labor market flexibility due to lower mobility costs and competitive job conditions. Conversely, individuals with strong family ties prefer regulated labor markets to mitigate the disutility of geographic separation from family. The model predicts two stable Nash equilibria: one where weak family ties lead to flexible labor markets and high mobility, and another where strong family ties support regulated markets despite potential inefficiencies like lower employment and wages. This explains the persistence of stringent labor regulations in societies with prevalent strong family ties, despite their apparent suboptimal economic outcomes. The basic setup of this model will be the foundation for the

model developed in Section 4.

3 Motivating Evidence

3.1 How to measure Family Ties?

The economics literature on family ties employs a variety of methodologies to measure the relevance and intensity of family relations within different groups or societies. These approaches draw on a range of data sources, analytical techniques, and conceptual frameworks, each with its own strengths and limitations.

One common method involves using survey data to create indices that capture various dimensions of family ties. For instance, Bertrand and Schoar (2006); Alesina and Giuliano (2010, 2013); Marè et al. (2020) analyze data from the World Values Survey (WVS) and European Values Survey (EVS). They extract the first principal component from responses to three key questions: the importance of family, indiscriminate love for parents, and duties towards children. This approach benefits from contemporary, individual-level data that can be aggregated at different scales, such as regional or national levels. However, it faces endogeneity issues when used as an independent variable, as the self-reported intensity of family ties might be influenced by other socio-economic factors that are also outcomes of interest. Similarly, James and Giwa-Daramola (2022) uses data from the 6th wave of the WVS to create a composite index based on questions about the importance of family, trust in family, family tradition, and the desire to make parents proud. This method shares similar pros and cons with the previous approach, offering detailed contemporary data but also grappling with potential endogeneity concerns.

Another significant contribution comes from Enke (2019), who develops the Kinship Tightness Index. This index measures the extent to which people are interconnected in tightly structured, extended family systems. The index is constructed using ethnographic data and offers insights into the ancestral distribution of kinship ties. Its major advantage lies in its ability to capture deep-rooted family structures across ethnic groups and countries. Additionally, Schulz et al. (2019) introduce the Kinship Intensity Index, which operates at the country level and aggregates various kinship-related practices to create a comprehensive measure of family ties. These indexes are useful for cross-country comparisons and understanding broad cultural patterns, but they are often limited to broad ethnic and national levels and may lack the granularity needed for more localized studies.

Akbari et al. (2019) and Schulz (2022) utilize consanguineous marriage rates as a proxy for the strength of family ties. Akbari employs data from Bittles and Black (2015), which provides country-level consanguineous marriage rates, and Cavalli-Sforza et al. (2004), which offers detailed information on Italian provinces. Schulz (2022) extends this analysis by providing regional-level consanguineous marriage rates for several countries, including Spain, France, Italy, and Turkey. These measures are advantageous because they capture a tangible aspect of family ties, namely marriage practices that often reflect deeper cultural norms. However,

the data is typically available at broader geographic levels and may not capture more subtle variations within smaller regions or communities.

In the context of China, a unique measure of family ties is utilized by Yuan and Xie (2021). They assess the number of genealogies compiled during the period from 1368 to 1949 within a region, normalized by the 1953 population. This historical measure provides a long-term perspective on family ties, reflecting deep-rooted cultural practices. The data is detailed at the county level, offering fine-grained insights into regional variations in family ties over centuries.

Buonanno and Vanin (2017); Posch et al. (2023) use indexes of surname diversity. A low diversity in surnames often signals the prevalence of tight-knit family networks, promoting an inward-looking social orientation. This concentration suggests that individuals rely heavily on family connections for social and economic support. However, this approach often come with limitations. The data used to construct these indices are frequently specific to particular regions or contexts, which may not capture the full spectrum of family dynamics across different cultural or institutional settings.

3.2 Evidence

This section presents the empirical evidence that motivates my thesis. Survey data on family ties and living arrangements is derived from the joint EVS-WVS trend dataset (EVS, 2022; Haerpfer et al., 2022), which compiles extensive information on the social, political, economic, religious, and cultural values of people worldwide, spanning a 40-year period from 1981 to 2022. Data on corruption is sourced from Transparency International. The Corruption Perceptions Index (CPI) ranks countries by their perceived levels of public sector corruption, determined by expert assessments and opinion surveys. The CPI defines corruption as the abuse of entrusted power for private gain and ranks 180 countries on a scale from 100 (very clean) to 0 (highly corrupt). For this analysis, I use the negative value of the CPI for intuitive interpretation, where higher values correspond to higher perceived corruption levels. The measure of family ties used here is the common approach found in the literature for WVS data, which involves extracting the first principal component from survey questions related to family relationships. Figure 3 illustrates a robust positive relationship between the intensity of family ties and the proportion of adults residing in the same household as their parents. Intergenerational co-residence is notably prevalent in societies characterized by strong family bonds, where cultural norms and economic considerations often encourage extended family living arrangements. In contrast, societies exhibiting a predominant nuclear family structure tend to foster conditions where young adults have greater freedom to reside independently, potentially relocating to areas offering optimal job prospects and personal opportunities (Laslett, 1983).

The positive association between family ties and corruption is illustrated in Figure 4. Family structures influence social norms by shaping patterns of relationships and interactions. Societies with strong family ties often prioritize norms of nepotism and favoritism over impartial cooperation, relying extensively on a close-knit circle of family, friends, or relatives. Outside this circle, behavior that includes harming and cheating may be more tolerated and frequent.

Figure 3: Family ties and Living Arrangements

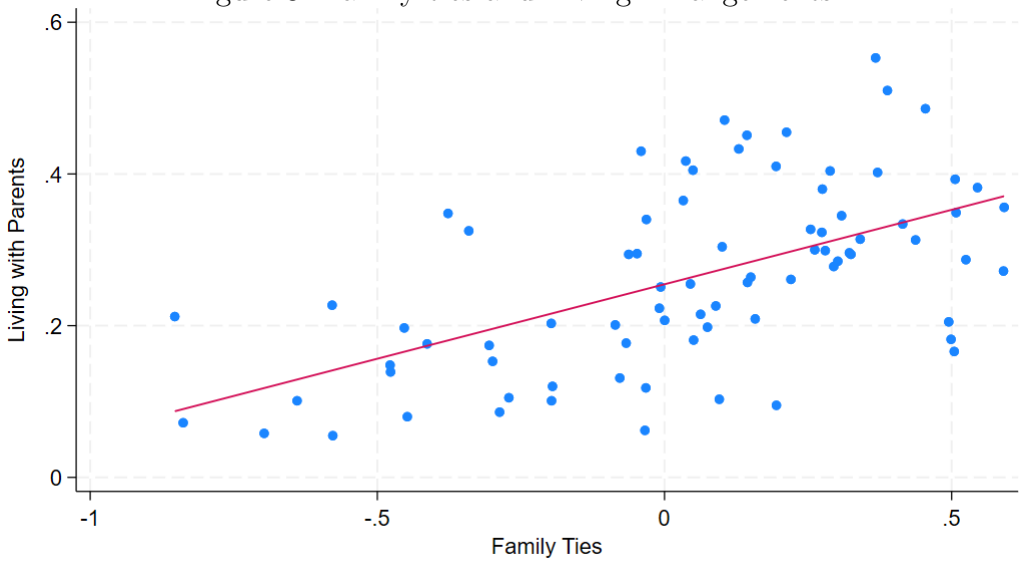
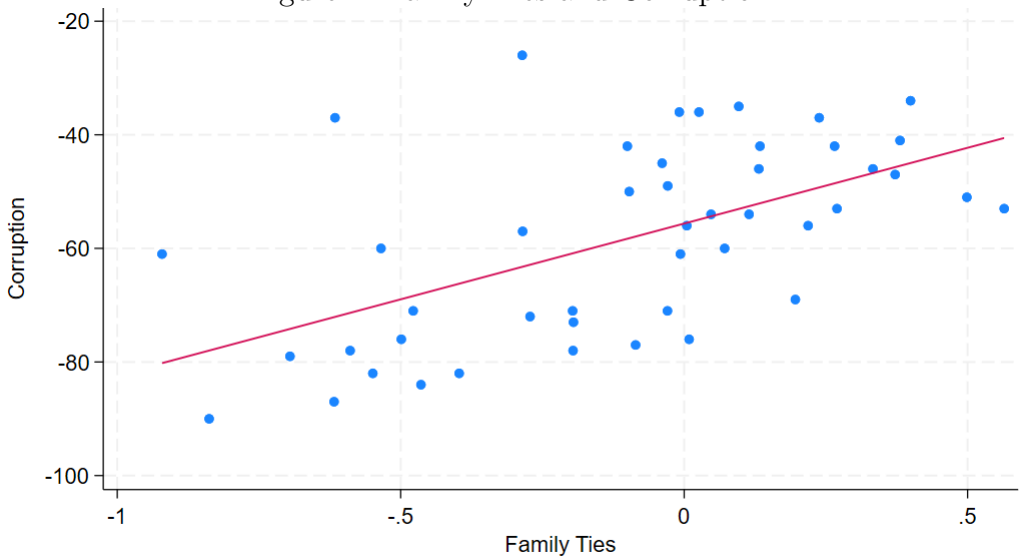
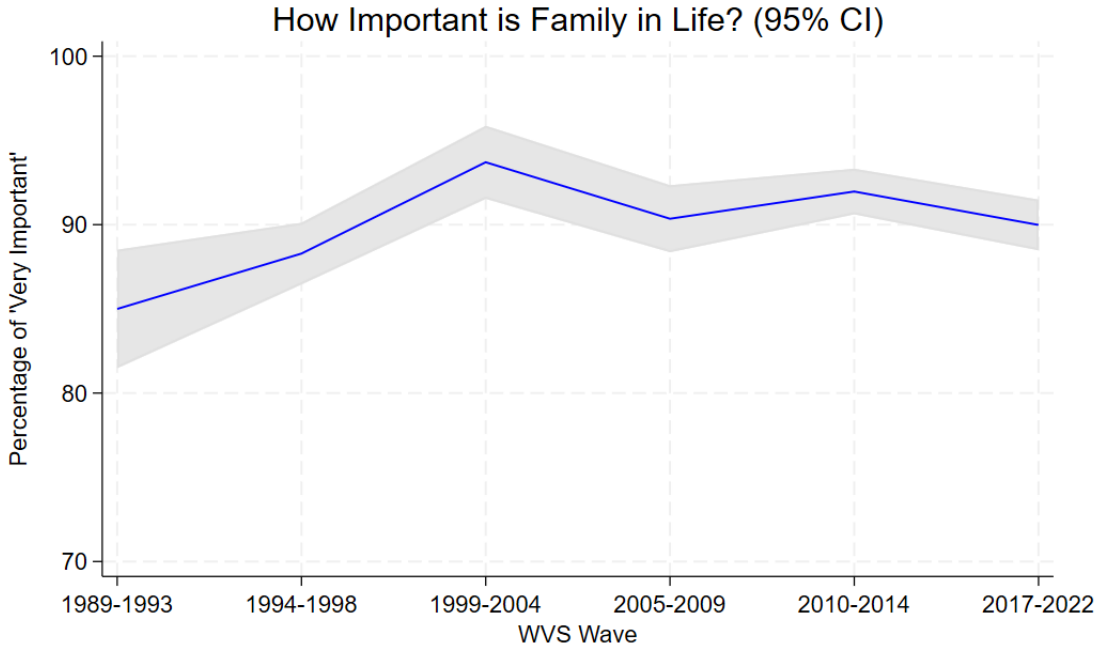


Figure 4: Family Ties and Corruption



In contrast, societies with less emphasis on familial connections tend to have increased interactions between non-relatives and strangers, fostering a culture that encourages impartiality and fairness in social and economic interactions. Figure 5 illustrates the global trend over time regarding the importance of family in individuals' lives, spanning from the question's introduction in the second wave of the World Values Survey (WVS) to its most recent seventh wave. The percentage of respondents emphasizing the significance of family has remained remarkably persistent, increasing marginally from 85% in 1989 to 90% in 2022. Several factors contribute to this observed persistence. Firstly, cultural norms and values may be reinforced through supportive policies, laws, and institutional frameworks, which uphold these beliefs. Societies with strong family values often institutionalize various forms of welfare, maternity leave policies, and pension systems that reinforce familial bonds. Secondly, there can be a complementarity between cultural beliefs and economic structures. Societies valuing family ties may specialize in industries that are family-based, thereby further embedding these values. A third explanation

Figure 5: Persistence of family values globally over time.



lies in the inherent stability of cultural beliefs themselves. Cultural norms, once established, tend to persist over time due to their efficiency in decision-making across different contexts, thereby reducing the need for continual information acquisition and processing.

4 Conceptual Framework

4.1 Model: Connections

4.1.1 Setup

I borrow and extend some of the basic setup from Alesina et al. (2015). Individuals are risk-neutral and live for two periods: in the first one they make employment decisions, in the second one they raise their child. Population is normalized to one. Individuals are raised by their parents as either one of two types: strong family ties (s) or weak family ties (w). If an individual with strong family ties finds employment in the local firm/industry he/she enjoys an additional utility component $\phi > 0$. This component will instead turn into a disutility $-\phi$ if the agent is required to move elsewhere. Strong family ties parents will also experience the same additional (dis)utility based on whether their child moves or stays. Weak family ties individuals/parents are indifferent with respect to the location of the job ($\phi = 0$). The share of strong family type individuals for the first generation is given by $f_0 \in (0, 1)$ and is historically determined.

Based on their type, each individual draws his/her productivity a_i from a uniform distribution $a^T \sim U[0, 1] \quad \forall\ T = s, w$. The realization a_i represents how much the individual is fit for the local industry. However, every worker can find a job with productivity 1 in a place different from his/her initial location. The idea is that there may be a different industry elsewhere where the individual can fully express his/her talent. Labor is supplied inelastically and workers are

paid wages that equal their productivity level.

The probability of being hired by the local sector is given by $a_i + c_i$ where $c_i \in [0, 1 - a_i]$ is the connection costs individual i opts to pay in order to increase his/her chances to get hired. This effort comes at a cost, creating disutility $-c_i$. This cost is not necessarily monetary but may entail utility-reducing efforts such as building relations with locals, politicians and civil servants, so that the worker may become more appealing to the firm.

4.1.2 Employment Decision

An individual with weak family ties can move at no costs and find with certainty a job where his/her wage is equal to 1. Paying connection costs would not yield any further benefit. Therefore:

$$U^w = 1$$

$$c_w^* = 0$$

An individual with strong family ties wants to stay close to his/her family and will therefore try to get hired by the local industry. Given his/her productivity a_i he/she will also have to decide whether to become connected or not by maximizing expected utility. Moving away from the family will be the outcome if the local firm does not hire the worker. As in Alesina et al. (2015) I will focus on the equilibrium conditioning on $\phi \in (\frac{1}{2}, 1)$ so that the reward from being tied with family in the society is high enough to ensure the willingness for locals to get hired by the local firm and the existence of connected workers.

$$\max_{c_i \in [0, 1-a_i]} \quad (a_i + c_i)(a_i + \phi - c_i) + (1 - a_i - c_i)(1 - \phi - c_i)$$

$$c_s^* = \begin{cases} 1 - a_i, & \text{if } a_i > 2(1-\phi) \\ 0, & \text{if } a_i < 2(1-\phi) \end{cases}$$

Using the properties of the uniform distribution it follows that $\lambda = 1 - 2(1 - \phi)$ represents the share of connected workers among the strong family type population.

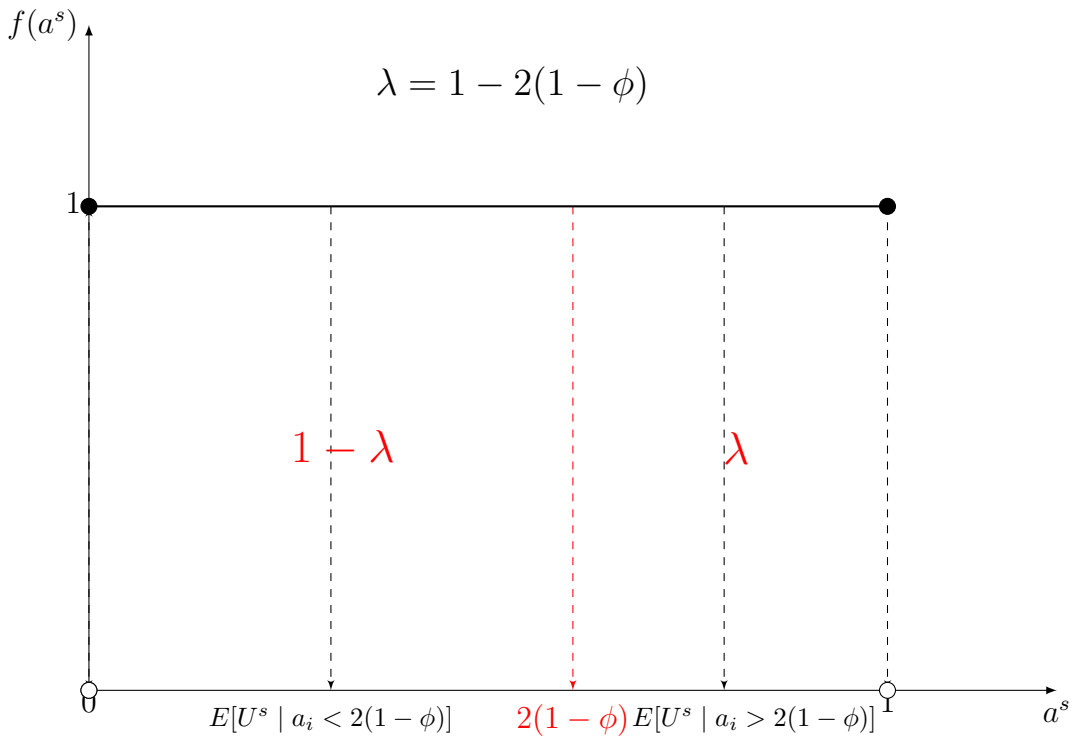
Result 1. *(Connections) The share of connected individuals in the economy γ_t at time t is given by $\lambda(\phi) * f_t$, which is strictly increasing both in the intensive margin (ϕ) and the extensive margin (f_t) of family ties in the society.*

Let π be the share of strong type individuals eventually hired by the local firm:

$$\pi = \underbrace{[1 - 2(1-\phi)]}_{\text{connected workers}} + \underbrace{2(1-\phi)E[a_i \mid a_i < 2(1-\phi)]}_{\text{"winning" unconnected workers}}$$

$$\pi = 1 - 2(1-\phi)\phi$$

Individuals who are not fit enough for the local industry deem connections to be too costly and therefore become unconnected, risking the job lottery, whereas individuals that are productive



enough simply pay relatively smaller connection fees to ensure their employment in the local sector and secure the utility from family proximity.

4.1.3 Connection Costs

Spending time and incurring costs to generate connections lead to a waste of resources in the economy. In particular, the total direct cost of connections C_t, in terms of aggregate disutility, can be found as the sum of connections costs paid individually by connected job seekers.

$$C_t = f_t \int_{2(1-\phi)}^{1} (1-a)\, da$$

Solving the integral above by simple integration rules yields

$$C_t = 2f_t\Big(\phi - \frac{1}{2}\Big)^2$$

Note that C_t is always positive under $\phi \in (\frac{1}{2}, 1)$ and is also exponentially increasing in ϕ: as the intensity of family ties increases so does the return to becoming connected and secure a local job for a strong-type worker, which in turn increases total connection costs. However, this represents only the negative direct effect to utility without taking into account the positive indirect effect of being connected, namely the additional utility return from being close to family. This relation will be explored more in-depth later on.

4.1.4 Wages and Economic Inefficiency

It is insightful to compare wages and productivity levels of the economy to the "efficient" benchmark of a perfect weak family ties society ($f_t = 0,\ \phi = 0$), where every individual is a weak type, and therefore decides to move away from the family so that he/she may be matched

for his/her own talent at productivity level equal to 1. The aggregate productivity (wage) loss PL_t is found by adding up the individual wage differences to which both connected workers and winning unconnected workers give up to stay close to the family and keep residing in their birthplace.

$$PL_t = f_t\Big\{ \int_{2(1-\phi)}^{1} (1-a)\, da + \int_{0}^{2(1-\phi)} a(1-a)\, da \Big\}$$

Or, equivalently

$$PL_t = f_t\{\lambda(1 - E[a_i \mid a_i > 2(1-\phi)]) + (1-\lambda)E[a_i(1-a_i) \mid a_i < 2(1-\phi)]\}$$

Using the linearity of the expectation operator it follows that

$$PL_t = f_t\{1-2(1-\phi)(1-E[a_i \mid a_i > 2(1-\phi)])+2(1-\phi)(E[a_i \mid a_i < 2(1-\phi)]-E[a_i^2 \mid a_i < 2(1-\phi)])\}$$

Standard properties of the continuous uniform distribution simplify the expression above to

$$PL_t = \frac{1}{3} f_t\{8\phi^3 - 12\phi^2 + 6\phi - \frac{1}{2}\}$$

Note that productivity (wage) loss is strictly positive in the case under analysis ($\phi \in (\frac{1}{2}, 1)$). Strong family ties make living arrangements where individuals continue residing with their family more appealing, leading to an equilibrium characterized by lower wages and productivity levels.

Result 2. *(Wage Inefficiency) The productivity loss PL_t that is forgone compared to the economically efficient benchmark ($f_t = 0,\ \phi = 0$) is strictly increasing both in the intensive margin (ϕ) (exponentially) and the extensive margin (f_t) of family ties in the society. Stronger family ties result into lower wages and average productivity.*

4.1.5 Utility and Well-being

In the previous paragraph I have established that family ties lead to economically suboptimal outcomes in terms of income per capita. Does that necessarily imply that people living in societies with strong family relations are also less happy? Differences in aggregate utility with respect to the efficient benchmark are mainly driven by two sources in the model. The first one relates to the economic inefficiency in terms of productivity loss derived in the previous paragraphs, which lowers average wages and worsen economic conditions. The second source is instead non-monetary and can be further decomposed into two different subcomponents: the direct disutility created by connection costs and the payoff (which in principle may be negative or positive, depending on the outcome) that results from family proximity.

$$UL_t = \underbrace{PL_t}_{\text{economic effect}} + \underbrace{C_t - f_t[\pi\phi - (1-\pi)\phi]]}_{\text{non-economic effect}}$$

While direct economic effects resulting from low wages and productivity certainly lower aggregate utility, it is unclear at first glance whether the overall effect of non-economic aspects of

preferences may mitigate or exacebate the disutility driven by economic inefficiency. To answer this question, one has to look at the marginal effect.

$$\begin{aligned} UL_t &> 0 \qquad \forall\ \phi \in (1/2, 1) \\ \frac{\partial UL_t}{\partial f_t} &> 0 \qquad \forall\ \phi \in (1/2, 1) \\ \frac{\partial UL_t}{\partial \phi} &< 0 \qquad \forall\ \phi \in (1/2, 1) \end{aligned}$$

It appears that aggregate utility is always lower in strong family ties. However, while the extensive margin of family ties (f_t) only exacerbates economic inefficiencies it turns out that higher intensive margins (ϕ) can mitigate and offset the bad economic consequences of lower wages by providing the non-monetary benefits of living with and receiving support from family. This may explain the reason why, conditional on economic conditions, individuals with stronger family ties report increased well-being (Alesina and Giuliano, 2013).

Result 3. *(Well-being) Strong family ties societies exhibit lower utility compared to the economically efficient benchmark ($f_t = 0,\ \phi = 0$). However, a higher intensive margin of family ties (ϕ) offsets the negative economic effects (lower wages) and increases perceived well-being whereas a higher extensive margin of family ties (f_t) exacerbates inefficiencies, lowering well-being. The overall effect of stronger family ties is ambiguous.*

4.1.6 Parental Decision

So far, I have examined the static equilibrium of the model and its implications by considering the distribution of types as given. However, what happens when parents can endogenously choose the family type their children will inherit? Suppose a strong family type parent cares about the utility of his/her child but also about whether the child will continue living in the household when employable (*imperfect empathy*). I assume that the parent knows the distribution of a_i but not the realization for the child. This assumption is reasonable as transmission of values typically occurs during childhood whereas the productivity of the child will develop later on in life prior to seeking employment. The child will be transmitted the strong family ties trait if the following condition is met:

$$E[U^s] + \pi\phi + (1-\pi)(-\phi) > U^w - \phi$$

$$[1 - 2(1-\phi)] * E[U^s \mid a_i > 2(1-\phi)] + [2(1-\phi)] * E[U^s \mid a_i < 2(1-\phi)] > 1 - 2\phi + 4(1-\phi)^2$$

$$\forall\ \phi > \underline{\phi} \approx 0.15$$

Under the assumption of $\phi > 1/2$ a strong family ties parent will always make the child inherit his/her own trait.

A weak family type parent also cares about the utility of his/her child but not about the location of the job. The child will be transmitted the strong family ties trait if the following condition is met:

$$E[U^s] > U^w$$

$$[1-2(1-\phi)]*E[U^s \mid a_i > 2(1-\phi)] + [2(1-\phi)]*E[U^s \mid a_i < 2(1-\phi)] > 1$$
$$\forall\ \phi > \overline{\phi} = 1$$

However, this cannot hold given that $\phi \in (\frac{1}{2}, 1)$: under the assumption of $\phi < 1$ also a weak family ties parent will therefore socialize the child with his/her own trait.

Result 4. *(Persistence of types) Regardless of the type, a parent will make the child inherit his/her own trait. The share of individuals with strong family ties will remain constant. The transmission of values from parents to children is persistent over time.*

$$f_t = f_0 \quad \forall\ t$$

4.2 Modified Model: Unemployment

4.2.1 Setup

The standard model analyzed so far relied on the assumption that labor supply is inelastic. What happens if individuals are allowed to remain unemployed? How would the family respond? The following modified version attempts to answer these questions. To simplify the model and make it more mathematically tractable, I consider a static version of the model in Section 4.1 with no connection costs, where children simply inherit the parent's type. By adding the possibility of unemployment, the agent may decide not to work at all and stay close to the family. Let $s \in (0, \frac{1}{2})$ be the essential level of consumption each individual must satisfy to meet basic survival needs. Based on their type, each parent draws his/her endowment x_p from a uniform distribution $x^T \sim U[s, 1] \quad \forall\ T = s, w$. Additionally, parents may decide to stipulate an informal insurance contract and provide an endogenuous intra-family transfer $k \in [0, x_p]$ in order to support the child at home if unemployed. As before, I will focus on the equilibrium conditioning on $\phi \in (\frac{1}{2}, 1)$. The model is solved by backward induction.

4.2.2 Employment Decision

An individual with weak family ties can move at no cost and find with certainty a job where his/her wage is equal to 1. The alternative is to stay home and receive support from the parent by receiving the family transfer. However, since the amount of the transfer k cannot be higher than one the individual still prefers to move away from the family and find a job elsewhere. The parent will never have to provide any family transfer as a form of insurance against unemployment.

$$U^w = 1$$

Instead, an individual with strong family ties must initially decide whether or not to seek a job in the local firm/industry. The hiring process is stochastic as in Section 4.1 but depends solely on productivity a_i. If the individual decides to take up the lottery but is rejected by the firm or if the job lottery was not played he/she may still decide the outside option: moving away or being unemployed at home.

No Lottery

If the individual forgoes the possibility to seek for a job his/her expected utility is as follows

$$U^s = \max\{ \underbrace{1-\phi}_{\text{Moving}}, \underbrace{k+\phi}_{\text{Unemployed}} \}$$

Lottery

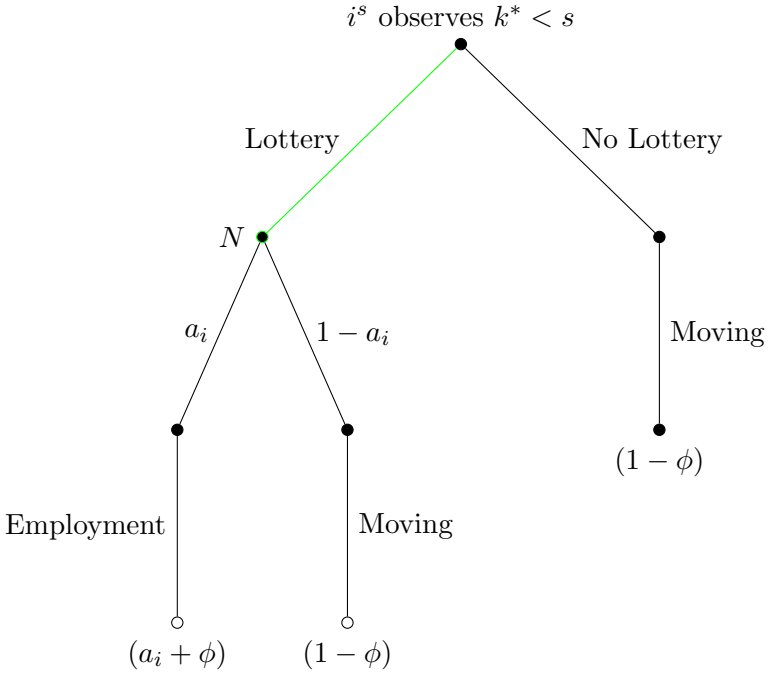
If the individual takes up the lottery there are two possible outcomes based on the size of the family transfer k. The expected utility becomes

$$U^s = \begin{cases} a_i(a_i+\phi) + (1-a_i)(1-\phi), & \text{if } k < s \\ a_i(a_i+\phi) + (1-a_i)\max\{1-\phi,\ k+\phi\}, & \text{if } k \geq s \end{cases}$$

If the amount of the subsidy is not sufficient to cover the essential consumption needs, then unemployment is not an option, forcing the individual to move away if rejected. On the other hand, when the potential family transfer is large enough to meet basic needs, both moving away and unemployment become viable options. However, regardless of whether the individual takes up the job lottery or not the assumption on ϕ ensures that the strong family type individual always prefers being unemployed to moving away: $\max\{1-\phi,\ k+\phi\} = k+\phi$ under $\phi \in (\frac{1}{2}, 1)$.

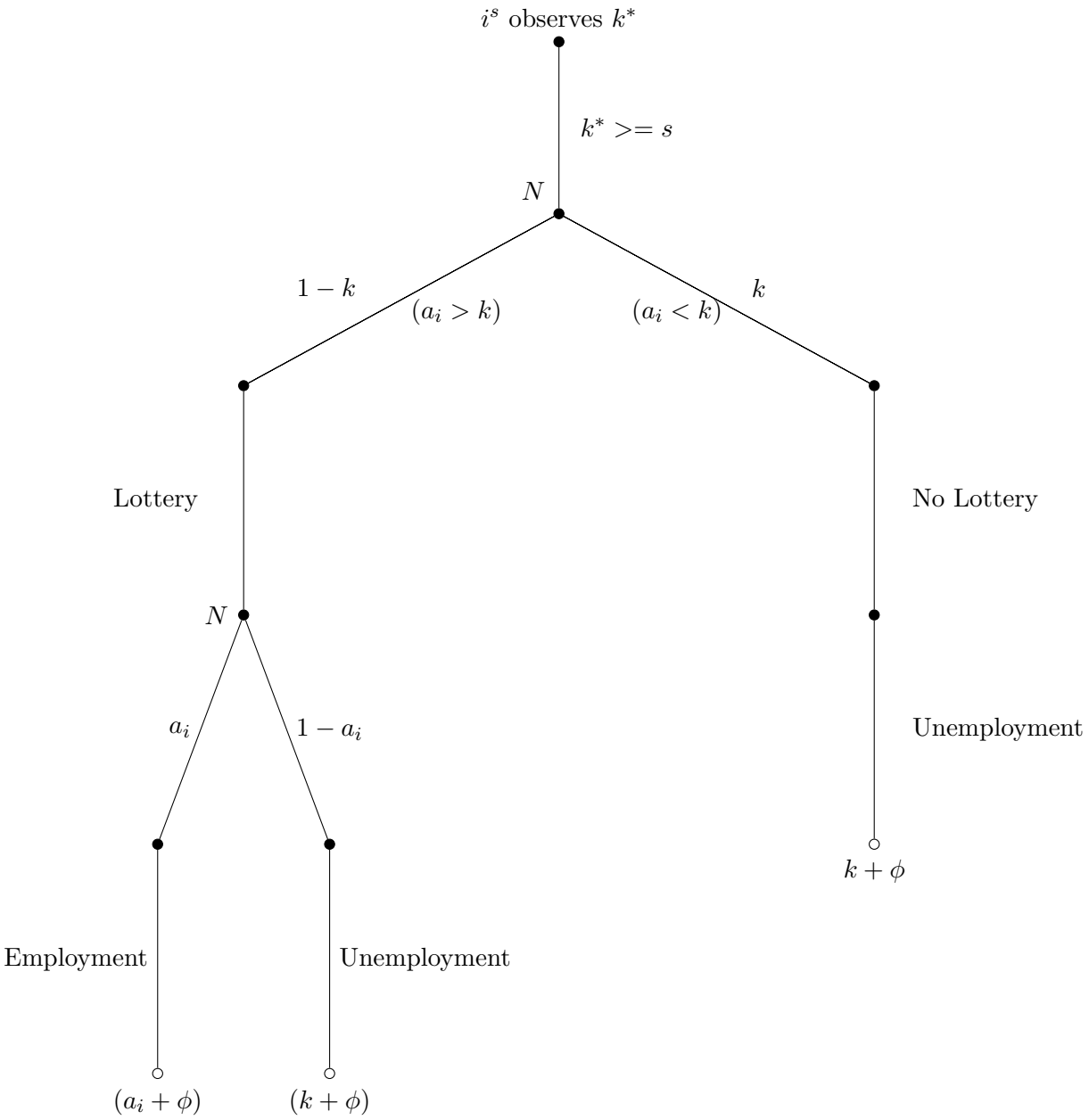
Case I: $k^* < s$

The individual observes that the unemployment insurance provided by the parent is not enough to cover consumption needs. Therefore, the possibility for unemployment is ruled out. At this point, he/she must decide whether to undertake the job lottery. The choice is driven by the means a direct comparison of expected utilities under the two options. For $\phi \in (\frac{1}{2}, 1)$ taking up the lottery is a strictly dominant strategy.



Case II: $k^* \geq s$

The individual realizes that the amount of the potential family transfer is large enough to sustain unemployment. At this point, if the agent knows he/she is productive enough to earn a better income in the local firm than the subsidy provided by the parent, taking up the lottery becomes the dominant strategy. Otherwise, the individual realizes he/she is not productive enough and will not risk the lottery.



4.2.3 Optimal Transfer

Similarly to the first model, a parent with strong family ties cares about the utility of the child but also takes into account both the personal (dis)utility he/she will face in case the child moves away or stays home (ϕ) and the costs associated with informal unemployment insurance (k). The parent is rational and forward-looking, understanding how the child will react to the unemployment transfer but unaware of the specific realization of a_i. The child's strategy depends on whether the transfer exceeds the minimum level of consumption. Basic consumption needs are also binding for the parents, meaning not all families can afford to support their children. This creates a distinction based on endowment between wealthy parents ($x_p \geq 2s$), who can provide insurance, and poor parents ($x_p < 2s$), who cannot. Both types of parents must decide on the optimal level of transfer k^*.

Wealthy parents choose the optimal level of transfer so that they can maximize their utility, composed by the sum of the expected utility of the child, the (dis)utility from family proximity and the endowment net of the expected cost of the transfer.

$$\max_{k\in[0,x_p-s]} \quad U_p^s = \begin{cases} E[U^s \mid k < s] + E[a_i](\phi) + E[1-a_i](-\phi) + x_p, & \text{if } k < s \\ E[U^s \mid k \geq s] + \phi + x_p - \{(1-k)E[1-a_i \mid a > k]k + k^2]\}, & \text{if } k \geq s \end{cases}$$

After some algebraic steps the problem turns into

$$\max_{k\in[0,x_p-s]} \quad U_p^s = \begin{cases} \frac{5}{6} + x_p, & \text{if } k < s \\ \frac{1}{3}(1-k^3) + 2\phi + x_p, & \text{if } k \geq s \end{cases}$$

When $k < s$ the child will never ask for parental support, therefore any k would be equally optimal for the parent. However, when $k \geq s$ the higher is the amount of the transfer the lower is utility for the parent. The optimal choice is therefore the corner solution at the lower bound $k = s$. Hence, potential candidates for k^* are

$$k^* < s \; or \; k^* = s$$

Which k^* does the parent choose? The answer comes by comparing indirect utilities. The parent will to provide support ($k^* = s$) if:

$$\frac{1}{3}(1-s^3) + 2\phi + x_p > \frac{5}{6} + x_p$$

$$\frac{s^3}{3} + \frac{1}{2} - 2\phi < 0$$

The expression above is always verified under the assumptions of $s \in (0, \frac{1}{2})$ and $\phi \in (\frac{1}{2}, 1)$. Consequently, wealthy parents will always choose to provide support to the children in case of unemployment.

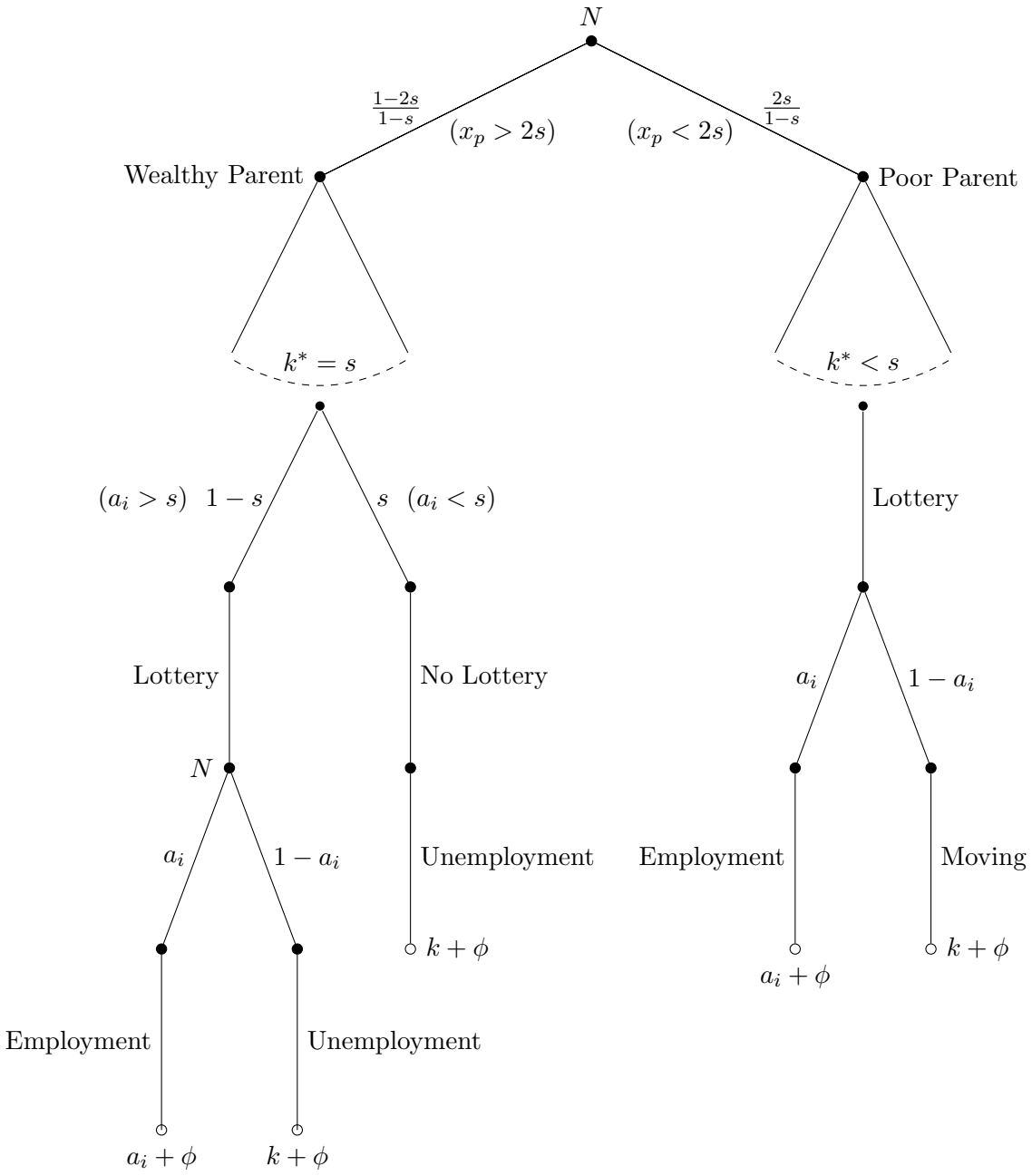
$$k_r^* = s$$

On the other hand, poor parents do not have the option to provide family support. Their optimal choice of k will have to lie below the essential level of consumption.

$$k_p^* < s$$

4.2.4 Unemployment

The equilibrium of the model is summarized in the figure below.



Note that there may be two different situations in which the person with strong family ties is unemployed and needs family support from the (wealthy) family. The first case is the one in which the high-productivity individual resorts to parental support after an unlucky draw from the job lottery. This may be considered as involuntary unemployment. The second case concerns the one in which the low-productivity individual decides to ask directly for support. This may be considered as voluntary unemployment, since the person does not take part into

the job-seeking process and is out of the labor force. Unemployment rate among sons/daugthers of wealthy parents can be found as the sum of voluntary and involuntary unemployment.

$$u_r = \underbrace{(1-s)E[1-a_i \mid a_i > s]}_{\text{Involuntary Unemployment}} + \underbrace{s}_{\text{Voluntary Unemployment}}$$

Total unemployment in the society reflects the overall composition of types in the society. Both agents with weak family ties and those with strong family ties but coming from poor families do not go unemployed, the overall share of unemployed agents is obtained by weighting u_r by the share of individuals of type s with wealthy parents. Hence, total unemployment rate is given by:

$$u = f\Big(\frac{1-2s}{1-s}\Big)\Big[\frac{1}{2}(1-s)^2 + s\Big]$$

Result 5. *(Unemployment) The share of individuals that become unemployed $u(f,s)$ and exploit the informal unemployment insurance provided by the family is strictly increasing in the extensive margin of family ties (f).*

5 Empirics

The empirical analysis combines data from various source to test the models' predictions that stronger family ties are associated with higher corruption, youth unemployment and other economic outcomes. To provide evidence for my hypothesis I approach the problem at various levels of granularity. First, I collect data across Italian Provinces using consanguineous (cousin) marriage rates as a measure of family ties. Second, I analyze Italian municipalities using an index of surname concentration.

5.1 Italian Provinces (NUTS3)

5.1.1 Data Description

In my cross-province analysis, I use consanguineous marriage data as an indicator of family ties and examine its impact on measures of corruption and youth unemployment. Since the Catholic Church officially prohibited consanguinity, couples who wanted to bypass this restriction had to obtain approval from their local diocese. The church meticulously recorded these marriages, which were later compiled in province-level statistics by Cavalli-Sforza et al. (2004). The data originates from the Vatican's Secret Archives, where requests for dispensations from the consanguinity impediment were documented. These requests, sent by Bishops to the Sacred Congregation of the Sacraments in Rome, included the name of the diocese, the date, and the degree of relationship between the spouses. The researchers grouped 280 Italian dioceses into the provinces existing in 1961 and calculated consanguinity rates based on uncle-niece/aunt-nephew and first cousin marriages, using total marriage numbers available from year to year. I use consanguinity rates from 1960 to 1964, following Schulz (2022). I consider the rates from 1960 to 1964. The data, presented in Figure 6, shows significant variation between Northern and Southern provinces, with higher consanguinity rates particularly in regions like Calabria

and Sicily. For each province, I control for a number of geographic variables such as distance to the coast, average precipitation, ruggedness of terrain, elevation, latitude and others. Data on corruption crimes, Neet, education and social capital comes from the National Anti-Corruption Authority (Anac) open portal. Data are from 2016. The corruption indicator is measured as the number of criminal proceedings in relation to the population (rate per 100,000 inhabitants) initiated for crimes of corruption, extortion, and embezzlement, considering crimes where the legal framework involves an "exchange" between a public official and an external party, as well as crimes where the misuse of function for private gain is established. Labor productivity for each province is taken from Eurostat, dividing GDP at current market prices in 2019 by population. Youth unemployment rates (15-34 years old) in 2019 are provided by Istat at the provincial level. Well-being measures are taken from Calcagnini and Perugini (2019).

Figure 6: Consanguineous Marriage Rates by Italian Province

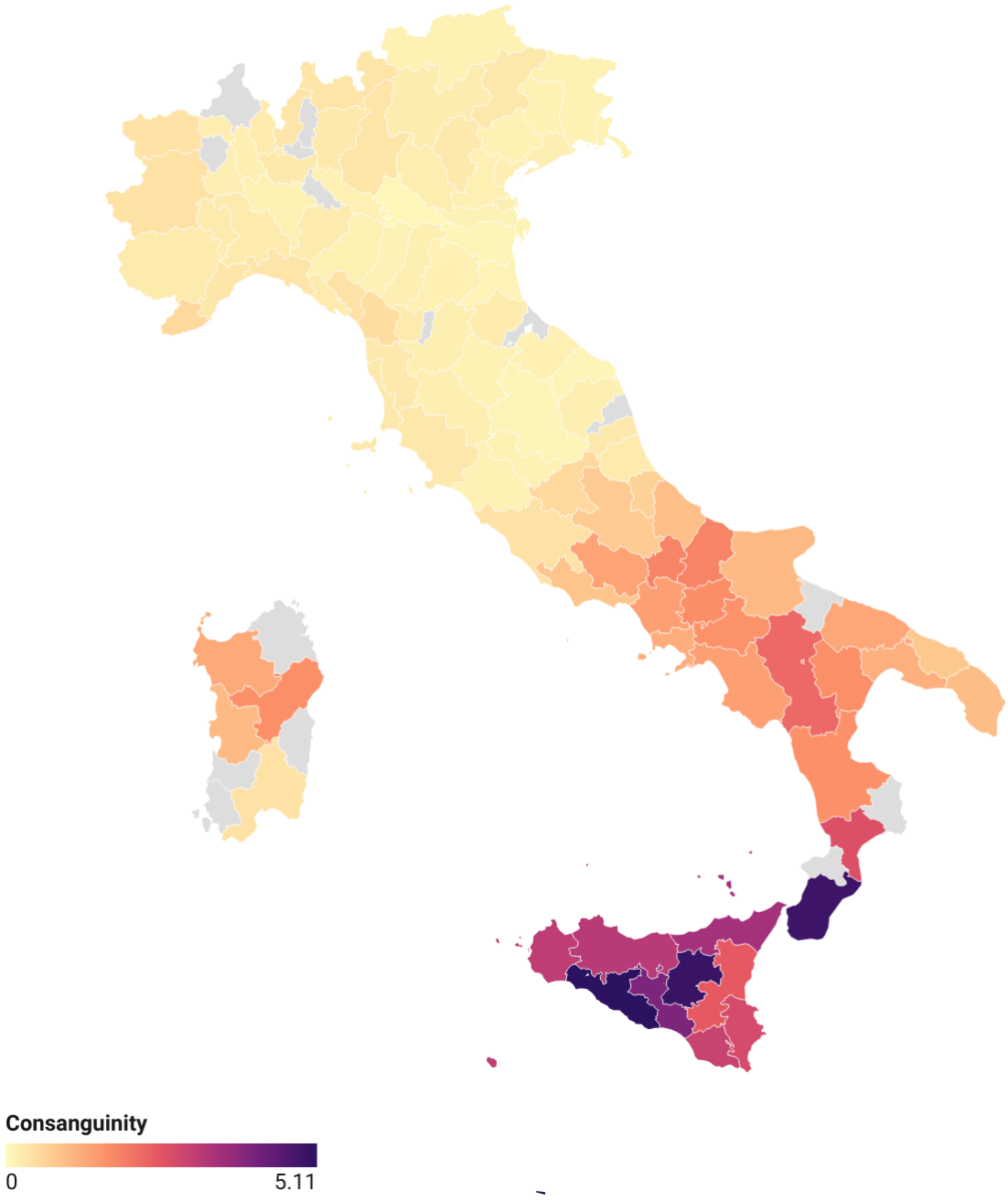


Table 2: Descriptive Statistics for Italian Provinces

	N	Min	Median	Max	Mean	SD
Consanguinity	95	0.09	0.33	5.11	0.92	1.15
Corruption Crimes	95	0.00	3.21	22.97	4.26	4.09
Neet	95	14.37	22.24	40.77	23.48	5.62
Labor Productivity	95	15.68	27.05	55.72	27.67	7.87
Happiness	95	-1.06	0.04	1.16	0.05	0.53
Unemployment 15-34 (%)	95	4.97	16.05	45.13	18.70	9.55
Judicial Inefficiency	92	1.44	3.49	8.32	3.76	1.41
High School Degree (%)	95	47.02	61.36	72.65	60.64	5.56
College Degree (%)	95	20.22	26.19	35.59	26.31	3.73
Distance to Coast	95	0.00	32.03	205.36	52.09	45.90
Precipitation	95	0.25	1.85	13.91	3.40	3.42
Ruggedness	95	0.01	1.94	7.50	2.20	1.56
Elevation	95	0.05	3.83	20.77	4.48	3.70
Oat Suitability	95	874.02	7499.28	7901.80	7066.82	1250.73
Rye Suitability	95	1283.72	11195.80	12282.30	10665.72	1827.81
Caloric Suitability	95	168.63	2071.11	2548.53	1974.37	476.45

5.1.2 Results

Consanguinity data is highly and significantly correlated with corruption crimes (Pearson's r= 0.25, p-value=0.014, N=95) and youth unemployment (Pearson's r= 0.81, p-value<0.001, N=95). The regression model is as follows:

$$y_p = Consanguinity_p + \boldsymbol{X}_p + FE_r + \epsilon$$

$$y_p = \{Corruption_p,\ YouthUnemployment_p\}$$

Where:

- p: province
- r: region

Table 3 presents the results of the initial set of regressions. I include both the above mentioned geographic controls and human capital controls such as the share of high school and college degrees in the population. For regression on corruption, I also control for judicial inefficiency, measured as the average length of a trial. Across all specifications, consanguinity shows a strong and significant positive association with both corruption crimes and youth unemployment. The findings remain robust and become even more pronounced when accounting for regional fixed effects. Specifically, within-region analyses indicate that a 1 percentage point increase in consanguineous marriage rates leads to an increase of 2.41 corruption crimes per 100,000 inhabitants and a 2.33 percentage point rise in the unemployment rate among individuals aged 15-34. Significance level of consanguinity is 5% for corruption and 10% for youth unemployment in FE Regressions. The results are in line with the predictions from the models in Section 4.1 and Section 4.2.

Table 4 presents the findings for additional testable predictions from the conceptual framework regarding geographic mobility, labor productivity, and happiness/well-being. Due to the lack of a direct measure for youth mobility, I use the proportion of NEETs (individuals aged 15-29 who are not in education, employment, or training) as a proxy. These individuals often depend on family financial support and, particularly in Italy, are likely to live with their parents (OECD, 2016). The analysis reveals that higher rates of consanguineous marriage are significantly associated with a higher share of NEETs, indicating lower youth mobility, and with lower labor productivity. The results for happiness are close to zero and not statistically significant. This is consistent with the model, which suggests that consanguinity affects both the extensive and intensive margins of family ties, producing effects that counterbalance each other regarding happiness.

Table 3: Italian Provinces: Regression Table

	Corruption	Corruption	Youth Unempl.	Youth Unempl.
Consanguineous Marriage	1.25*	2.41**	1.58***	2.33*
	(0.638)	(1.057)	(0.537)	(1.197)
Distance to Coast	-0.018	0.0064	-0.035***	-0.033
	(0.017)	(0.021)	(0.011)	(0.025)
Precipitation	-0.90***	-0.58	-0.10	0.54
	(0.305)	(0.474)	(0.399)	(0.710)
Ruggedness	-1.16	-0.78	1.52	2.26*
	(0.772)	(1.154)	(0.935)	(1.259)
Caloric Suitability	-0.0011	0.0021	0.0074	0.0081
	(0.002)	(0.004)	(0.004)	(0.006)
Elevation	0.41	0.15	-0.37	-0.61
	(0.510)	(0.661)	(0.370)	(0.548)
Oat Suitability	-0.0090*	-0.0087	-0.0039	-0.0015
	(0.005)	(0.007)	(0.006)	(0.006)
Rye Suitability	0.0054*	0.0046	0.00042	-0.00039
	(0.003)	(0.004)	(0.002)	(0.003)
Latitude	-1.50	-1.28	-2.99**	-0.019
	(0.973)	(1.558)	(1.272)	(2.141)
Educ. Attainment (Secondary)	0.19	0.17	-0.17	0.014
	(0.121)	(0.237)	(0.125)	(0.229)
Educ. Attainment (Tertiary)	0.0042	-0.057	0.016	-0.020
	(0.226)	(0.358)	(0.113)	(0.162)
Judicial Inefficiency	0.44*	0.0023		
	(0.236)	(0.478)		
Region FE	No	Yes	No	Yes
Observations	92	92	95	95
R-squared	0.30	0.49	0.81	0.87

Clustered Standard Errors at the regional level in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

As a robustness check, I ensure that the primary results concerning corruption and youth unemployment remain significant even after incorporating other cultural variables, such as provincial social capital and regional levels of patience. The social capital index, provided by

Table 4: Italian Provinces: Regression Table (continued)

	Neet	Productivity	Happiness
Consanguineous Marriage	2.18***	-2.29**	-0.15
	(0.704)	(0.925)	(0.090)
Distance to Coast	0.015	0.017	-0.0017
	(0.017)	(0.019)	(0.003)
Precipitation	0.12	0.048	0.034
	(0.264)	(0.228)	(0.035)
Ruggedness	-0.10	0.28	-0.096
	(0.571)	(0.771)	(0.073)
Caloric Suitability	-0.0025	-0.0059***	-0.0011***
	(0.004)	(0.002)	(0.000)
Elevation	0.12	-0.99**	0.021
	(0.323)	(0.472)	(0.045)
Oat Suitability	0.0044	-0.011***	0.00037
	(0.003)	(0.003)	(0.000)
Rye Suitability	-0.0022	0.0062***	-0.000090
	(0.002)	(0.002)	(0.000)
Educ. Attainment (Secondary)	-0.13	0.54***	0.031**
	(0.204)	(0.154)	(0.014)
Educ. Attainment (Tertiary)	0.023	0.19	0.044*
	(0.204)	(0.242)	(0.023)
Observations	95	95	95
R-squared	0.62	0.74	0.40

Clustered Standard Errors at the regional level in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Italian Provinces: Robustness Check with Social Capital

	Corruption	Corruption	Youth Unempl.	Youth Unempl.
Consanguineous Marriage	2.33**	2.45**	2.32*	2.25*
	(1.053)	(0.951)	(1.237)	(1.226)
Social Capital	0.048		0.0033	
	(0.204)		(0.175)	
Patience		-598.8		-828.3
		(515.154)		(778.987)
Geographic	Yes	Yes	Yes	Yes
Human Capital	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Observations	92	88	95	88
R-squared	0.49	0.47	0.87	0.87

Clustered Standard Errors at the regional level in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

ANAC, encompasses various dimensions, including voter turnout, blood donations, and incidences of cheating on the INVALSI test. These dimensions collectively provide a comprehensive measure of social capital within each province, reflecting the community's engagement, altruism, and integrity. Patience, another crucial cultural variable, is recognized as an important factor in comparative development. It influences various socio-economic outcomes by affecting individuals' propensity to invest in long-term goals versus immediate gratification. This data is sourced from the Global Preferences Survey (Falk et al., 2016), which provides a reliable measure of patience at the regional level across different countries. Incorporating these cultural variables into the analysis, as shown in Table 5, reveals that consanguinity continues to be a relevant and statistically significant factor in explaining variations in corruption and youth unemployment rates across provinces. Specifically, even when controlling for social capital and patience, the association between higher consanguineous marriage rates and increased corruption crimes, as well as higher youth unemployment rates, remains robust. Significance level of consanguinity is 5% for corruption and 10% for youth unemployment when accounting for either social capital or patience. This robustness check underscores the reliability of the initial findings. It demonstrates that the observed relationships are not spurious and are not driven by other cultural factors. Instead, consanguinity itself plays a critical role in influencing these socio-economic outcomes.

5.2 Italian Municipalities

5.2.1 Data Description

In my cross-municipality analysis, I use the distribution of surnames within each Italian *comune* as a proxy for family ties. Under patrilineal transmission, a community's surname distribution becomes more diverse when new surnames are introduced by men arriving from outside to form new households. Conversely, it becomes less diverse when men leave the community or inbreed, forming households with women from the same community. In the latter case, surnames may disappear due to the probability of having no male offspring. Thus, a community with a history of closure ends up with a highly concentrated surname distribution, whereas one with a history of openness has a more diverse distribution. Societies with strong family ties are typically insular, restricting their social interactions to close friends and relatives. To measure surname distribution, Buonanno and Vanin (2017) extracted data from the 1993 national telephone directory (SEAT – Società Elenchi Abbonati al Telefono), which included 18,546,891 individual subscribers, covering approximately 33% of the entire 1993 Italian population. This dataset provides the complete surname distribution for each municipality in 1993. Their primary measure of diversity, entropy, is defined as follows:

$$Entropy_m = -\sum_{m=1}^{M} log(p_m)$$

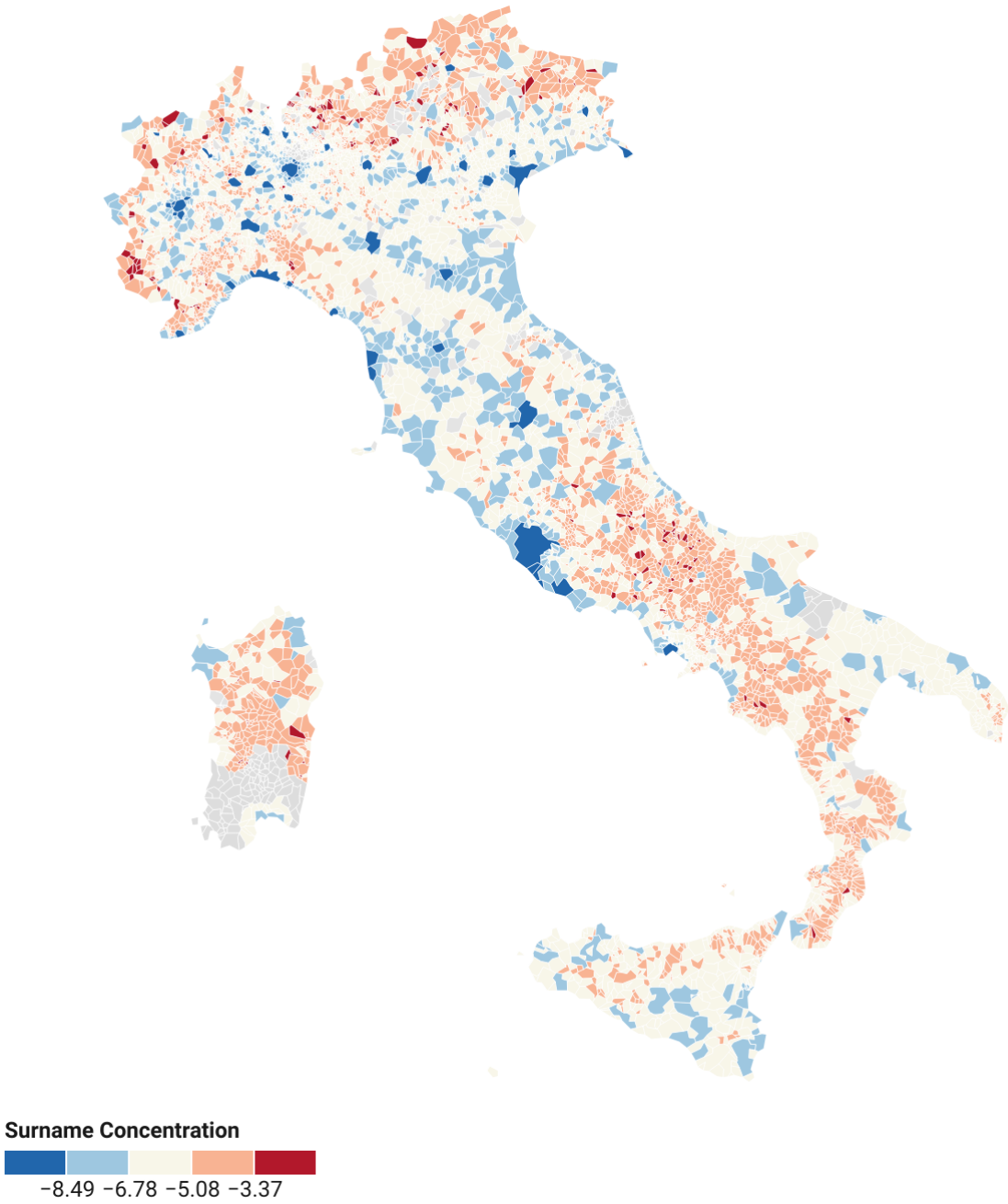
where M is the total number of surnames in a municipality, and p_m is the municipality's population share with a given surname. Entropy, a concept from information theory, captures the disorder within a system and inversely measures family ties. To facilitate understanding and comparability with the models and other analyses, I transformed the entropy index into a

surname concentration index by taking the negative value of the entropy measure:

$$SC_m = -Entropy_m$$

This surname concentration index, displayed in Figure 7, provides a straightforward measure of surname concentration within each municipality, indirectly reflecting the strength of family ties.

Figure 7: Surname Concentration Index by Italian Municipality



Data on corruption is sourced from the National Anti-Corruption Authority (ANAC) open portal. At the municipal level, ANAC provides an index that measures the risk of corruption. This index is calculated as the ratio of low-value to high-value public tenders, with the threshold for low-value tenders set at €40,000. Above this threshold, more stringent anticorruption

Table 6: Descriptive Statistics for Italian Municipalities

	N	Min	Median	Max	Mean	SD
Low-High Tender Ratio	726	0.34	2.48	52.00	4.05	5.22
GDP per capita	732	4681.30	13323.22	23703.10	12779.08	3544.54
15-24 Unemployment Rate	7,830	1.61	31.58	100.00	34.62	15.30
Entropy Index	8,074	1.66	5.27	10.19	5.32	1.12
High School Degree (%)	8,091	3.29	22.76	48.28	22.70	4.79
College Degree (%)	8,091	0.00	4.25	37.40	4.64	2.22
Coastal City	8,091	0.00	0.00	1.00	0.08	0.27
Population Density	8,091	0.97	107.75	12311.73	294.57	632.24
Ruggeddness	8,084	0.89	165.26	1151.45	224.45	215.75
River	8,091	0.00	0.00	1.00	0.46	0.50
Lake	8,091	0.00	0.00	1.00	0.36	0.48
Elevation	8,091	0.00	399.00	3072.50	547.65	496.84
Distance to Coast (km)	8,091	0.00	55.68	230.34	70.13	55.77
Mountainous Territory (%)	8,091	0.00	24.82	100.00	47.41	48.33
Difference in Elevation	8,091	1.00	460.00	3715.00	658.52	654.36

regulations apply. Additionally, I collected data on GDP per capita from the same dataset. For this analysis, I used the average values of both the corruption risk index and GDP per capita over the period from 2015 to 2023. However, this data is only available for the 742 municipalities with more than 15,000 inhabitants. Additionally, I collected the average unemployment rate for individuals aged 15 to 24 from Istat, disaggregated at the municipal level, covering the period from 2004 to 2010. Geographic and human capital variables for more 8000 municipalities are sourced from Buonanno and Vanin (2017). Examples of geographic variables are related to the location of municipality (e.g. Distance to Coast), the morphology of the terrain (e.g. Ruggedness, Altitude, Share of Mountainous Territory), the proximity to natural elements (Coastal City, River, Lake). Human capital measures concern the share of high school and college degree graduates. The full list of variables is described in Table 6.

5.2.2 Results

The surname concentration index is positively and significantly correlated with corruption (Pearson's r= 0.18, p-value<0.001, N=724) and youth unemployment (Pearson's r= 0.09, p-value<0.001, N=7483). The regression model is as follows:

$$y_m = SC_m + \boldsymbol{X}_m + FE_p + \epsilon$$

$$y_m = \{Corruption_m,\ YouthUnemployment_m\}$$

Where:

- p: province
- c: municipality

Table 7 summarizes the regression results. The regression results for corruption are presented in the first two columns. The dependent variable in these models is the low-to-high-value tender

ratio. The coefficient for surname concentration is positive in both specifications, indicating that higher surname concentration is associated with higher corruption levels. Specifically, the effect is statistically significant at the 10% level when province fixed effects are included, with a coefficient of 0.95. Among the control variables, the coastal variable, population density, ruggedness, river presence, lake presence, and altitude do not show significant effects on corruption in either specification. However, the distance to the coast is significant at the 1% level in the first specification, suggesting that greater distance from the coast is associated with lower corruption. The share of mountainous areas and differences in elevation are also not significant predictors of corruption. Educational attainment at the secondary level is not significant, whereas tertiary education shows a significant negative association with corruption at the 1% level in the first specification, indicating that higher levels of tertiary education correlate with lower corruption.

The regression results for youth unemployment are displayed in the last two columns. The dependent variable in these models is the youth unemployment rate for individuals aged 15 to 24. Surname concentration shows a strong positive association with youth unemployment. The coefficient is highly significant at the 1% level in the first specification and remains significant at the 5% level when province fixed effects are included, with a coefficient of 2.47 and 0.60, respectively. For the control variables, the coastal variable is significant only in the first specification, where it shows a positive association with youth unemployment. Population density has a significant positive effect on youth unemployment in both specifications, indicating that higher population density is associated with higher youth unemployment rates. Ruggedness exhibits mixed results: it has a significant negative association in the first specification but a positive association in the second. The presence of a river is significantly associated with lower youth unemployment in the first specification. The presence of a lake is significantly associated with higher youth unemployment in the first specification but not in the second. Altitude shows a significant positive association with youth unemployment in both specifications. Distance to the coast is significantly associated with lower youth unemployment in both specifications. Differences in elevation are significant only in the second specification, where they show a negative association with youth unemployment. Educational attainment at the secondary level has a significant negative association with youth unemployment in the first specification, while tertiary education shows a strong positive association in both specifications.

Additional regressions were conducted to test the secondary predictions of the model, focusing on youth mobility and labor productivity. The effect of family ties on happiness and well-being could not be tested in this setting due to the lack of a measure at the municipality level. Youth mobility is proxied by the average share of NEETs (individuals Not in Education, Employment, or Training) in the 15-24 age group over the period 2004-2010, computed manually from the Istat census by identifying those who were neither part of the labor force nor students and were reported to stay at home. The regression results for youth mobility are shown in the first column of Table 8. To measure productivity, I used data on municipality-level GDP per capita for 730 municipalities that could be matched with the surname distribution data. The results indicate that higher surname concentration is significantly associated with higher NEET rates (lower youth mobility) at the 5% significance level and lower GDP per capita at the 1%

Table 7: Italian Municipalities: Regression Table

	Corruption	Corruption	Youth Unempl.	Youth Unempl.
Surname Concentration	0.39	0.95*	2.47***	0.60**
	(0.338)	(0.562)	(0.246)	(0.238)
Coastal	0.21	-0.0020	4.39***	-0.023
	(0.651)	(0.922)	(0.545)	(0.452)
Pop. Density	-0.0000079	0.00015	0.0027***	0.0014***
	(0.000)	(0.000)	(0.000)	(0.000)
Ruggedness	0.0018	0.0026	-0.0045**	0.0059***
	(0.003)	(0.004)	(0.002)	(0.002)
River	-0.79	0.54	-6.31***	-0.0026
	(0.518)	(0.875)	(0.508)	(0.399)
Lake	0.44	-0.011	1.75***	0.40
	(0.399)	(0.532)	(0.511)	(0.378)
Elevation	0.0030	-0.0036	0.0036***	0.0042***
	(0.002)	(0.003)	(0.001)	(0.001)
Distance to Coast	-0.016***	-0.0035	-0.12***	-0.037***
	(0.004)	(0.017)	(0.003)	(0.009)
Share of Mountains	0.0027	0.017	0.0030	-0.0048
	(0.007)	(0.011)	(0.005)	(0.004)
Diff. in Elevation	-0.0022*	0.00074	0.00036	-0.0032***
	(0.001)	(0.002)	(0.001)	(0.001)
Educ. Attainment (Secondary)	0.031	-0.042	-0.48***	0.013
	(0.079)	(0.084)	(0.055)	(0.054)
Educ. Attainment (Tertiary)	-0.28***	-0.100	1.53***	0.47***
	(0.090)	(0.117)	(0.114)	(0.095)
Less than 5k Inhab.			-1.80***	-0.93***
			(0.384)	(0.278)
Province FE	No	Yes	No	Yes
Observations	724	724	7477	7477
R-squared	0.06	0.19	0.35	0.67

Robust Standard Errors in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Italian Municipalities: Regression Table (continued)

	Neet	GDP p.p.
Surname Concentration	0.25***	-768.9***
	(0.026)	(108.338)
Coastal	0.48***	-437.2**
	(0.066)	(190.176)
Pop. Density	0.00033***	-0.27***
	(0.000)	(0.034)
Ruggedness	0.0013***	1.54
	(0.000)	(0.971)
River	-0.36***	1050.1***
	(0.038)	(266.679)
Lake	0.23***	152.8
	(0.041)	(252.713)
Elevation	0.00028**	-2.97**
	(0.000)	(1.242)
Distance to Coast	-0.0037***	35.0***
	(0.000)	(2.021)
Share of Mountains	-0.0033***	-0.31
	(0.000)	(3.020)
Diff. in Elevation	-0.00027**	0.20
	(0.000)	(0.692)
Educ. Attainment (Secondary)	-0.073***	255.7***
	(0.006)	(22.678)
Educ. Attainment (Tertiary)	0.040***	176.9***
	(0.010)	(33.423)
Less than 5k Inhab.	-0.43***	
	(0.041)	
Observations	6990	730
R-squared	0.18	0.78

Robust Standard Errors in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

significance level. These findings support the hypothesis that stronger family ties, as proxied by surname concentration, are detrimental to economic and social outcomes at the local level.

6 Conclusions

This thesis underscores the significant impact of strong family ties on economic and social outcomes. By building on previous literature, I develop two novel models that may explain the channels through which family ties affect society, highlighting their role in promoting corruption, connections and increasing unemployment, while reducing geographical mobility and productivity. The empirical analysis conducted in this thesis substantiates the theoretical predictions developed in the earlier sections. To provide evidence for my hypothesis I approach the problem at various levels of granularity using Italian data. First, I collect data across Italian Provinces using consanguineous (cousin) marriage rates as a measure of family ties. Second, I analyze Italian municipalities using an index of surname concentration. Both the results coming from Italian provinces and municipalities indicate a strong correlation between proxies for family ties and adverse economic and social outcomes, confirming the predictions of the models. These findings suggest that strong family ties, while they may be beneficial within the family unit, can lead to negative externalities in the broader community. Addressing the adverse effects of strong family ties on economic and social outcomes requires targeted interventions that promote geographical mobility, reduce nepotistic and practices, and enhance educational opportunities and labor market access for youth.

However, each of the analyses has limitations and none of them can wholly address identification or endogeneity concerns. Given the correlational nature of the empirical strategy, it is hard to claim causality even though results are consistent at different levels of granularity. Additionally, the analysis is confined to Italy, and it would be crucial to see if these results can be extended to other countries. Future research should aim to apply these models and empirical strategies to different cultural and institutional contexts to assess the generalizability of the findings. Finally, this study primarily provides a descriptive analysis of the origins of heterogeneity in the strength of family ties across different societies, treating the currently observed differences as given. It does not delve into the underlying causes or historical factors that have led to the varying strength of family ties observed in different regions or communities. Understanding the roots of differences in family structures is crucial for a comprehensive analysis of their impact on economic and social outcomes. Factors such as historical migration patterns, local cultural practices and religious influences could all play significant roles in shaping the strength of family bonds over time. Future research should aim to investigate these origins, utilizing historical data and interdisciplinary approaches that combine insights from anthropology, sociology, and economics.

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