Romanian Journal of Population Studies

Vol. XVI, No. 1
January - June 2022

Published twice yearly by

ISSN: 1843 - 5998

Printed in Romania by Presa Universitară Clujeană

https://doi.org/10.24193/RJPS.2022.1

Printed by:

Babeş-Bolyai University
Presa Universitară Clujeană
Str. Haşdeu nr. 51
400371 Cluj-Napoca, ROMÂNIA
Tel/Fax: (+40)-264-597.401
editura@editura.ubbcluj.ro
http://www.editura.ubbcluj.ro

Contents

Editor's Note

A decade ago, the launching of the *Romanian Journal of Population Studies*[1] marked the beginning of a new journey in academic life. At the time, the *RJPS* was the only periodical in the Romanian academic landscape which explicitly assumed the task of advancing findings in population studies. Nowadays it continues its mission as the sole publication outlet of sociological and historical and demographic studies. The journal aimed from the onset to publish original, well-documented, and methodologically as well as scientifically rigorous contributions. As its founding editor and the editor in chief for 14 years, professor Traian Rotariu continuously played an essential role in the uninterrupted issuing of the journal as well as in the maintenance of high scientific standards.

Over the years, the journal has published studies dealing with historical demographic issues or matters pertaining to contemporary populations, focusing not only on Romania, but also on other neighbouring European countries or even on other continents. Its editorial policy has closely followed the programmatic principles it outlined in its first issue, published in 2007.

We dedicate the two issues of 2022 to the memory of professor Traian Rotariu, who left us in December 2021. They bring together contributions from researchers in the field of sociology and history of the population whose scientific interests intersected, across the years, with those of the late professor.

We deeply regret the passing of one of Romania's most influential sociologists, whose works, teaching, and mentoring have truly shaped our current academic landscape. We have incurred a loss, not only of an important figure in sociology, but also of a mentor and friend.

May his memory be a blessing!

Mihaela Hărăguş

[1] http://rjps.reviste.ubbcluj.ro/volume-i/volume-i-issue-1-2-2007/

Traian Rotariu, who was the "Transylvanian Sociologist" for me

Cătălin Zamfir

Research Institute for Quality of Life, 13 Calea 13 Septembrie, 050711, Bucharest, Romania, catalin.basarab@gmail.com

I knew Traian Rotariu rather well, I would say, even though we were far apart geographically speaking. While we did not work in the same spheres of sociology, we cooperated closely in the joint programme of coagulating the Romanian sociological community.

Traian Rotariu was part of the generation that participated actively in relaunching Romanian sociology in the two critical moments of its recent history: during the 1960s-1990s and again after 1989. In the brief period of "openness" witnessed by Romania under socialism, by the end of the years 1960, Romanian sociology had been enthusiastically relaunched. At that time, almost all of us came to sociology via philosophy. Traian was the only mathematician, as far as I know, who opted to use his training in mathematics in the new profession of sociology. This option of the mathematician Traian Rotariu represented a huge gain for the Romanian sociology. He obtained a compelling doctorate in France with Raymond Boudon, with whom he found the opportunity to develop his own vision.

It is time to acknowledge the merits of those few sociologists who decided to survive as professional in the field of sociology during the difficult period of the 1970s and 1980s. Traian was also one of those sociologists-researchers who were passionately dedicated to the profession.

At the time, we were among the very few sociologists who were employed in research institutions in the field. Because we were so few, and at the same time in the beginning stages of re-launching the Romanian sociology community, we all shared a feeling of responsibility. It was the chance to try to contribute to the rekindling of Romanian sociology in a difficult political context. Together, we shared the feeling of solidarity in re-setting sociology in motion under difficult political circumstances. After a couple of years of enthusiasm, there followed the shock of brutal entry into the crisis of Ceauşescu's system.

Now, by calling back to memory Traian as a sociologist, I realize that in communicating with him I had a singular experience. In my relations with peers, I can perhaps even be described as somewhat edgy, more than once having a feeling of loneliness and inducing loneliness in others. Politeness, but one never knows what lies behind it… We were all under a lot of stress, and stress brings into light sincerity. With Traian I have always felt very well. In him, I found a collegial attitude and even a sincere, friendly one. For me, Traian was the professional par excellence and the Transylvanian who never rushed, and who managed to display a kind smile even during difficult moments.

Traian Rotariu chose important and less explored areas of sociology. He wrote a book on the methodology of sociological research, one of the priority fields of sociology at that time. Many young people became sociologists with that book. Working alongside Traian, many young individuals understood how a completely new field in Romanian sociology develops, namely the *sociology of population*. In this field, Traian had essential contributions. Possessed by Transylvanian calm and patience, he identified and brought into light important new sources of sociological data, which he left as legacy in fundamental works. Moreover, he shaped a solid group of specialists. He launched a journal with a distinct profile precisely in this field.

With his friendly and collegial style, Traian Rotariu was an institution-builder. He made significant contributions as an active member, and then coordinator of the Sociology Department of the Babeş-Bolyai University from Cluj, but also aided in the founding of new institutions: *The Centre for Population Studies* and the *Romanian Journal of Population Studies.*

The European Rural Stem Family as a Determinant of Illegitimacy

Antoinette Fauve-Chamoux

University of the Western Cape, Statistic and Population Studies Department,
Ecole des Hautes Etudes en Sciences Sociales, 2, rue Emile Faguet, 75014 Paris, France,
00-33-145-396473, antoinette.fauve-chamoux@ehess.fr

Abstract. This essay examines to what extend illegitimacy was linked and even determined by rules of non-egalitarian transmission of family assets and values, as single-heir norm, in past Europe. Family transmission systems and mating strategies could explain why some regions, together with a high age at first marriage, used to present an important rate of illegitimacy: high frequency of births out of wedlock was observed in connexion with premarital work for young people, mostly non-inheriting daughters and sons being employed in domestic service. In rural context, this went with late marriage and/or impediments to regular unions, particularly in mountainous areas, that favoured "bastardy" and celibacy. The analyse of family transmission systems allows a better understanding of extramarital fertility. It is argued that the rural stem family was a main determinant of illegitimacy and marital nonconformism in past Europe.

Keywords: Stem Family, Resilience, Illegitimacy, Rural property, Single-heirship transmission, Marriage strategy, Servants, Celibacy, Bastardy, Extramarital fertility, Marital nonconformism.

1. Introduction

Much has been written about family systems and their many determinants. Economic and ecological factors were stressed to understand their strength, as were political and legal factors to explain their changes over time (Saito 1998; Wall 2009). Cultural factors were not forgotten to justify their resistance and resurgence (Rotariu 2009a, 2009b, 2010). Patriarchal families were associated with nomadism and societies bound in serfdom, while French stem families had been said to be nearly ruined by the 1789 Revolution, its egalitarianism, and the Napoleonic *Code civil* (Le Play 1874, 366–368; Fauve-Chamoux 2014).

https://doi.org/10.24193/RJPS.2022.1.01

In this essay, we reverse the perspective, looking at evidence the other way through the telescope – as Peter Laslett suggested about literary evidence in sociology (Laslett 1976); we do not discuss the many stem-family determinants, but consider the coincidence between stem-family zones and regions presenting high levels of illegitimacy in 19th century Europe. We look at "single-heir" strategy as a specific determinant of illegitimacy.

Single-heir strategies could explain why some European geographic sectors used to present a high rate of births out of wedlock in the past. Illegitimacy may be linked and determined by rules of non-egalitarian transmission of family patrimony. Traditionally, some parts of Europe presented high rates of illegitimacy in conjunction with premarital work for young people, mostly non-inheriting sons and daughters being employed for some time in service, while a privileged heir was running the family house[1] (Fauve-Chamoux 1995, 2009c, 2011, 2017a, 2019). In rural context, this corresponded to late marriage and/or impediments to marriage, with high levels of permanent celibacy and illegitimacy (Fauve-Chamoux and Wall 2005; Teibenbacher 2009, 2010, 2022). Other situations could arise in urban context that favoured extramarital births (Ward 2005; Rotariu 2010). In any case, the study of family transmission systems allows to better understand local frequencies of births out of wedlock and illegitimacy behaviour.

The first part of the study presents definitions and concepts related to stem-family rural societies, and past efforts to map them in Europe. In the second part we show the specific connexions between stem-family marriage system, inegalitarian transmission rules and illegitimacy, enlightening further the socio-economic life conditions of non-successors, males and females, who had to earn their living inside or outside the natal house, facing impediments to local marriage projects but enjoying sexual freedom and geographical mobility.

2. Stem families in Europe: towards visibility

2.1. Definitions: stem family and house

The stem family (*famille-souche*, *Stammfamilie*) is a form of trans-generational family where the "house",[2] the socioeconomic unit, is stable but susceptible to take various family configurations, this according to time and socio-cultural context (Le Play 1875; Fauve-Chamoux and Ochiai 2009). The stem-family was

[1] In this essay, the term "service" is used in a broad sense, since "domestic service" has a narrow meaning in English, referring to someone who does housework, and normally only women.

[2] There is a large terminology for designating a family farm in various European languages: *house*, *Haus* or *Hof*, *casa, etchea* in Basque language, *maison* in French, *maysou* in Gascon, *oustal* in Occitan, *domus* in Latin.

a flexible and resilient system, adapting its size and composition to socio-demographic changes, so that the household would survive over successive generations (Fauve-Chamoux 2002a): the number of members and kinship structure of the household varied according to circumstances, the basic principle being that one couple only assures the reproduction of each generation, co-residing with the couple of the older generation. The presence of members who were not related by kinship, their age, sex and period of presence were strictly related to conjunctural family needs. At each generation, the selection of a single heir is typical of a "house system". Married children other than the privileged heir or heiress must leave the native house. In Western societies, as in other parts of the world, this non-egalitarian family transmission system over time can be witnessed in both female and male line. The coresidence of two (or more) couples of the same generation was not an option. This constitutes a main difference with patriarchal families were married brothers could live all together with their children on a common expandable land property, which is, for example, the case for the Russian rural families modelized by Alexander Chayanov, over their economic and demographic cycles (Chayanov 1966). Chayanov conceded that his theory of peasant economy worked better for thinly populated countries than for densely populated ones (Thorner 1966: XXI). By contrast, the stem system allowed an efficient autoregulation of the socio-economic family unit when the size of the land available was limited and could not be expanded freely.

Indeed, the stem family was characterized by the residential rule that only one married child (male or female) remained at home. This rule had a direct effect upon household structure. The family estate was passed undivided from generation to generation – a model clearly identified by Claude Lévi-Strauss in *The Way of the Masks* (Lévi-Strauss 1983). This anthropologist proposed to apply the concept of "house" or "house society" to Indonesian societies, an idea that he had forged previously in his study of Native Americans on the North American West coast, not far from Vancouver. Lévi-Strauss gave the following definition for "house":

> "*a corporate body holding an estate made up of both material and immaterial wealth, which perpetuates itself through the transmission of its name, its goods, and its titles down a real or imaginary line, considered legitimate, as long as this continuity can express itself in the language of kinship or of affinity or of both*" (Lévi-Strauss 1983: 174).[3]

[3] Translated from the French (Lévi-Strauss 1979: 175; 175; first edition, 1975)

The stem-family system appeared in Europe during the Middle Ages (*Hufenverfassung*) (Grandits 2009). It protected the integrity of rural family units (land, house and goods) over generations, particularly under feudal systems. This genuine peasant system was considered typical in a post-feudal society defending the integrity of the *manse* against the seigneurial right of *mainmorte* (or *mortemain*) in case of *escheat*[4] (Ourliac 1956). It was influenced by Roman laws (freedom of will) and finally in charge of applying what we could call a complex set of Malthusian "preventive checks" (Malthus 1798, 1803, Fauve-Chamoux 1984).

Nevertheless, some regions like Austrian Galicia suffered from the fragmentation of patrimonial lands due to demographic pressure: some family fission or "branching-out" may have occurred, thanks to the development of protoindustrial activities, particularly in the textile sector (Rudolf 1991; 1995). Migration pushed away from home many peasant migrants who could not settle according to local customs. Some non-inheriting children decided to engage in a non-conformist marriage with a non-heir or non-heiress, and squat on some common land or in a forest or obtain a fragment of family property, thanks to some legislative change.

According to Frédéric Le Play's definition, the "stem-family" system preserved the house in perpetuity, but unlike the "patriarchal family", it balanced tradition with innovation; the parents used to keep just one child (son or daughter) at home, whom they permitted to marry, appointing him or her the associated heir or heiress (*héritier-associé*) in his/her marriage contract. This heir/successor then received a privileged share, called *preciput* (Fauve-Chamoux 2009e). The other offspring who wished to marry left the natal house, taking with them a dowry *(dot)* provided from the savings amassed by all the members of the stem-family household (Le Play 1875–1879, I: 444). Richard Wall translated in English Le Play's clear presentation of the stem-family system, with its main advantage: "the stem family provided a security unknown in the "unstable family", in combination with an independence unknown in the patriarchal family" (Le Play 1874: 366–368). The stem family provided independence and security for all family members, but the common residential rule was strict (Wall 2009: 57-58).

[4] The term *escheat* refers to the situation where the tenant (or "land-holder") dies without an heir.

2.2. European marriage pattern (EMP)

In the mid-1960s, John Hajnal, in a path-breaking article, clearly underlined what he considered as two major elements of the Western European Marriage Pattern of the past: late marriage for men and women, and high proportion of never married people (Hajnal 1965). Peter Laslett, one of the three directors of the *Cambridge Group for the History of Population and Social Structure*[5] founded in 1964, shared Hajnal's opinion. A few years later, Laslett organized a major international conference[6] in Cambridge, in September 1969 (Fauve-Chamoux 2017b, 2017c). Thanks to the household classification that Peter Laslett then developed (Laslett 1972), a new field was opened for the quantitative study of family formation and household structure in past societies, at the global level, whatever the modes of family transmission, whether egalitarian or not (Laslett and Wall 1972; Ruggles 2010, 2011).

According to Hajnal, the economic system influenced age at marriage by delaying it, particularly when labour opportunities were opened to young women (Hajnal 1965, 132). Following Malthus (1798; 1803), Hajnal stressed the importance of service as preparation for marriage. Besides, serving in another family provided training and encouraged young men and women to save money for a future independent establishment (Hajnal 1965: 130; 1983; Laslett 1965, 1977, 1988). Historically, this occupation was considered as a temporary job and played an important role in delaying transition to marriage throughout Western Europe in the past.

In his seminal paper, Hajnal highlighted the special character of past Western Europe which he situated west of an imaginary line running from Leningrad (now St Petersburg) to Trieste (Hajnal 1965: 101).[7] Age at first marriage was higher and celibacy more widespread there than in the rest of the world. Peter Laslett, for his part, insisted on the role of what he called "life-cycle service"[8]: a full-time premarital occupation with board and lodging at a master's house, but for a limited period of the individual life course. Both scholars came to develop definitions of European family models (Hajnal 1965, 1982; 1983; Laslett 1965, 1972, 1980a, 1980b).

[5] The two other directors were Edward Antony (Tony) Wrigley and Roger Schofield.

[6] Conference on the Comparative History of Household and Family, Cambridge 12th-15th September, 1969.

[7] For a tentative map of the Hajnal line, see Livi-Bacci 2000, 102, but discussion remains about the exact frontiers of this cultural "line" (Faragó 1998; Kaser 2009).

[8] The concept of a "life-cycle service" came from macro-economy, from a model developed by Nobel Price Franco Modigliani in the 1950s in collaboration with Richard Brumberg and Albert Ando, an hypothesis of consumption behaviour as an alternative to the Keynesian consumption function, which stated that consumption was a function of current income alone (Ando and Modigliani 1963; Modigliani and Brumberg 1954).

When servants could not carry out a satisfactory marital project, their serving condition became a permanent lifelong job, condemning them to permanent celibacy. The question whether service in Europe has been a form of servitude, a premarital job or a permanent occupation has been discussed (Fauve-Chamoux 2009a). It is now established that in European stem-family zones, service concerned non-inheriting young adults, non-heirs and non-heiresses born in a family farm.

East of the Hajnal line and in the rest of the world, mean age at first marriage was, in general, early (following puberty) and "universal" (everyone was getting married). In non-western societies, service often used to take place after marriage. For example, in North-East Japan, servants were often married and many women in service were mother of at least one legitimate child, left at home to be cared for by a grand-mother or a female relative (Fauve-Chamoux and Ochiai 2009). In preindustrial Japanese society, service was not linked to celibacy. It was linked to marriage in a very different way (compared to Europe) (Nakajima 2010).

2.3. European family systems

Hajnal was not originally focusing on family systems and if he was part of the 1969 Cambridge conference, his participation was quite marginal (Fauve-Chamoux 2017b, 2017c). It was only ten years later, after the international Kristiansand seminar on marriage and remarriage (1979) organized by Sølvi Sogner in Norway[9] that Hajnal began thinking seriously about the major importance of family models (Hajnal 1982, 1983; Fauve-Chamoux, Bolovan and Sogner 2016). But, under the influence of Laslett, Hajnal's limited knowledge of stem-family rules made him underestimate its role in many European rural societies and ignore the gerontocratic relations of authority (Hajnal 1982, note 8, p. 486). Marriage of the heir did not mean that he was taking headship or, in case of a heiress, that the son-in-law was taking authority in the household management (Fauve-Chamoux 2002a, 2009c, 2009d). Retirement of the old couple was rather restricted to the Northern countries of Europe (Moring 2009). In the central Pyrenees, during the period 1846-1911, only 25 percent of changes of headship occurred at the retirement of the former head (Fauve-Chamoux 2009d: 542). The great majority of headship changes were *post mortem*.

[9] The international Kristiansand seminar (1979), in Norway, was on "Nuptiality and Fertility: Plural Marriage and Illegitimate Fertility" (Dupâquier *et al.* 1981).

For his part, since 1959,[10] Peter Laslett had the main ambition to deconstruct the mythology of a widespread past family of large size and complex structure in preindustrial Europe, reacting mostly against ideologies transmitted by Frédéric Le Play and his followers (Le Play 1875) who admired *stem families* (*familles souches*) and promoted them as a perfect and virtuous model of family reproduction. Laslett considered the *stem family* as quantitatively unimportant, given the scale of the European continent, where forms of conjugal family dominated for a long time in the Western part (Laslett 1972). After intense debates, particularly with Lutz Berkner, Laslett remained reluctant to recognize that stem families could be the norm in some regions (Berkner 1972, 1976, 1977, Berkner and Mendels 1978). He would not accept that stem families could present nuclear forms during long periods of their development over time, therefore being invisible when cohabitation of generations was broken by non-favourable circumstances as death, migration, infertility etc. In this line, Peter Laslett proposed a "nuclear hardship model", claiming the "recessiveness" of the stem family (Laslett 1978; 1988). Even if historians could follow the development of stem families over time and, in many cases, could see episodes of nuclearization, the evolution of stem families presented extraordinary capacities of resilience and innovative solutions for solving family crises, particularly when emigration from Europe intensified.

2.4. Mapping stem families in rural Europe

Frédéric Le Play made remarkable efforts to provide a map of European families in Europe in the 1870s, relying on his fieldwork studies.[11] It was even published in colour, a rare event for the time (Le Play, *Les Ouvriers Européens*, 1879, I, Annex B: 638)[12]. This map[13] pointed 17 stem families out of the 57

[10] Peter Laslett discovered by chance that most families were of limited size in 17th century England when he had in hand two census-like listings for the village of Clayworth, in Nottinghamshire, one taken in 1676 and the other in 1693 (Schürer 2003).

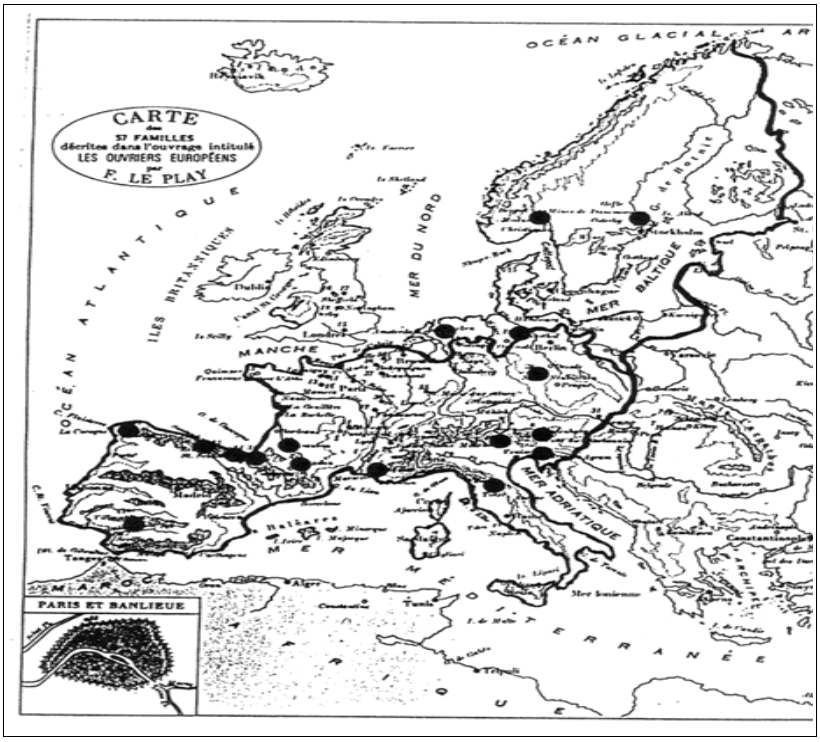
[11] An overview of various historical mapping attempts by Henri Klimrath, Emmanuel Todd, and others may be found in Fauve-Chamoux 2009e, 208-212 and in Fauve-Chamoux and Ochiai 2009: 41-50. Concerning countries East of the Hajnal line, we recommend Kaser 200: 269-270 and Szołtysek 2015.

[12] Frédéric Le Play, *Les Ouvriers Européens*, 1879, volume 1 was entitled: *La méthode d'observation appliquée de 1829 à 1879, à l'étude des familles ouvrières en trois livres ou précis sommaires touchant les origines, la description et l'histoire de la méthode avec une carte géographique des 57 familles décrites par F. Le Play.*

[13] The full map of Europe in colour may be seen as Map 4 in Fauve-Chamoux and Ochiai 2009: 44-45. It was originally published in *Les Ouvriers Européens* as Annex B, facing p. 638 in the second edition, volume 1, under the title: *Carte géographique des 57 familles décrites dans les six tomes de l'ouvrage intitulé "Les Ouvriers européens"*. To explain and develop this legend, Le Play inserted a detailed list of the 57 monographs as pp. 635–639.

family monographs that Frédéric Le Play published with his team. Thirteen stem families were seen in the Western part of Europe, and four were in the Northern part (Figure 1)[14]. No stem family was indicated in Eastern Europe, but the Carpathians Mountains were mentioned in Le Play's comments (Le Play 1874: 459; 1875–9, III: 85). Le Play's frontier between West and East corresponds closely to the Hajnal line.

Figure 1. Frédéric Le Play's European regions (North and West) and locations of identified seventeen stem families, besides other two family types (unstable and patriarchal), 1879.



Source: Frédéric Le Play, *Les Ouvriers Européens*, 1879, I, Annex B : 638 (left side).

Richard Wall noted the impressive correspondence between Le Play's West/East frontier and John Hajnal's famous St Petersburg-Trieste line which separates the eastern populations (with their early marriages and complex households) and the late marrying populations of Western Europe with their

[14] On Figure 1, the seventeen dots indicated by Le Play for North and West Europe as representing stem-families, have been enlarged and are here published in black.

simple households: "it follows clearly the division Le Play made between his Eastern and his Northern and Western regions of Europe" (Wall 2009, 60). A first group of stem families is seen in Northern Europe, in Norway and Sweden, and along the North German coast fringing the North Sea and on into the Netherlands. The second group is located in the Alps, Apennines, and Pyrenees mountains, extending along the coast of Northern Spain. Le Play included six Catholic cantons of Switzerland and the Oberland, the Basque provinces of Spain, and a case in Southern Spain (Le Play 1875–9, III, 85).[15]
I note a coincidence between stem-family zones and high illegitimacy zones in 19th century Europe when I compare Le Play's 1879 map with the illegitimacy map published in 1971 by the Princeton Population Project for 1900. Already five decades ago, this Princeton map brought astonishing regional figures of illegitimacy, commented by Edward Shorter and colleagues (Shorter, Knodel and van de Walle, 1971, p. 387). It even included a stem-family zone that Frédéric Le Play had totally missed, the Picardy-Wallonia, a model well studied after him by Jean Yver (Yver 1953; 1954; Fauve-Chamoux 2009e).

3. Stem marriages versus nonconformist unions

Stem families corresponded to a specific process of reproduction in the long term and to a mentality. In my view, a key issue is the fundamental difference of behaviour between heirs and non-heirs, males and females, in terms of sexuality, relationship to family "house", land and labour. In his writings, Peter Laslett did not much comment the German "whole house", *maison totale* or *Ganze Haus* (Schlumbohm 2009). Laslett considered the role of intergenerational family transmission system as negligeable and strongly disliked the work by Lutz K. Berkner, as previously mentioned. He did however stress the role of service extensively and its connection with the phenomenon of European illegitimacy and labour migration. Following his 1977 book on *Family life and illicit love in earlier generations*, in 1980, Peter Laslett, with two colleagues of the Cambridge Group, published in London a comparative collective book entitled *Bastardy and its Comparative History: Studies in the History of Illegitimacy and Marital Nonconformism in Britain, France, Germany, Sweden, North America, Jamaica and Japan*, but, as previously mentioned, he neglected the fact that, by definition, the stem family was producing

[15]Inspired by Frédéric Le Play, Emmanuel Todd subdivided the geographic spread of the stem family in Western Europe into four areas or blocks: the German block, the Northern Scandinavian block, the Celtic block and the Occitan and Northern Iberian block (Todd 1990: 49). Concerning Norway, Todd's pattern was considered "not based on factual evidence" (Sogner 2009: 53).

illegitimacy, given that siblings who were not in a position of heirship authority were marginalized by restrictive internal rules of family reproduction.

3.1. Non-heirs working in or working out

When there were too many mouths to be fed in a rural family unit – whatever the rules of inheritance and household structure – adolescent children and young adults could serve in another house, to earn money without having to engage in a specific professional training. This was a perfect way for extra labour force to be used, on a temporary basis. These migrant workers were engaged for a specific time – a task, a season, some months, or years – so that they could earn their living and prepare an independent future. Otherwise, they could stay in the natal house, remaining single and contributing to family work. When their family of origin was practicing a non-egalitarian system of transmission, labour migrants would leave the natal house in the hands of a main heir (or heiress and her spouse) who took charge of the economic production (and vital legitimate reproduction) and assumed family headship responsibilities, handling family estate (or *tenure*) with all burden. Non-inheriting children needed a dowry or savings to establish themselves in a local existing house as in-laws or, in principle, they left their village. Many families were not affluent enough to give a dowry to all these children, males and females dreaming of a future independent establishment (Lanzinger and Maegraith 2017). But, there were periods of expansion and tolerance – for example in Central Pyrenean Baronies – attesting the flexibility and high resilience of a stem-family system that could be contested or just scorned (Fauve-Chamoux 1994, 1995, 1996). Taking opportunity of large common lands, forest and large pasture in altitude, under demographic pressure, some male non-heirs did establish their own houses up the hills, on commons, with a girlfriend, at the same time exploiting local resources, and relying, for extra income, on seasonal labour migration to surrounding valleys or Spain.

Overall, in Europe, the circulation of young people of both sexes – be it for apprenticeship or service – largely helped to balance labour supply and demand, particularly when a stem-family system was common, which was often the case in hilly or mountainous regions. Regional differentiations were particularly important in central Europe. Concerning the Habsburg Monarchy up to 1918, it was noted that, in Western Tyrol and Vorarlberg, illegitimacy was much lower (5 to 10 percent) than in the mountainous parts of Styria and Carinthia (40 percent and even more) (Gruber 2009, Teibenbacher 2003, 2009). To prevent a deadly fragmentation of the family farm, the siblings lived together at a *Hof*. In these regions, traditional formal marriage restrictions were

abolished only after the First World War (Teibenbacher 2010, 2019). The question of economic barriers to marriage and the forms of family organization has been largely discussed in the past as in recent studies (Béaur et al. 2013), dealing with both impartible and partible inheritance sectors, in comparative perspective. Many women and men in the countryside were prevented from marrying because they lacked access to land (Head-König 1993, Head-König and Pozsgai 2012).

For Michael Mitterauer, the needs of labour organization determined the structure of the family and family relations (Mitterauer 1986, 255; 1995, 36-37). Talking about the type of additional labour force (male and female) for peasant families, he distinguished between *farmhands*, who participated in all activities of family life and were fully integrated over the course of years, and *day-labourers*, who had the status of lodgers (*Inwohner*), for short time periods. With a cattle-raising economy, permanent workers were needed.[16] In consequence, inequalities facing marriage opportunities were noted by various authors, many non-heirs stayed single by force, but had illegitimate children who would circulate (Rudolf 1995: 21).

All over Europe, since medieval times, customs and laws regulating inheritance systems conditioned economic strategies and any access of young males and females to first marriage and establishment (Guzowski and Kuklo 2022). Galicia and Bucovina had common features (Gruber 2009). The structure of households became steadily more complex when progressing eastward. This was seen also in Poland and Lithuania (Szoltysek 2008). For this last sector, Mikolaj Szoltysek showed strong links between age at first marriage, household formation and the proportion of servants (Szoltysek 2009, 2015). Efforts to classify Central-European households forms, according to the classic Cambridge Group classification (Laslettt 1972), had given very ambiguous and questionable results: rural families were classified "somewhere" between the western model and the oriental model (Laslett 1983; Plakans and Wetherell 2001). Using new and massive quantitative data for the end of the 18th century, Szoltysek opened fresh perspectives on the specificities of this region and on theoretical approaches (Gruber and Szoltysek 2016, Szoltysek and Poniat 2018).

[16] In Scotland, according to Michael Anderson (personal communication), this need was adequately met in the key cattle-rearing areas by a combination of small peasant farms and additional workers hired normally on six-month contracts (as with most hired labour in Scotland).

In the 1870s, well-off rural families living in Alpine regions, under the Habsburg regime, could employ six or seven servants, men and women, and most of them were engaged in a *life-long service* and not in a temporary *life-cycle service*, using Laslett terminology (Laslett 1983, Mitterauer 1983). This is one of the reasons why these regions presented very high illegitimacy levels. With a non-egalitarian inheritance rule, the oldest son inherited the farm and all family assets, and his siblings, brothers and sisters became *de facto* servants at home, under his headship and strong authority over the family and household. Siblings could still go to another house (Mitterauer 1995). Without land or dowry, these rural workers, males and females, could not get married, but they had a sexual life, and their children were born "illegitimate". Only when some income could be expected from non-agricultural activities, for example in protoindustry, local marriage was a possibility (Rudolf 1991). Others migrated to developing cities during the 19th century and did not return.

By contrast, most of urban families presented a nuclear structure and a limited household size, as elsewhere in the European context. In Vienna and Budapest, it was rare to see kin members living in proletarian households (Farago 1993; 1998). To get married in town, as was noted for Geneva (Schumacher, Ryczkowska and Perroux 2007), Paris (Frey 1978) or Roubaix (Petillon 2006), it was necessary to have acquired some means and to provide proper documents to authorities. For young women, some years of service in a bourgeois family was the easiest way to accumulate savings to get married. They had some hope to marry back home, but this was not always what happened (Fauve-Chamoux 2009a).

3.2. Long trends of illegitimate fertility in Europe

Recent historical research projects and publications allowed to better understand the socio-economic conditions of illegitimacy in past Europe, enlightening the important links between illegitimate fertility, female labour and access to marriage in the past (Fauve-Chamoux and Bolovan 2009). The European "Servant Project" (2001-2005)[17] presented models of domestic service from the 16th century and gathered interesting innovative studies on feminization of domestic service and rising levels of illegitimacy at the end of the 18th century. The link of these phenomena with demographic change and female labour migration from rural to urban settings was evidenced. But the link between lone mothers and the structure of their family of origin was not

[17] *Servant Project* is an acronym for "The socio-economic role of males and females in domestic service as a factor of European identity" (Fauve-Chamoux 2004a, 2009a). See note above about "domestic" service.

explored. It was certain anyway, given various historical sources, that often cut off from their native environment, maid servants incurred the risk of having to face a pregnancy out of wedlock, whether they married later or not (Fauve-Chamoux 2004a, Matthys 2013).

Malthus noted in his first *Essay on the Principle of Population* that many servants – males and females – preferred to stay single as long as possible in order to guarantee their employment and residence in a well-off private household where their quality of life was secured (Anonymous [Malthus], 1798). If they lost contact with their family of origin, the condition of unemployed single maids could become precarious. When marriage was not an option for a pregnant woman or when returning to the native village to get help for raising an illegitimate new-born was impossible – including for moral reasons and social pressure (Kok 1990, 2009) –, unmarried mothers often send their baby to a wet nurse or abandon him/her to charity, which was easier in an urban context. At the end of the *Ancien Régime*, an increasing number of births out of wedlock were registered in French cities, mostly with unknown father; many infants were abandoned and taken in by communities and institutions where infant mortality was extremely high (Chamoux, 1973). This happened in most European towns and also in colonial context (Fauve-Chamoux and Brunet 2014).

For long, historians found it rather difficult to provide evidence for long term links, in Europe, between female labour, illegitimacy, marriage markets and age at first marriage (Van der Woude 1981: 424). This was partly because the targeted population was young and extremely mobile. Anyway, Peter Laslett showed that between 1550 and 1849, levels of illegitimacy in England presented a trend in total opposition to female mean age at first marriage: illegitimacy increased when female average age at first marriage declined (Laslett 1980a: 24), a phenomenon which I observed as well, at a local level, in the Pyrenean village of Esparros, where the stem family was the norm and illegitimacy high (Fauve-Chamoux 1995, 100). At the same time, there was a clear correlation, as in England and Wales, between prenuptial pregnancy and long trends of illegitimacy.

In general, a decline of illegitimacy was evidenced for most of Europe at the end of the 19th century (Shorter *et al.* 1971), and this historical trend accompanied the decline in legitimate fertility. New historical data banks allow for a better knowledge of the processes of reproduction, marital fertility and extramarital fertility (Alter and Gutmann 2005, Alter 2020). This is true for Central Europe, where illegitimacy was particularly strong, for example in Alpine regions of Austria that we can compare with England and Wales and

France (Teibenbacher 2019, Fauve-Chamoux 2019).[18] I linked the European decline of late 19th century illegitimacy to the decline in the proportion of individuals in service (Fauve-Chamoux 2017a). It is expected that, after 1850, a decline in service would be parallel to an overall declining trend in illegitimacy (Fauve-Chamoux 2011).

I do not deny that the presence of illegitimacy could be, as Peter Laslett suggested, the expression of a complex "subculture" before industrialization and urbanization (Laslett 1980b; Leboutte 1988). Anyway, I argue in the present essay that in rural "house societies" of Europe, the important presence of children born out of wedlock was a sign and an emanation of a regular non-egalitarian family system of reproduction and autoregulation. A non-conformist "cadettist" culture existed there that I did call "cadetterie" (Fauve-Chamoux 1994), forming a *junioral* society of landless people, *cadets* and *cadettes*[19] who could not marry for a combination of reasons, or marry late in life (Fauve-Chamoux 1995, 99). They had children anyway, and their demographic growth created some disequilibrium. In France, early changes in a traditional s*enioral* stem-family society were encouraged by the 1789 Revolution, egalitarianism and following legislative measures. But Napoleonic *Civil Code* (1804) was a compromise, on many points, and a heir or heiress could enjoy a privileged position, as stipulated in a marriage contract, particularly with a *preciput* (Fauve-Chamoux 1996, 2014). In any case, in many societies of Europe, illegitimacy (rural and urban) was also associated with service, labour migration, marital nonconformism and extramarital fertility.

3.3. Illegitimate fertility and legitimation

In Iceland, a good part of illegitimate children was legitimized later by the wedding of their parents: these children, were from stable or "common law" couples (Gardarsdottir 2000; 2006). Data published in 1971 showed illegitimate fertility levels for major European countries from 1840 to 1960 with a map by

[18] Sources are England & Wales (ratios according to Laslett 1980), Esparros village, French Pyrenees (France) (ratios according to Fauve-Chamoux 1995), France (ratios from INED data according to Blayo 1975; *Ih* according to Shorter *et al.* (1971). Alpines regions of Austria and Republic of Austria ratios are according to Eigner, Moeller, Schnoeller, 2007 (cited by Sumnall 2009).

[19] The French word *cadet*, which now is synonymous of "youngest" child, was originally a gascon term, *capdet* meaning "captain". *Cadets de Gascogne* (Gascon cadets) was the name given to captains recruited in Gascony (South of Aquitaine, then a British fief) who served the French kings Charles VI and Charles VII in Northern France during the Hundred Years' War (1337–1453). As, in their house of origin, oldest sons were systematically chosen as main heir and family successors, these *cadets* could only be younger children in birth order. Hence the semantic transfer from *cadet*, synonymous of *captain* to *cadet* synonymous of *younger son.*

province for 1900, where Icelandic statistics were not included (Shorter *et al.* 1971: 387).

Portugal always presented high levels of fertility out of wedlock, in particular in its Northern part, Minho. This is confirmed by other studies (Livi Bacci 1971; Matos *et al.* 2014). Around the town of Braga, life-long emphyteotic lease was very common (*amphiteosis*) because most of the land was in the past in the hands of religious communities which favoured a stem-family system of reproduction. Up to 1867, when the first version of the Portuguese *Civil Code* was published, family laws were formulated in royal Ordinances written by Philip II, King of Spain and Portugal from 1580 to 1598 (*Ordenacões Filipinas*). One part of the law imposed equal partition between all legitimate heirs (male and female) upon privately-owned movable property (*bens móveis*) but the other part placed life-long transmissible land-lease property under unequal single inheritance rules (*bens imóveis vinculados*), involving the choice of a privileged heir as successor (Durães 2009: 202). Consequently, in Minho, marriage rate was low and illegitimacy high, exceeding 12 percent of all births between 1886 and 1900 (Festy 1979: 230).

In the Azores islands, in the middle of the Atlantic Ocean, among a very Roman-Catholic Portuguese population, Paulo Matos found similar high levels of illegitimacy. Concerning unmarried mothers (single or widows), the author distinguished three types of illegitimacy behaviour (Matos 2009: 1) having an illegitimate child from a known and declared father at birth; 2) having an illegitimate child, the father being unknown by the authorities registering the birth; 3) having an illegitimate child who will be later legitimized by marriage.

From historical documents, it is difficult to know if illegitimate children were born from parents really living together in a consensual union or from a single or widowed mother living mostly without a permanent companion, be it in urban or rural context. In Spanish Galicia, high male emigration to America was common, as in Portugal (Rey Castelao 2011). The lack of adult males favoured consequently family transmission in female lines, co-residence of generations and "recidivist" unmarried mothers (Brettell 1986; Rey Castelao 2009).

As previously mentioned, Peter Laslett argued that servants had a possible predisposition for sexual nonconformism, and, as a sociologist, he proposed the existence of a "bastardy-prone sub-society", with social attitudes leading to illegitimate childbearing (Laslett 1980b). He thought that proletarianization could result in *bastardy* and/or eventually prostitution; he insisted on the frequency of repeated illegitimate births for certain women, a

phenomenon attested in many rural parishes of England (Levene, Nutt and William 2005). Repeated pregnancies out of wedlock could be seen in successive generations, when genealogies of unmarried mothers could be traced, through nominative case studies.

In French central Pyrenees, where illegitimacy ratios were as high as 15 percent by 1840, many examples of repeated illegitimate pregnancies could be evidenced, thanks to the family reconstitution of Esparros village (Fauve-Chamoux 1995, 100). Lack of money for a dowry, formal marriage had not been possible for these never-married women working as servant or daily maid (*journalières*), living with their natural offspring, be it independently – after branching out from a modest house – or remaining attached to their native stem-family farm. Some single mothers raised their children while their *fiancé* was making money in Spain and managed to come back regularly. Other Pyrenean young men left for Latin America and some colonial ventures, and later marriage did not occur with the girl friend who happened to experience a pregnancy.

Besides suggesting a "bastardy-prone sub-society", Peter Laslett insisted on some repeated character of illegitimacy connected to migration (Laslett 1980b). This phenomenon was also studied by Richard M. Smith who related it to temporary labour migration in England and particularly to service in town and localities of arrival (Smith 1980). In Scotland, an illegitimate baby born at the family farm was often left behind to the grand-mother's care, while the young woman was going back to work in town (Blaikie 1993, 1998, 2005). Impediments to marriage projects and strict regulations increased the number of extramarital unions and births out of wedlock.

3.4. Legal restrictions to marriage

Before 1868, in Bavaria, a man could obtain permission to wed only if he could prove some income, and a serious proportion of the marriageable population could not reach this level (Dollard 2009). When severe measures were abolished, the official proportion of illegitimate births fell from 20 percent to 12 percent (Shorter *et al.* 1971). At the end of the 19th century, the level of illegitimacy in Bavaria was the highest in Europe. The wide proportion of Bavarian births out of wedlock was not linked to local Catholicism: rates of illegitimacy were even higher among Protestants. Various factors interacted in the phenomenon: social control, specific reproduction strategies, especially unequal inheritance practices among siblings.

In the inner-alpine regions, such as Austrian Styria, illegitimacy started to increase heavily since mid-18th century, probably due to population pressure: previously, landless people were allowed to marry, and these regions experienced a slight population growth. But a number of *Hofstellen* was officially fixed and a single-heir strategy of family transmission was applied (Teibenbacher 2009). According to this author, the districts of Murau in Styria and St. Veit in Carinthia were strongholds of notorious inner-alpine illegitimacy. The proportion of births out of wedlock increased up the First World War (Teibenbacher 2019). Formal marriage restrictions were abolished in 1868 but informal, structural hindrances kept alive. The servants had no land and no houses or own flats, therefore no private space was available for them to establish a family and raise children. Anyway, illegitimacy was highly respected as a contributor to fertility and the reproduction of the workforce since both districts referred to above faced frequent out-migration of young rural males towards industrial sites.

Catherine Sumnall discussed the geography of illegitimacy and its extraordinary spatial and temporal dimensions between 1880 and the 1960s in Carinthia. She compared local figures with Austrian statistics available since 1820 which evidenced a peak of illegitimacy in the 1860s (Sumnall 2009: 198). Sumnall referred also to general fertility data by regions, published in 1986 by the *Princeton Fertility Project* team (Coale and Watkins 1986) and to a recapitulation of annual rates of illegitimacy for Austria from 1820 to 1980 (Sumnall 2009, 210). Annual illegitimacy ratios (for 100 live births), for all provinces of Austria, 1883 to 1961, were calculated from *Oesterreichische Statistische Jahresbuecher,* 1883-1961 (Sumnall 2009, 199). This interesting study deserves some more comments from us: if a "house"[20] or "Hof" system of transmission was the norm in Carinthia – which, seems to have been the case (Mitterauer 1995; Teibenbacher 2010) –, as it was in other Alpine or Pyrenean valleys, we would expect that marriage there could be "reserved" to family "heirs" or "heiresses", and their partners, while non-succeeding children could have much more freedom in sexual mating, as was observed in central Pyrenees (Fauve-Chamoux 1994, 1995). In this light, high illegitimacy rates of the Gurktal population presented by Sumnall could be explained by free choice of sexual partner among non-heirs, and impediments to marry combined with demand for workforce.

[20] See above the definition of « house » by Claude Lévi-Strauss (1983).

3.5. Workforce demand

For explaining the presence of high illegitimacy in the Austrian province of Styria, Peter Teibenbacher first argued that it was mostly caused by the demand for workers, which could not be reproduced by the relatively small number of married landholders, because local breeding and the work in the forests needed a lot of farmhands throughout the whole year of the local peasant's economy (Teibenbacher 2003). Not only each single farming family needed workers, but peasants knew that in other families there might be a lack of children, for different reasons. In these agrarian systems with non-egalitarian marriage strategies and stem-families, the married ones accepted a kind of "market" of illegitimacy, helpful to reproduce the demanded workforce and to uphold agrarian production. Later on, illegitimacy became a "traditional" case in these regions, allowing young women with poor education and no hope of inheritance to work as servants. They had a sexual life including bearing children without being married and without disposing of an independent household. I found a similar illegitimacy model in French central Pyrenees (Fauve-Chamoux 1994, 1995, 1996), where single mothers relied heavily on their parents and the socio-economic system of their natal *house* for looking after and raising their illegitimate children while they were employed in other farms or in towns.

Besides, in some inner alpine regions, about a third of the children born out of wedlock were legitimized after about two years, especially in agrarian systems, after young, unmarried couples had "tested" their relationship and fertility (Kraus 1979) in a *mariage à l'essai* (Depaties 1977). Illegitimacy was not only accepted due to its reproductive function, but among Lutherans also due to their rule, children born in betrothals were to be treated like marital children. This behaviour can be traced back to Luther's protest that the Catholic priest should not have the exclusive right to celebrate a marriage. Therefore, an even higher portion of illegitimacy may be observed among Lutheran agrarians than among Catholic farmers (Teibenbacher 2010).

If having legitimate children at each generation was only important and necessary for the reproductive couple in charge of the reproduction of the "Hof" (family farm), then all other children, non-heirs, sons and daughters, *cadets* and *cadettes*, were free to circulate in the rural community, be servants in another *Hof* than their native one, work to amass savings, enjoy sexual experiences, fatherhood or motherhood, before thinking of marital union and independent establishment. This would correspond to 70 percent of the population. In other words, non-egalitarian family strategies, a stem-family system and controlled marriage could simply explain the importance of births

out of wedlock in Carinthia. Christian Churches were unable to control sexuality there. In the Pyrenees, they did not either, where the local clergy was often living in *concubinage* (Brunet and Bennassar 2001). But the phenomenon did not escape the general decline of illegitimacy that had been brought to light in 1971 by Shorter *et al.*

In other words, the stem-family system such as evidenced by Frédéric Le Play and observed in details in Central Pyrenean rural context over three centuries (1660-1914) (Le Play 1875; Fauve-Chamoux 1995), including all its economic dimensions, played a major role in rural Europe, explaining the very high levels of illegitimacy observed in mountainous regions during the 19th century and the First demographic transition. A consequence of demographic changes was an increasing number of non-inheriting younger children who had mostly to leave the native house (*Hof*). Service was the easiest way of making a living, men and women staying unmarried in the house of their master, as long as needed. But they had a sexual life in the farm of their employer.

3.6. Individualism and family consensus

With demographic transition and socio-cultural and legal changes, customary family behaviours were deeply modified: individualism, de-Christianisation and secularization touched many European societies, France being a pioneer in family limitation (Fauve-Chamoux 1985, 2004b). Levels of alphabetisation, education and health care improved. Migration was easier, including long distance projects to America and colonies. Improvements in transportation and communication made it easier for migrants, males, and females, to keep contacts with their family of origin and maintain their roots and memory of native house identity. Non-inheriting children who were not attached to land property took advantage of local protoindustrialization, the development of various crafts and their full availability to migrate, at short and at long distances. Other occupations than service opened up locally. These jobs were less binding for new couples; marriage was easier, occurred earlier and new family models evolved (Fauve-Chamoux 1998a, 1998b).

The First World War accelerated processes of change: service under its traditional Western form of *life-cycle service* disappeared little by little. It tended to become a permanent profession for people living in an independent lodging (Fauve-Chamoux 2009a; 2011, 2017a). Mentalities evolved along the 19th century. Young people, men and women, were better educated and sexual matters were no more a *terra incognita* (Fauve-Chamoux 1985, Matthys 2013). Family reproductive strategies concerning transmission of the house could be

negotiated in common by family members looking for consensus. Some heirs even preferred to leave the farm and emigrate towards town or a colonial country, rather than cohabiting with aging parents, and being bound to traditional hard rural life with its everyday constraints. Ultimogeniture appeared in late 19th century Pyrenees: someone had to stay at home and take care of the stem house, particularly of aging parents, and keep going the family farm.

For Europe, Jan Kok investigated regional variations of illegitimacy between 1900[21] and 2000, in the light of family systems, comparing particularly the case of the Netherlands and Romania (Kok 2009). He suggested a chain of relationships between standards which regulated traditional family systems (coresidence with parents, access to marriage – free or arranged partner's choice –, age at first marriage, celibacy, and remarriage) and variations in births out of wedlock. Kok noted how certain communities tolerated prenuptial pregnancies and marital cohabitation.

The way illegitimacy was considered, culturally or socially, varied enormously in past Europe. The stigma of baring a "bastard" in early modern England did not prevent many women to proceed later to marriage (Adair 1996, 90). In some other societies, as India, the concept of "illegitimacy" is not even understood by the population – even today[22] – since marriage is universal, and all women are supposed to get married quite early in life. In countries like Mongolia, having a child before aged 25 is extremely important because it is only after a first delivery that a woman is considered as an adult (Lacaze 2012, 56). Sexual life is fully positive, as soon as basic traditional codes and rules of female body purification are respected. A child is a blessing in itself. This was the case in the mountainous areas of the Alps and the Pyrenees where a "house system" existed, welcoming all children born in the family house. In Scotland, the family system allowed to raise children, even, if needed, in the absence of their migrant mother (Blaikie 2005), in particular when she had left to work as a servant, far away from her native house.

During the period of European industrialization, important differences between rural and urban families developed. Complex mechanisms of reproduction of the rural family implied individual and collective strategies. Labour migration was not only linked to decisions taken by independent adult persons. Leaving home for apprenticeship or service was the result of a family consensus and a division of gender responsibilities concerning the overall

[21] Sources for 1900 data were taken from the *Princeton European Fertility Project*.

[22] Author's conversations with Indian students in Jamia Millia University, New Delhi, February 23, 2012.

family labour force. Service was an engagement for a said period, a contract (rarely written) arranged individually but mostly with the agreement of the family head having authority.

For young adults, sons and daughters of the head of household, eager to experience a new life, to get an engagement outside home, service offered an immediate job which was available without a particular training, with board and lodging. Fresh money would be given by the master (or mistress) after some months, and it could be saved – as a nest egg – to guarantee a better individual future and family formation.

3.7. Lifelong children of the rural stem-family

In rural regions where non-egalitarian family transmission was the norm, many younger siblings – *cadets* and *cadettes* – born in modest stem-family houses could not get proper dowries and had no means to settle properly in a traditional local marriage. Anyway, the event of a pregnancy out of wedlock was nothing dramatic for non-inheriting young women: if necessary, the native house could supply board and lodging to vulnerable members, including sick, disabled, etc. Single mothers, widows and illegitimate children would be taken care of. If staying after the time of confinement following delivery, the woman would contribute by her work to the economy of the house, for example by some protoindustry, under the authority of the household head. If she preferred going back to service, the child would be left home, care of his/her grandmother or female kin (aunt or sister). This illegitimate child will be considered in any case as a full regular member of the family "house", including through his/her family name and/or house name. This scenario was valid for Central Pyrenean society, traditionally very tolerant concerning the sexual life of young people, particularly younger siblings who had few chances to be chosen as heir or heiress or heir's wife. This was the same in Bearn, while stem-families of the Basque country were much more under social and moral pressure and religious control. Nevertheless, the "droit de chaise" (right to keep a seat at the family table) was part of the Basque custom, allowing any native family member to come back home when facing a crisis, being sick or aging, single or widowed. A permanent shelter, board and lodging was available in his/her natal stem-family house. In return, this member would give his/her "legitimate" share of inheritance to the heir of the younger generation, a strategy of transmission conformed to the French *Civil code* (1804) (Arrizabalaga 2005).

By contrast, when the simple conjugal family was the norm (and not the stem family), if a pregnant unmarried woman had lost contacts with her family of origin and had no stable partner, she was at risk of pauperisation and proletarianization if she kept a child that she was not able to feed and look after properly. A woman alone without any family network support needed to earn her living permanently. In a proletarian urban household, a pregnancy could also be rather badly welcomed, lack of money, and an unwanted baby could be secretly abandoned to charity soon after birth, even born in a legitimate marriage (Fauve-Chamoux 2002b).

4. Conclusion

The presence of illegitimacy in past European societies could be, as Peter Laslett suggested, the expression of a "subculture" before industrialization and urbanization (Laslett 1980b). But in many societies of Western Europe, illegitimacy was associated with service and labour migration of non-successors of the family house. Consequently, it is not a surprise that, after 1850, a decline in service would be parallel to a declining trend in illegitimacy. Moreover, in the present essay, it is shown that, at the same time, in rural Europe, a high frequency of children born out of wedlock was a visible sign of an active non-egalitarian family system of reproduction. So, it is time to claim the evidence: the European rural stem family was structurally a determinant of illegitimacy. Extramarital fertility and nonconformist sexual behaviour was produced by stem-family demographic and socio-economic resilience toward non heirs, males and females, as soon as they respected rules of authority of the successor over the stem-family unit. This included, in some favourable periods of population, economic expansion with technological changes (Fauve-Chamoux 1987), branching out of a secondary independent family unit by a non-heir, living with his female partner from some craft production (in textile, pottery, wood etc.), a food shop or some commercial enterprise such as sawmill, inn restaurant, coffee shop or guesthouse.

In this overall context, "children of love" were not treated as lower-caste "bastard", they were recognised as "children of the house", therefore integrated as full stem-family members with rights but also labour duties. With the Second demographic transition in the 1960s, when "families without marriage" became more common in Europe, care systems replaced traditional life-cycle service (Blackett 2004). In the meantime, intergenerational help, traditionally within families and kin networks, changed with the development of social security systems.

We conclude that, in some parts of Western Europe, a large part of rural illegitimacy was imbedded and determined by single-heir strategies and stem-family systems.

Acknowledgements
I am very grateful to Michael Anderson for his comments on an earlier version of this paper, and to Peter Teibenbacher for his encouragements to finalize this study. I was also inspired by late Professor Traian Rotariu related pathbreaking interdisciplinary scientific achievements. Thanks to his initiative, fifteen years ago, to launch the *Romanian Journal of Population Studies* at Babeș-Bolyai University, Centre for Population Studies, Cluj-Napoca (first issue, 2007, 1-2), the great team of this group brought together distinguished scholars of various disciplines, in order to discuss population and family issues, past, present and future, at international level and in comparative perspective, including series of inspiring innovative projects, theories and methodologies. I am very grateful to all of them for their scientific involvement, generous support and permanent precious cooperation and comments in shared academic ventures.

References

Adair, R. (1996). *Courtship, Illegitimacy, and Marriage in Early Modern England.* Manchester: Manchester University Press.

Alter, G. C. (2020). "The Evolution of Models in Historical Demography". *Journal of Interdisciplinary History* 50(1): 325-362.

Alter, G., Gutmann, M. (2005). "Belgian historical demography as viewed from North America: protoindustrialization, fertility decline, and the use of population registers". *Belgisch Tijdschrift voor Nieuwste Geschiedenis/Revue Belge d'Histoire Contemporaine* 35(4): 523-546.

Ando, A. K., Modigliani, F. (1963). "The 'life-cycle' hypothesis of saving: aggregate implications and tests". *American Economic Review* 53(1): 55-84.

Arrizabalaga, M.-P. (2005). "Succession strategies in the Pyrenees in the 19th century. The Basque case". In special issue on "Family transmission in Eurasian perspective". Fauve-Chamoux, A., Arrizabalaga M.-P. (eds). *The History of the Family: an International Quarterly* 10(3): 271-292.

Béaur, G., Chevet, J.-M., Perez-Picazo, M.-T., Schofield, P. R. (eds) (2013). *Property Rights, Land Markets and Economic Growth in the European Countryside (13th-20th Centuries).* Turnhout: Brepols.

Berkner, L. K. (1972). "The Stem family and its developmental cycle of peasant household: an eighteenth-century Austrian example". *American Historical Review* 77(2): 398-418.

Berkner, L. K. (1976). "Inheritance, land tenure and peasant family structure: a German regional comparison". In Goody, J., Thirsk, J., Thomson, E. P. (eds). *Family and Inheritance. Rural society in Western Europe 1200–1800*. Cambridge: Cambridge University Press, pp. 71-95.

Berkner, L. K. (1977). "Peasant household organization and demographic change in lower Saxony (1689-1766)". In Lee, R. D. (ed). *Population Patterns in the Past.* New York: Academic Press, pp. 53-69.

Berkner, L. K. and Mendels, F. (1978). "Inheritance Systems, Family Structure and Demographic Patterns in Western Europe (1700-1900)". In Tilly, C., Berckner L. K. (eds). *Historical Studies of Changing Fertility.* Princeton: Princeton University Press, pp. 209-224.

Blackett, A. (2004). "Promoting Domestic Workers' Human Dignity through Specific Regulation". In Fauve-Chamoux, A. (ed), *Domestic Service and the Formation of European Identity. Understanding the Globalization of Domestic work, 16th-21st Centuries.* Bern: Peter Lang, pp. 247-273.

Blaikie, A. (1993). *Of illegitimacy, Sex and Society: Northeast Scotland, 1750-1900*. Oxford: Clarendon Press.

Blaikie, A. (1998). "Scottish Illegitimacy: Social Adjustment or Moral Economy?". *Journal of Interdisciplinary History* 29 (2): 221-241.

Blaikie, A. (2005). "The household economics of illegitimacy: some preliminary interpretations", paper presented at Social Sciences History association/SSHA, Portland, session on "Economic and household response to illegitimacy".

Blayo, Y. (1975). "La proportion de naissances illégitimes en France de 1740 à 1829". *Population*, Novembre, special issue, pp. 65-70.

Brettell, C. B. (1986), *Men Who Migrate, Women Who Wait*. Princeton: Princeton University Press.

Brunet, S., Bennassar, B. (2001). *Les prêtres des montagnes : la vie, la mort, la foi dans les Pyrénées centrales sous l'Ancien Régime: Val d'Aran et diocèse de Comminges.* Aspet : PyréGraph.

Chamoux A. (1973). "L'enfance abandonnée à Reims à la fin du XVIIIe siècle". *Annales de Démographie Historique,* special issue on "Enfant et société". Paris : Mouton, pp. 263-285. https://www.persee.fr/doc/adh_0066-2062_1973_num_1973_1_1194 DOI : https://doi.org/10.3406/adh.1973.1194.

Chayanov, A.V. (1966). *On the Theory of Peasant Economy*. Thorner, D., Kerblay, B., Smith, R.E.F. (eds). Translated from Russian to English. Translation Series. Homewood, Illinois: The American Economic Association/ Richard D. Irwin co., 400p.

[Anonymous]. (1804 / An XII). *Code Civil des Français, édition originale et seule officielle*. Paris : Imprimerie de la République. See on line pdf : gallica.bnf.fr

Despatis, P. (1977), *La théorie du mariage à l'essai*. Thèse (M.A. : Philosophie), Université de Montréal, Canada, Montreal University Library microform, 466 p.

Dollard, C. L. (2009). *The Surplus Woman: Unmarried in Imperial Germany, 1871-1918*. New York/Oxford: Berghahn Books.

Dupâquier, J., Hélin, E., Laslett, P., Livi Bacci, M. and Sogner, S. (eds). (1981). *Marriage and remarriage in populations of the past*. London: Academic Press.

Durães, M. (2009). "Providing well-being to women through inheritance and succession. Portugal in the 18th and 19th centuries". In Fauve-Chamoux, A., Durães, M., Ferrer, L., Kok, J. (eds). *The Transmission of Well-being: Gendered Marriage Strategies and Inheritance Systems in Europe from the Seventeenth to the Twentieth Centuries*. Bern: Peter Lang, pp. 201-227.

Faragó, T. (1993). "Familien und Haushalte in Budapest (1850-1944)". In Cseh-Szombathy L., Richter R. (eds). *Familien in Wien und Budapest*. Wien, Köln, Weimar: Böhlau, pp. 35-54.

Faragó, T. (1998). "Different Household Formation Systems in Hungary at the End of the Eighteenth Century: Variations on John Hajnal". *Historical Social Research* 23(1-2): 83-111.

Fauve-Chamoux, A. (ed.). (1984). *Malthus hier et aujourd'hui* (ed.). Paris : Editions du CNRS.

Fauve-Chamoux, A. (1985). "Innovation et comportement parental en milieu urbain (XVe-XIXe siècles) ". *Annales (E.S.C.)* 40(5): 1023-1039.

Fauve-Chamoux, A. (ed.). (1987). *Evolution agraire et croissance démographique*. Liège: Ordina,

Fauve-Chamoux, A. (1994). "Mariages-sauvages contre mariages-souches". In Segalen, M., Ravis-Giordani, G. (eds). *Les Cadets*. Paris : CNRS, pp. 181-194.

Fauve-Chamoux, A. (1995). "The Stem family, demography and inheritance: the social frontiers of autoregulation". In Rudolf R. L. (ed.), *The European Peasant Family and Society. Historical Studies*. Liverpool: Liverpool University Press, pp. 86-113.

Fauve-Chamoux, A. (1996). "Aging in a never empty nest: the elasticity of the stem family". In Hareven, T.K. (ed.). *Aging and generational relations over the life course*. Berlin: Walter de Gruyter, pp. 75-99.

Fauve-Chamoux, A. (1998a). "Servants in Preindustrial Europe: gender differences". *Historical Social Research/Historische Sozialforschung* 84: 112-129.

Fauve-Chamoux, A. (1998b). "The stem-family and the preciput: the Picardy-Wallonia model". In Fauve-Chamoux, A., Ochiai, E. (eds), *House and the stem-family in EurAsian perspective / Maison et famille-souche: perspectives eurasiennes*. Kyoto: Nichibunken, pp. 138-167.

Fauve-Chamoux, A. (2002a). "Strategies of household continuity in a stem-family society: from heirship to headship". In Derosas, R. and Oris, M. (eds), *When Dad Died, Individuals and families coping with distress in past societies*. Bern: Peter Lang, pp. 121-140.

Fauve-Chamoux, A. (2002b). "Changes in policy towards abandoned children and differential mortality: the case of 18th c. Rheims". In Sandvik, H., Telse, K., Thorvaldsen, G. (eds). *Pathways of the past, Essays in honour of Sølvi Sogner on her 70th anniversary*. Oslo: Tig og Tanke, University of Oslo, pp. 39-58.

Fauve-Chamoux, A. (ed.) (2004a). *Domestic Service and the Formation of European Identity*. Bern: Peter Lang.

Fauve-Chamoux, A. (2004b). "Fertility decline and family behaviour in 18th c. Rheims". In Sonnino, E. (ed.), *Living in the City*. Rome: Universita La Sapienza, pp. 523-546.

Fauve-Chamoux, A. (2009a). "Domesticité et parcours de vie. Servitude, service prémarital ou métier ? ". In Fauve-Chamoux, A. (ed). Special issue on "Domesticité et histoires de vie". *Annales de Démographie Historique* 117(1), pp. 5-34. https://www.cairn.info/revue-annales-de-demographie-historique-2009-1-page-5.htm. https://doi.org/10.3917/adh.117.0005

Fauve-Chamoux, A. (2009b). "Family formation, marital cohabitation and house system in a changing socio-economic context: some introductory perspectives". In Bolovan I., Gräf, R., Heppner H., Lumperdean I. (eds). *Demographic Changes in the time of industrialisation (1750-1918). The example of the Habsburg Monarchy*, Cluj-Napoca, *Transylvanian Review* 18 (Supplement 1), pp. 133-146.

Fauve-Chamoux, A. (2009c). "Family reproduction and stem-family system: from Pyrenean valleys to Norwegian farms". In Fauve-Chamoux, A., Ochiai, E. (eds), *The Stem Family in Eurasian Perspective. Revisiting House Societies.* Bern: Peter Lang, pp. 499-528.

Fauve-Chamoux, A. (2009d). "A comparative study of family transmission systems in the central Pyrenees and northeastern Japan". In Fauve-Chamoux, A., Ochiai, E. (eds), *The Stem Family in Eurasian Perspective. Revisiting House Societies.* Bern: Peter Lang, pp. 529-558.

Fauve-Chamoux, A. (2009e). "The stem family and the Picardy-Wallonia model". In Fauve-Chamoux, A., Ochiai, E. (eds). *The Stem Family in Eurasian Perspective. Revisiting House Societies.* Bern: Peter Lang, pp. 203-252.

Fauve-Chamoux, A. (2011). "European illegitimacy trends in connection with domestic service and family systems (1545-2001)". In Bolovan, I., Teibenbacher, P. (eds). *Central Europe Population History during the first Demographic Transition*, special issue*, Romanian Journal of Population Studies* 5(2): 8-45.

Fauve-Chamoux, A. (2014). "Gender, Property, Economic Subsistence and Changes in Legislation in France: from Customs to Code Civil (1804)". *Romanian Journal of Population Studies* 8(1): 39-61.

Fauve-Chamoux, A. (2017a). "Revisiting domestic service as a pre-marital labour for women and men in past Europe". *Romanian Journal of Population Studies* 11(2): 57-92. https://doi.org/10.24193/RJPS.2017.2.03.

Fauve-Chamoux, A. (2017b). "A personal account of the history of Historical Demography in Europe at the end of the Glorious Thirty (1967-1975)", *Essays in Economic and Business History, The Journal of the Economic* & *Business History Society, Special Issue in Honor of Christer Lundh*, *University of Gothenburg* 35(1): 171-202 (paper version).

Fauve-Chamoux, A. (2017c). "A personal account of the history of Historical Demography in Europe at the end of the Glorious Thirty (1967-1975)". *Essays in Economic and Business History, The Journal of the Economic* & *Business History Society, Special Issue in Honor of Christer Lundh*, *University of Gothenburg* 35(1): 171-212. Online longer version in open access, including all references, at http://www.ebhsoc.org/journal/index.php/journal/article/view/378/342.

Fauve-Chamoux, A. (2019). "Lone Motherhood in Past Europe, Female Labour and Family Transmission Systems". In Hohenwarter, M., Iber, W. and Krautzer, T. (eds), *Mensch im Mittelpunkt, Bevölkerung - Ökonomie - Erinnerung. Festschrift für Peter Teibenbacher zum 65. Geburtstag*. Wien: Lit, pp. 81-100.

Fauve-Chamoux, A. and Bolovan, I. (eds). (2009). *Families in Europe between the 19th and 21th centuries, from the traditional model to the contemporary PACS, Romanian Journal of Population Studies, Supplement volume.*

Fauve-Chamoux, A., Bolovan, I. and Sogner, S. (eds). (2016). *A Global History of Historical Demography. Half a Century of Interdisciplinarity*. Bern/New York: Peter Lang.

Fauve-Chamoux, A. and Brunet, G. (2014). "L'enfant illégitime et ses parents. Tendances européennes et coloniales au 19e siècle, au sein des modèles séculaires d'illégitimité". In Fauve-Chamoux, A. and Brunet, G. (eds). Special issue on "L'enfant illégitime et ses parents". *Annales de Démographie Historique* 127(1) : 5-34. DOI : 10.3917/adh.127.0007. URL : https://www.cairn.info/revue-annales-de-demographie-historique-2014-1-page-7.htm

Fauve-Chamoux, A., Durães, M., Ferrer, L., Kok, J. (eds.) (2009). *The Transmission of Well-being: Gendered Marriage Strategies and Inheritance Systems in Europe from the Seventeenth to the Twentieth Centuries*, Bern: Peter Lang.

Fauve-Chamoux, A., Sogner S. (2010). "Transmission intergénérationnelle et modèles de familles-souche : des monts de Norvège aux Pyrénées centrales". *Itinera*, 29, *Pratiques familiales et sociétés de montagne, 16e-20e siècles*, pp. 69-101.

Fauve-Chamoux, A. and Wall, R. (eds). (2005) "Introduction", special issue on "Domestic servants in comparative perspective". *The History of the Family: an International Quarterly* 10(4): 345-354.

Fauve-Chamoux, A. and Ochiai, E. (eds). (2009). *The Stem Family in Eurasian Perspective. Revisiting House Societies*. Bern: Peter Lang.

Festy, P. (1979). *La fécondité des Pays occidentaux de 1870 à 1970*, INED, Travaux et documents, Cahier 85, Paris : PUF.

Frey, M. (1978). "Du mariage au concubinage dans les classes populaires à Paris (1846-1847)". *Annales (E.S.C.)* 33(4): 803-829.

Gardarsdottir, O. (2000). "The implication of illegitimacy in late-nineteenth-century Iceland: the relationship between infant mortality and the household position of mothers giving birth to illegitimate children". *Continuity and Change* 15(3): 435-461.

Gardarsdottir, O. (2006). "Extramarital births and marriage patterns in Iceland in a long-time perspective", paper presented at the 31st Annual meeting of the Social Sciences History Association/SSHA, Minneapolis, session organized by Fauve-Chamoux, A. on "Single mothers and bastardy revisited."

Grandits, H. (2009). "Ländliches und städtisches Familienleben in der Habsburgermonarchie zwischen 1848 und 1914". In Rumpler, H., Urbanitsch, P., Harmat, U. (eds), *Die Habsburgermonarchie 1848-1918. Band IX: Sozialgeschichte*. Wien, pp. 701-741.

Gruber, S. (2009). "Demographic Change and the Family". In Bolovan I., Gräf R., Heppner H., Lumperdean I. (eds), *Demographic Changes in the Time of Industrialisation (1750-1918). The Example of the Habsburg Monarchy*. Cluj-Napoca. *Transylvanian Review*, 18, Supplement 1, pp. 159-184.

Gruber, S. and Szołtysek, M. (2016). "The patriarchy index: a comparative study of power relations across historical Europe". *The History of the Family* 21(2): 133-174.

Guzowski, P. and Kuklo, C. (eds) (2022). *Framing the Polish Family in the Past*. Oxon/New York; Routledge.

Hajnal, J. (1965). "European Marriage Patterns in Perspective". In Glass David V., Eversley David E.C. (eds). *Population in History*. London: Arnold, pp. 101–140.

Hajnal, J. (1982). "Two kinds of preindustrial household formation system". *Population and Development Review (*8): 449-494.

Hajnal, J. (1983). "Two kinds of pre-industrial household formation system". In Wall R., Robin J., Laslett P. (eds), *Family Forms in Historic Europe*. Cambridge: Cambridge University Press, pp. 65-104.

Head-König, A.-L. (1993). "Forced marriages and forbidden marriages in Switzerland: state control of the formation of marriages in Catholic and Protestant cantons in the eighteenth and nineteenth centuries. *Continuity and Change* 8(3): 441–465.

Head-König, A.-L., Pozsgai, P. (eds). (2012). *Inheritance Practices, Marriage Strategies and Household Formation in European Rural Societies*. Turnhout: Brepols.

Kaser, K. (2009). "The stem family in Eastern Europe: cross cultural and trans-temporal perspectives". In Fauve-Chamoux, A., Ochiai, E. (eds). *The Stem Family in Eurasian Perspective. Revisiting House Societies*. Bern: Peter Lang, pp. 253–270.

Kok, J. (1990). "The moral nation. Illegitimacy and bridal pregnancy in the Netherlands from 1600 to the present". *Economic and Social History of the Netherlands* 2: 7-36.

Kok, J. (2009). "Family systems as frameworks for understanding variation in extra-marital births, Europe 1900-2000". In Fauve-Chamoux, A., Bolovan, I. (eds). *Families in Europe between the 19th and 21st centuries. From the traditional model to the contemporary PACS*. *Romanian Journal of Population Studies. Supplement volume*, pp.13-38.

Kraus, A. (1979). „Antizipierter Ehesegen" im 19.Jahrhundert. Zur Beurteilung von Illegitimität unter sozialgeschichtlichen Aspekten". *Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte* 66(2): 174-209.

Lacaze, G. (2012). *Le corps mongol: techniques et conceptions nomades du corps*. Paris: L'Harmattan.

Lanzinger, M., Maegraith. J. (2017). "Houses and the Range of Wealth in Early Modern Gender- and Intergenerational Relationships". *Jahrbuch für Europäische Geschichte / European History Yearbook* (18): 14–34. [Accessed February 22, 2019]. https://doi.org/10.1515/9783110532241-002.

Laslett, P. (1965). *The World we have Lost*. London: Methuen.

Laslett, P. (1972, "Introduction: The History of the Family". In Laslett, P., Wall, R. (eds). *Household and Family in Past Time: comparative studies in the size and structure of the domestic group over the last three centuries in England, France, Serbia, Japan and colonial North America, with further materials from Western Europe*. Cambridge: Cambridge University Press, pp. 1-89.

Laslett, P. (1976). "The wrong way through the telescope: A note on literary evidence in sociology and in historical sociology". *The British Journal of Sociology* 27(3), Special Issue. History and Sociology, pp. 319-342.

Laslett, P. (1977). *Family life and illicit love in earlier generations*. Cambridge: Cambridge University Press.

Laslett, P, (1978). "The stem-family hypothesis and its privileged position". In Wachter, K. W., Laslett, P. (eds). *Statistical Studies of Historical Social Structure*. London: Academic Press, pp. 89–111.

Laslett, P. (1980a). "Introduction: comparing illegitimacy over time and between cultures". In Laslett, P., Oosterveen, K. and Smith, R. M. (eds). *Bastardy and its Comparative History: Studies in the History of Illegitimacy and Marital Nonconformism in Britain, France, Germany, Sweden, North America, Jamaica and Japan*. London: Edward Arnold, pp. 1-64.

Laslett, P. (1980b). "The bastardy prone sub-society". In Laslett, P., Oosterveen, K., Smith, R. M. (eds), *Bastardy and its Comparative History: Studies in the History of Illegitimacy and Marital Nonconformism in Britain, France, Germany, Sweden, North America, Jamaica and Japan*. London: Edward Arnold, pp. 217-240.

Laslett, P. (1983). "Family and household as work group and kin group: areas of traditional Europe Compared". In Wall, R., Robin J., Laslett, P. (eds). *Family Forms in Historic Europe*. Cambridge: Cambridge University Press, pp. 513-563.

Laslett, P. (1988). "Family, kinship and collectivity as systems of support in pre-industrial Europe: a consideration of the 'nuclear-hardship' hypothesis". *Continuity and Change* 3 (2): 153–175.

Leboutte, R. (1988). *Reconversions de la main d'œuvre et transition démographique. Les bassins industriels en aval de Liège, 17e-20e siècles*. Paris: Les Belles Lettres.

Le Play, F. (1874). *La réforme sociale en France déduite de l'observation comparée des peuples Européens*. Tours : Alfred Mame et fils. (First edition 1864).

Le Play, F. (1875). *L'organisation de la famille selon le vrai modèle signalé par l'histoire de toutes les races et de tous les temps*. Tours : Mame (2nd edition with Appendices).

Le Play, F. (1875–1879). *Les Ouvriers Européens. Etudes sur les travaux, la vie domestique, et la condition morale des populations ouvrières de l'Europe, d'après les faits observés de 1829 à 1879*. Tours: Alfred Mame et fils (first edition, 1855),

Levene, A., Nutt, T., Williams, S. (eds). (2005). *Illegitimacy in Britain, 1700-1920*. Basingstoke: Palgrave Macmillan.

Lévi-Strauss, C. (1979). *La voix des masques*Paris: Plon.

Levi-Strauss, C. (1983). *The Way of the Masks*. London: Jonathan Cape.

Livi Bacci, M. (1971). *A Century of Portuguese Fertility*. Princeton: Princeton University Press.

[Malthus, T. R.]. (1798). *An Essay on the Principle of Population, as it affects the future improvement of society with remarks on the speculations of Mr. Godwin, M. Condorcet and other writers*. London: J. Johnson [published anonymously].

Malthus, T. R. (1803). *An Essay on the Principle of Population; or a view of its past and present effects on human happiness; with an inquiry into our prospects respecting the future removal or mitigation of the evils which it occasions. A new edition, very much enlarged*. London: J. Johnson.

Matos, P. L. (2009). "Female Life Courses and Property Transmission in the Azorean Periphery (Portugal). The Case of the Island of São Jorge in the 19th Century". In Fauve-Chamoux, A., Durães, M., Ferrer, L., Kok, J.(eds). *The Transmission of Well-being: Gendered Marriage Strategies and Inheritance Systems in Europe from the Seventeenth to the Twentieth Centuries*. Bern: Peter Lang, pp. 355-386.

Matos, P. L. T., Moreira, M. J. G. and Maia, R. L. (2014). "Exploring illegitimacy in Portugal during the 19th century". *Romanian Journal of Population Studies* 8(1): 5-38.

Matthys, C. (2013). "Domestic servants and diffusion of fertility control in Flanders, 1830-1930". *History of the Family*. 18(4): 456-480.

Mitterauer, M. (1983). *Ledige Mütter. Zur Geschichte illegitimer Geburten in Europa*. München: Beck.

Mitterauer, M. (1986). "Formen ländlicher Familienwirtschaft. Historische Ökotypen und familiale Arbeitsorganisation im österreichischen Raum". In Ehmer, J., Mitterauer, M. (eds). *Familienstruktur und Arbeitsorganisation in ländlichen Gesellschaften*. Wien/Köln/Graz: Böhlau, pp. 185-323.

Mitterauer, M. (1995). "Peasant and non-peasant family forms in relation to the physical environment and the local economy". In Rudolf, R. L. (ed.), *The European Peasant Family and Society*. Liverpool: Liverpool University Press, pp. 26-48.

Modigliani, F. and Brumberg, R. (1954). "Utility analysis and the consumption function: an interpretation of cross-section data". In Kurihara, K. (ed.). *Post-keynesian economics*. New Brunswick: Rutgers University Press, pp. 388–436.

Moring, B. (2009). "Men, women and property in Finland and Sweden in the 18th and 19th centuries". In Fauve-Chamoux, A., Durães, M., Ferrer, L., Kok, J. (eds). *The Transmission of Well-being: Gendered Marriage Strategies and Inheritance Systems in Europe from the Seventeenth to the Twentieth Centuries*. Bern: Peter Lang, pp. 229-258.

Nakajima, M. (2010). "Population Change and out-of-Wedlock Childbearing in the Village of Nomo". *Proceedings of the 2nd Next-Generation Global Workshop*. Kyoto: Kyoto University, pp. 463-472.

Ourliac, P. (1956). "La famille pyrénéenne au moyen-âge ". In Ourliac, P (ed). *Recueil d'études sociales publiées à la mémoire de Frédéric Le Play*. Paris : Picard, pp. 257-263.

Petillon, C. (2006). *La population de Roubaix. Industrialisation, démographie et société (1750-1880)*. Villeneuve d'Ascq: Presses Universitaires du Septentrion.

Plakans, A., Wetherell, C. (2001). "The search for place: East European family history, 1800-2000". In Hareven, T.K., Wall, R., Ehmer, J. (eds). *Family History Revisited. Comparative Perspectives*. Newark: University of Delaware Press, pp. 257-281.

Rey Castelao, O. (2009). "Well-Being or survival? Women's future and family transmission strategies in North-Western rural Spain, 18th-19th centuries". In Fauve-Chamoux, A., Durães, M., Ferrer, L., Kok, J. (eds). *The Transmission of Well-being: Gendered Marriage Strategies and Inheritance Systems in Europe from the Seventeenth to the Twentieth Centuries*. Bern: Peter Lang, pp. 371-410.

Rey Castelao, O. (2011). *Historia das mulleres en Galicia. Idade moderna*. Sotiello: Nigratrea.

Rotariu, T. (2007). "Beginning a New Journey". *Romanian Journal of Population Studies* 1(1-2): 5-10.

Rotariu, T. (2009a). "A Few Critical Remarks on the Culturalist Theories on Fertility with Special View on Romanians Situation". *Romanian Journal of Population Studies* 3(1): 11-32.

Rotariu, T. (2009b). "Marital and Extramarital Fertility in Latter-Day Romania". In Fauve-Chamoux, A., Bolovan, I. (eds). *Families in Europe between the 19th and 21th centuries, from the traditional model to the contemporary PACS, Romanian Journal of Population Studies, Supplement volume*. *Romanian Journal of Population Studies*, Cluj-Napoca, pp. 361-380.

Rotariu, T. (2010). "Nonmarital Births in Romania versus other European Countries - A few Considerations". *Studia UBB Sociologia* 55(2): 37-60.

Rudolf, R. L. (1991). "The East European peasant household and the beginning of industry: East Galicia, 1786-1914". In Koropeckyj, I. S. (ed.). *Ukrainian Economic History: Interpretive Essays*. Cambridge, Mass: Harvard University Press, pp. 338-382.

Rudolf, R. (1995). "Major issues in the study of the European peasant family economy and society". In Rudolf, R. L. (ed.). *The European Peasant Family and Society*. Liverpool: Liverpool University Press, pp. 6-25.

Ruggles, S. (2010). "Stem families and joint families in comparative historical perspective". *Population and Development Review* 36(3): 563–577.

Ruggles, S. (2011). "Intergenerational Coresidence and Family Transitions in the United States, 1850-1880". *Journal of Marriage and the Family* 73(1): 136-148.

Saito, O. (1998). "Two kinds of stem family system? Traditional Japan and Europe compared". *Continuity and Change* 13(1): 167-186.

Schlumbohm, J. (2009). "Strong myths and flexible practices. House and stem family in Germany". In Fauve-Chamoux, A., Ochiai, E. (eds). *The Stem Family in Eurasian Perspective. Revisiting House Societies.* Bern: Peter Lang, pp. 81-102.

Schumacher, R., Ryczkowska, G., Perroux, O. (2007). "Unwed mothers in the city. Illegitimate fertility in 19th-century Geneva". *The History of the Family* 12(3): 189-202.

Schürer, K. (2003). "Introduction: *Household and Family in Past Time* further explored." *Continuity and Change* 18(1): 9-21.

Smith, R. M. (1980). "Family reconstitution and the study of bastardy: evidence from certain English parishes". In Laslett P., Osterveen K., Smith R. M. (eds), *Bastardy and its Comparative History: Studies in the History of Illegitimacy and Marital Nonconformism in Britain, France, Germany, Sweden, North America, Jamaica and Japan*. London: Edward Arnold, pp. 86-93.

Shorter, E. (1971). "Illegitimacy, sexual revolution, and social change in Modern Europe", *Journal of Interdisciplinary History* 2 (2): 237-272.

Shorter, E., Knodel J., Van de Walle E. (1971). "The Decline of Non-Marital fertility in Europe 1880-1940". *Population Studies* 25(3): 375-393.

Sogner, S. (2009). "The Norwegian stem-family: myth or reality?", In Fauve-Chamoux, A., Ochiai, E. (eds). *The Stem Family in Eurasian Perspective. Revisiting House Societies*. Bern: Peter Lang, pp. 151-172.

Sumnall, C. (2009). "There's No Such Thing as Sin in the Alps. Some Reflections on the Historical Geography of Illegitimacy in Carinthia after 1868". In Bolovan I., Gräf R., Heppner H., Lumperdean I. (eds). *Demographic Changes in the Time of Industrialisation (1750-1918). The Example of the Habsburg Monarchy*, Cluj-Napoca, *Transylvanian Review* 18 (Supplement 1), pp. 195-224.

Szołtysek, M. (2008). "Three kinds of preindustrial household formation system in historical Eastern Europe: A challenge to spatial patterns of the European family". *The History of the Family* 13(3): 223-257.

Szołtysek, M. (2009). "Life-cycle service and family systems in the rural countryside: a lesson from historical East-central Europe". In A. Fauve-Chamoux (ed.). *Annales de Démographie Historique* (special issue) 117(1): 53-94. DOI : 10.3917/adh.117.0053.

Szołtysek, M. (2015). *Rethinking East-Central Europe: family systems and co-residence in the Polish-Lithuanian Commonwealth,* 2 vol., Bern: Peter Lang.

Szołtysek, M. and Poniat, R. (2018). "Historical family systems and contemporary developmental outcomes: what is to be gained from the historical census microdata revolution?". *The History of the Family* 23 (3): 466-492. [Accessed February 22, 2019]. DOI: 10.1080/1081602X.2018.1477686

Teibenbacher, P. (2003). „Uneheliche Gebürtigkeit – Ein Phänomen*?"*. *Zeitschrift des Historischen Vereins für Steiermark,* 94, pp. 247-278.

Teibenbacher, P. (2009). "Natural population movement and marriage restrictions and hindrances in Styria in the 17th to 19th centuries". *The History of the Family* 14(3): 292-308.

Teibenbacher, P. (2010). "Fertility decline, illegitimacy, and denomination – the demographic story of the Wald parish between 1880 and 1938". In Arrizabalaga, M.P., Bolovan, I, Eppel, M., Kok, J., Nagata, M.L. (eds). *Many Paths to Happiness. Studies in Population and Family History. A Festschrift for Antoinette Fauve-Chamoux.* Amsterdam: Aksant, pp. 238-260.

Teibenbacher, P. (2019). „Unehelichkeit der Geburt in der Steiermark. Vom Gestern ins Heute". *Zeitschrift des Historischen Vereins für Steiermark*, 109, pp. 165-196.

Thorner, D. (1966). "Chayanov Concept of Peasant Economy". In Thorner, D., Kerblay, B., Smith, R.E.F. (eds). *On the Theory of Peasant Economy.* Translated from Russian to English. Translation Series. Homewood, Illinois: The American Economic Association/ Richard D. Irwin co., pp. XI-XXIV.

Todd, E. (1990). *L'invention de l'Europe*. Paris: Seuil.

Van de Walle, Etienne. (1980). "Illegitimacy in France during the nineteenth century". In Laslett, P., Osterveen, K., Smith, R. M. (eds). *Bastardy and its Comparative History: Studies in the History of Illegitimacy and Marital Nonconformism in Britain, France, Germany, Sweden, North America, Jamaica and Japan*. London: Edward Arnold, pp. 264-277.

Van der Woude, Ad. (1981). "Introduction à la Ve partie". In Dupâquier, J., Hélin, E., Laslett, P., Livi-Bacci, M., Sogner, S. (eds). *Marriage and Remarriage in Populations of the Past*. London: Academic Press, pp. 421-427.

Wall, R. (2009). "Ideology and Reality of the Stem Family in the Writings of Frédéric Le Play". In Fauve-Chamoux, A., Ochiai, E (eds). *The Stem Family in Eurasian Perspective. Revisiting House Societies.* Bern: Peter Lang, pp. 53-80.

Ward, P. W. (2005). "The welfare of female servants. Five case studies (Bologna, Boston, Edinburg, Utrecht, Vienna)". In Pasleau, S., Schopp, I. with Sarti, R. (eds). *Proceedings of the Servant Project/Actes du Servant Project,* Vol. 5: *The modelization of domestic service.* Liège: Editions de l'Université de Liège, pp. 91-106.

Yver, J. (1953). "Les deux groupes de coutumes du Nord: le groupe picard-wallon". *Revue du Nord* 35: 197-220.

Yver, J. (1954). "Les deux groupes de coutumes du Nord: le groupe flamingant". *Revue du Nord* 36: 5-36.

The Evolution of Women's Status in 15th-century Moldova

Şarolta Solcan

University of Bucharest, Faculty of History, Carol Bulevard, 13, sector 1, Bucharest, Romania, saroltasolcan@yahoo.com

Abstract. The study analyses the mutations of the women's status within the family and society in Moldova during the 15th century, a long journey that would end with Stephen the Great's reign (1457-1504). It was during this time that the medieval social structures were crystallized in Moldova. This study examines the evolution of women's status at this time in the area, as well as the stepwise creation of a society where the principle of gender equality gained greater currency at its uppermost levels, under the circumstances of the governing masculinity principle in Transylvania, Wallachia and other European countries.

Keywords: Moldova's women, Middle Ages, voivode, Alexander the Good, Stephen the Great, family, society

1. Women's Status in the Middle Ages. Moldova in the European context

The present study demonstrates the mutations of the women's status within the family and society of Moldova in the 15th century. The area's social structures became increasingly defined at the time, thus opening the road to women's emancipation in a society where they were regarded as men's equals. That can be regarded as a significant step, especially given the fact that it was not a reality in other European countries, as well as in neighbouring Transylvania and Wallachia. The research concerning the legal status of women during the 16th-17th centuries has shown that "the mediaeval woman of Moldova was no inferior to man from the judicial point of view. She had the right to inherit and to bequeath goods; she was taken into account when the land was divided, and she was prosecuted in the same way as a man was" (Székely 1997:76).

https://doi.org/10.24193/RJPS.2022.1.02

Following thorough research, Lilia Zaboltnaia has observed that "in mediaeval Moldova, the social-judicial status of women was different from other countries... By emphasizing the judicial aspects of the phenomenon, we noticed that women benefited of some advantages when compared to women from other European countries. For example, they had the right to initiate a trial and to testify in court, to divorce and remarry after divorce, to be the children's tutor after divorce and to preserve wealth after the divorce, as well as to have her own money" (Zabolotnaia 2011: 234).

Starting with these notes, which emphasize the special status of Moldavian women in comparison with those from the neighbouring states, including Transylvania and Wallachia, in which the masculine principle was governing, we searched for the roots of this individuality.

According to archival documents, over the course of the 15th century a change occurred that determined the peculiarities of women's status in Moldova. It had been a long and meandering path; the first steps were taken during the reign of Alexander the Good (1400-1432), when women received the right to inherit. That change was followed by a special period during the reign of Alexander the Good's sons, Iliaş and Stephen (1432-1447), when women founded settlements or were responsible of decisions made during political tensions when they had the confirmation of the estates received from their husbands for "fair and faithful service.". During Stephen the Great's reign (1457-1504), women's rights were established by keeping some prerogatives, but also losing some gained during the previous reigns. The structures enshrined at this time would be preserved for centuries.

Following the documents from the end of the 14th century, we notice that rulers made donations only to men, specifying that the right of inheriting was on the male line "with all its income, forever, to his sons and grandsons, grand-grandsons, with all its rights.". (Cihodaru and Caproşu 1975: 3, 6, 10) In some donation acts it was explicitly stated that the right of inheritance was restricted to the male descendants; thus, Stephen Muşat had "possessions forever, with all the income to his sons, grandsons and grand-grandsons." (Cihodaru and Caproşu 1975: 7) Two years later, on November 28th, 1399, Iuga Voivode decided the same (Cihodaru and Caproşu 1975: 18).

Although the principle of masculinity was present in the mentality of the era, a document from the reign of Petru Muşat of 1384 recalled that "esteemed lady Mărgărita, our beloved and honourable mother, founded a church and a monastery for the preaching monks in the city of Siret, where our mother chose to be buried..." (Cihodaru and Caproşu 1975: 1-2). Therefore, a lady had the right to found churches and decide upon her place of interment.

Despite the fact that many changes occurred in the history of women's status, these rights were maintained throughout history (Székely 1995: 441-457).

2. Changes during the Reign of Alexander the Good

Alexander the Good's reign brought about changes to the status of the Moldavian woman. Although in the first documents emitted on the 28th of June 1401, the rightful heir was mentioned as a male, when a land grant was made to a boyar in the village, it was decided that it was „for him and his children, boys or girls, and his grandsons, grand-grandsons to be theirs forever" (Cihodaru and Caproşu 1975:19).

While women were initially omitted from the acts of donation and inheritance, in 1411 a donation was made to "Şoldan Petru and his wife, pan Giulea's daughter, and to children of his brother, Miclouş, a village on Şumuz, namely Tămârtăşăuţi. And the village Movila Găunoasà was given to his wife, pan Giulea's daughter, and her children to be theirs forever, and her brother, Miclouş, to have no relation to that village" (Cihodaru and Caproşu 1975: 43). A decade after mentioning the succession rights of girls within a family, Alexander the Good donated land to one of his boyars and his wife.

From that moment, the ruler paid more attention to women's property rights. The first women to benefit were those from the royal family. In 1413, Alexander the Good donated to "lady Anastasia, our mother-in-law, the village Coţmanul Mare, with all its farmsteads" that had to be inherited by the diocese of Rădăuţi after her death (Cihodaru and Caproşu 1975: 50).

The ruler's wives received donations as well in the following years. In 1421, after parting with his wife Rimgaila, she was granted the income of the town Siret and Volhoveţ. (Cihodaru and Caproşu 1975: 68-70) On the 15th of October 1429, Alexander the Good gave to his wife, lady Marena, two villages on Siret (Cihodaru and Caproşu 1975: 143).

As for other women from the country, they had the right to inherit, as the documents of 1414 and the following years state. This right referred not only to the inherited properties from the family members, but also to the ones acquired by their husbands from the voivode as a reward for their services. As has been highlighted in historiography, these properties were kept over the course of centuries in Moldova (Zabolotnaia 2011: 17), while girls' and women's right to inherit such properties was maintained, albeit with several disruptions, throughout the Middle Ages. This was a new element in the Romanian countries, as neither Wallachia nor Transylvania had any provisions that would have allowed women to inherit properties from their husbands or fathers as rewards from their ruler. In both Wallachia and Transylvania, such

properties could be inherited only by male heirs. Nevertheless, in Moldova, on the 2nd of August 1414, Alexander the Good donated to "lord Şandrul, by our special mercy, our land of Moldova, the village Muntenii Scutaşi to be his inheritance and his wife, Martha, and their sons, Cozma, with all its income, forever, to their grandsons, grand-grandsons and to all their family", for his "faithful service" (Cihodaru and Caproşu 1975: 51).

In 1424-1425, the ruler offered "a village on Şumuz, where his house is situated, to be his property forever, with all its income" to Nănbaci Bărbosul, for his faithful service, and "after his death to his wife, Marena, and her granddaughters, Anuşca and Stana, and their children, grandchildren and grand-grandchildren, and their whole family, forever" (Cihodaru and Caproşu 1975: 83-85).

In both cases, the donation was a reward for the services to the ruler of the country and the villages became the property of the widow and were passed on to the relatives on the female line.

By the donation act of 22nd May 1426, Stephen the key-bearer received two villages and land, specifying that in case he died with no children, the widow would receive only the land (Cihodaru and Caproşu 1975: 91-93). Unlike the aforementioned donations, where the man was the beneficiary and the wife had the right to use and inherit partially or totally, on the 15th of October 1427, Alexander the Good gave a village to Oancea and his wife. The documents state that the donation was for "our true servant, Oancea, who served us rightfully and faithfully. That is why we, seeing his right and faithful service, had mercy on him and gave him and his wife, Nastea, for his service, a village, Carpeni, in our country, Moldova, where Dobracin and Bratul's house was, to be their property, with all its income, to their children and Nastea's children with Dobracin and to her son from another man, to Oancea's brothers and sisters, to all of them and their grandchildren and grand-grandchildren to all their family, to those who are closer, forever" (Cihodaru and Caproşu 1975: 101-102). As is evident, the village was given to Oancea's wife and their descendants regardless of their gender, as well as to Oancea's sisters.

In the same spirit, on August 1428, a donation was made to "Crîstea, and his wife, Maria, the village Iuginţi", for "serving with right and faithful service" (Cihodaru and Caproşu 1975: 114-115).

Beside wives and daughters, sisters began to be mentioned in donation papers as well. In the documents of 1427, 1428 and 1429, sisters were mentioned in succession acts (Cihodaru and Caproşu 1975: 101-102, 119-120, 141-143). On the 24th of September 1429, the charter mentioned that pan

Bena received for his "right and faithful service" three villages to be inherited by his brothers and sisters. The document also mentioned the brothers' and sisters' names - "Macrea, Mihail, Giurgiu, Manea and his sisters..." (Cihodaru and Caproşu 1975: 141-143).

The same was stated in the document issued on February 16th ,1428 when Stan Lucaveţ' descendants were mentioned: his sons Iurie and Cozma, and their sister, Motruna (Cihodaru and Caproşu 1975: 102-104, 132-133). During the reign of Alexander the Good, women had the right to donate. Thus, in an act made out to Moldoviţa monastery, two villages were received from lady Ana, "before her death". Her husband confirmed that the monastery should receive those villages as it was "according to his wife's will and donation" (Cihodaru and Caproşu 1975: 66). Moreover, women could decide to claim pieces of land for themselves around the same time. For example, on the 15th of June 1418, it was shown that "Maicolea, Stoian's daughter, with her sons, Cozma and San, and grandsons Balotă and Dragoş claimed the village from Vlad and Crâstea of Solca as it was theirs and they couldn't get it" (Cihodaru and Caproşu 1975: 61-62). Although Maicolea lost the trial, the act is of special significance for the issue as it proves that a woman with sons and grandchildren who could have represented her in trial, was the one to initiate the trial.

The analysis of the document from the 15th of May 1431 that confirmed the properties to pan Cupcici, vornic, shows that women were selling, donating and changing their estates. Thus, the document makes note of the villages "Camena, on Siret, given by Miclouş's daughter" and "Diacăuţi, exchanged in front of us with Costin's daughter" (Cihodaru and Caproşu 1975: 152-154).

Consequently, the documents issued by Alexander the Good's chancellors prove that women in Moldova benefited from their ruler's attention, being mentioned in donation acts. Moreover, they were considered heiresses, along with their brothers, for their parents' estates and were also included as daughters or sisters in succession acts (Sachelarie and Stoicescu 1988: 486). The women of the elite overcame the boundaries of their family lives and could be involved in transactions and trials regarding property rights. In most of the cases, the documents mention their names or mention their status as daughters.

3. Women's Status during the Reigns of Iliaş and Stephen

After Alexander the Good's death, during the reign of his sons, Iliaş and Stephen, not only were the afore-mentioned rights for women upheld, but also witnessed the addition of improved elements. From the very beginning, Iliaş continued his father's policy regarding the succession rights of women. Thus, on the 13th of January 1432, he gave the right to inherit to Oanica's sister, among other relatives, when donating him two villages (Cihodaru and Caproşu 1975: 160-161). In the same manner, when donating estates, the right of succession is extended to the wife's relatives. For example, in the act of 26th of February 1433, "our faithful pan Dan vornic" received a village to be "his property, with all its income, and his wife, Maruşca, her brother, Ionul and their children, grandchildren and grand-grand children and their entire family, forever" (Cihodaru and Caproşu 1975: 164-166).

As more documents prove, sisters had the right to own and inherit villages and lands from the donations received from the ruler, along with their brothers. On the 27th of February 1433, when the property of Mihail, Bălici's son, was confirmed, ruler Iliaş specified that the property was also for "his sons, sisters, Maruşca and Anuşca, grandchildren and grand-grandchildren, with all its income" (Cihodaru and Caproşu 1975: 166). On the 28th of November 1443, Tador Vlădescul had the village Vlădeşti confirmed to be "his property, with all its income, to his children and his sister, Lola, and his grandchildren, grand-grandchildren and his entire family, forever" (Cihodaru and Caproşu 1975: 328-330).

Sisters had also the right to inherit when the villages were donated by the ruler to their brother as a reward for their "right and faithful service." Thus, on the 15th of June 1433, the boyar Onea received a village "to be his property, with all its income, to his children and grandchildren, great-grandchldren and the closest brothers and sisters, forever" (Cihodaru and Caproşu 1975: 168-169). On the 16th of April 1443, boyar Tâmpa received two villages as "our true servant, and his sons, Miclăuş, Giurgiu, Iancul and Mihău served us with right and faithful service." The act also specified: "All these will be theirs and their sister Maruşca, with all its income, and their children, brothers and grandchildren, great-grandchildren..." (Cihodaru and Caproşu 1975: 317-318).

The sisters' right to be owners of properties along with their brothers was passed to their children. Consequently, on the 8th of November 1438, three villages were confirmed to "Tatul Herlic and his sister's nephews, Danciul Paidos and Niagul Roşca" (Cihodaru and Caproşu 1975: 270).

Unlike the situation in Wallachia and Transylvania, in Moldova, the inherited properties from a man for his service to the ruler was passed to both sons and daughters and their descendants. In an act from the 1st of August 1442, the inheritance was confirmed to Iliaş Bonta, acquired for his father's service from Alexander voivode. This is to be his property, with all its income and to his sister, Stana, and his nephew, Micul, and their children, grandchildren and great-grandchildren..." (Cihodaru and Caproşu 1975: 312-313).

On the 28th of January 1433, a woman received from the ruler the right over a village, and among those with the right of succession was her mother: "we bestowed our true mercy on this Matuşita and gave her a village on Plotuniţa, in our country, where Neagoe Gănescul was. This is to be her property, with all its income, to her children, grandchildren and her mother, Maria, and her brothers, children and grandchildren, great-grandchildren and her family and those close to them, forever" (Cihodaru and Caproşu 1975: 163-164).

When Stephen ascended to Moldova's throne, the situation concerning women's rights remained unchanged. Thus, on the 16th of November 1433, a charter was issued that Hodco Costici was repaid with four villages and a mill so that "all these will be his property and his wife, Vasiutca, and their chilren and grandchildren, and Vasiutca's brothers and great-grandchildren, forever." (Cihodaru and Caproşu 1975: 173-174) The document was very similar to the one issued by Iliaş voivode on the 26th of February 1433 for pan Dan, vornic. During the simultaneous reigns of Iliaş and Stephen, women's rights were maintained and extended. On the 10th of May 1436, when Ivan Cautiş got the "village Ilişăştii at Cobâle, where his house was, with land where his mill was, to found a village. This is his property, with all its income, to his sons, daughters and grandchildren…" (Cihodaru and Caproşu 1975: 207-208).

On the 7th of December 1436, in the confirmation act of the properties of archpriest Iuga, there is an expression that might have allowed girls to issue claims on inheritance: "to be his property, with all its income, to him, his son, Mihul, and all his other children..." alongside brothers and heirs. (Cihodaru and Caproşu 1975: 231-233).

A unique document of a special value was issued by the two rulers on the 5th of March 1438. Neaga, the wife of pan Giurgiu Piatră, received the right to found a village: "we bestowed our mercy on her and gave her the village on Sitna in our country, namely Diiacul, upper Stroe, and the place around it, and a free land on Bic, at the Divicea river mouth to found a village, and a village on Crasna, Slăveşti... and the border of these villages will be with

the old borders, where they had been used for centuries. And the border of this land will be to be used abundantly" (Cihodaru and Caproşu 1975: 256-258).

During the reigns of Iliaş and Stephen, women were judged in the same manner as man were; they could be accused of deception/ treason and lose, as any boyar, the estates in the country that were passed to the ruler. In the document of 24th of February 1437, the properties of Şteful were confirmed. The village Vascăuţi was mentioned: "we gave the village to Şteful, which was Maruşca's, our wife's sister who lost it because of deception and ran away to the Russian land; we sold it to şteful" (Cihodaru and Caproşu 1975: 235-237). The documents show that the relatives of a couple could make transactions concerning the couple's landed properties. For example, in 1438, Toma Băcescu received his right over a village of "his wife's nephew, Toader" (Cihodaru and Caproşu 1975: 251-252).

Between 1432 and 1447, when Iliaş and Stephen disputed Moldova's throne, women's status was improved. The old rights were respected; girls were granted the same rights as their brothers regarding the inheritance, even if the donations had been originally made to their parents or grandparents for their service. Daughters' descendants also had succession rights along with their uncles and cousins. The property right could belong to the wife or her relatives. The new elements were donations to women and their relatives, as well as their rights to found settlements. Furthermore, women involved in political disputes of the era were treated in the same way as men, being punished for betrayal by confiscating their estates by the ruler (Gonţa 1998: 272).

4. Several Steps Back after Iliaş and Stephen's Reigns

The documents during the reign of Alexăndrel (1452-1454) and Petru Aron (1455-1457) demonstrate the deterioration of women's status in Moldova, as well as their emphasized involvement in transactions with villages and estates, given the economic crisis generated by the fights for the throne. A charter from 7th September 1452 noted that „Tuzoana, Conataş' daughter from Neamţ and her son, Leurinţ..." sold a part of their estate (Şimanschi 1976: 21-22). In the next years, the documents don't state the women's names, only their status as sister, wife, daughter, or granddaughter. Oană Pâşco's wife, Raicu's sister, sold several villages, together with her husband, Mihai the chancellor in 1453 (Şimanschi 1976: 44-47). In 1455, Trifu Borzescu's properties were confirmed; the village Ştefăneşti was mentioned, which "he exchanged with Beţea for his wife's part of Marişeşti (Şimanschi 1976: 71-73). As we may deduce, Trifu

Borzescu disposed of his wife's estate. A year later, in 1456, Petru Aron confirmed to pan Sin from Hotin his and his wife's property over their villages and estates: "we, seeing the right and faithful service to us, bestowed upon him our mercy and gave him and confirmed his wife's estate, Mihăilaş' granddaughter" (Şimanschi 1976: 87-89).

After 1452 we observe that Moldavian women lost their identity as they were mentioned only in their relation to men. Moreover, their properties were confirmed to their husbands, and it seems that they disposed of the properties, having the ability to sell or exchange them.

5. Women's Status during Stephen the Great's Rule

The documents from the reign of Stephen the Great (1457-1504) illustrate the final phase concerning the women's status in Moldova. The first months of Stephen the Great's reign announce the reestablishment of women's identity and their previous rights. Thus, on the 12th of August 1457 some houses of Suceava were allotted tax-free to Moldoviţa monastery, which were described as houses "where the Armenian Stana was living" (Şimanschi 1976: 94). On the 26th of October 1458, "Mălin and Vişa, and their son-in-law, Ivaşco Vitoltescu" sold "the village left to them by their uncle, Stan Poiană" (Şimanschi 1976: 111-113). At the same time, two villages were confirmed to "Duşca, Toader's daughter, and her grandchildren" (Şimanschi 1976: 100). In December 1458, "Măruşca, Andrieş Slujăscul's daughter, Negrilă's wife, gave her villages and the mill, her share, to her brothers and sisters and gave to monastery of Bistriţa, while we and the boyars witnessed it..." (Şimanschi 1976: 115). On the 13th of January 1460, "Malea, Ion's daughter" was mentioned as selling a property together with Bâlea (Şimanschi 1976: 128-130). We may see from the documents that women – daughters, wives, widows – were mentioned by their names and the properties were confirmed. The single women or those with their husbands gave away villages and other properties.
A series of actions were done in Măruşca's case that prove additional rights to the ones that were already presented. The ruler recognized her ownership status and her donation of goods.

The documents from the following years confirm the regaining of the Moldavian women's rights within family and society. Although Stephen the Great had a favourable attitude toward the restoration of women's status, this was a long and meandering process.

On the 8th of August 1461, Stana, "Bogdan's wife, Herman's son", is involved along her husband in a trial against her uncle, Ivul Solca, for her inheritance: "they bargained willingly concerning their estate: Ivul gave to

Bogdan and his niece, Stana, a privilege from Alexander voivode, who wrote three villages from Moisie and Solca, from Ivul two houses and a spring, and Bogdan and his wife acknowledged that they wouldn't claim and mention neither Ivul's share of the village, nor his children and grandchildren" (Şimanschi 1976: 140-142).

Two sisters were also involved in a trial: Cerna, Ivul Solca's wife and her sister, Grada, together with their grandchildren. They also split their father's inheritance, the village Miculeşti on Pârâul Negru. Although Cerna had a husband and Grada had grandsons, it is remarkable that they settled their differences and were involved in the trial themselves, rather than being represented by men. Although Miculeşti was his wife's inheritance, her share of the village was confirmed to be Ivul's and his wife's and their descendants: "Grada and her grandchildren and Cerna, pan Ivul's wife, came to us and our boyars, and Grada gave to Cerna a village on Pârâul Negru, namely Miculeşti, where their father's house was, Nicola, and a third part of the river Moldova bank. That is why, seeing their goodwill and bargain of all parties, we confirmed on our behalf to Ivul his share of the village with all its income and borders used before, on Pârâul Negru, Miculeşti, and the third part of the river Moldova's bank. All the afore-mentioned to be his property, with all its income, to him and his wife, Cerna, and their children, grandchildren and great-grandchildren and their entire family, forever" (Şimanschi 1976: 140-142).

The document is of crucial importance as it shows Moldavian women from multiple perspectives: they are involved in trials; they negotiate their inheritance with relatives and are sometimes supported by their husbands. On the other hand, their properties are confirmed to their husbands and women have the right to inherit.

In the seventh decade of the fifteenth century, women continue to negotiate with their brothers for obtaining their share of the inheritance. A document of October 20th, 1469 shows that "pan Toader Zvîştală with his sisters Stana, Marena and Maruşca settled together matters about the village Zvîşteleşti, where his house was, on Bogdana. All his three sisters got the village Şerbăneşti" (Şimanschi 1976: 237-239).

The documents from this period renounce the phrase "property right for sons and daughters" in favor of "to their children, grandchildren and great-grandchildren and their entire family, whoever will be closer to the part whose estate is" (Şimanschi 1976: 172-174).

In the next period, women were frequently mentioned in documents. They were involved in numerous transactions of lands either selling, buying, exchanging or donating villages, estates on their own or alongside their husbands, parents, children, brothers, and other male relatives. There was no prohibition regarding the inherited lands that were received by their fathers or grandfathers for their service. Women sold many inherited estates together with their brothers; thus, they had the right to inherit lands and to leave them as inheritance to their children. That is why we find in some documents uncles that had transactions together with their nephews from their sisters. For example, on October 26th 1493, "Giurgea, the son of Bancea Prodănescul and his niece, Mica, Brindea's daughter, Miclea Prodănescul's grandsons" sold the estate inherited from their grandfather (Cihodaru and Caproşu 1980: 261-263).

Until 1490 the property borders were vague, explaining why extended families took part in a transaction. The first step was done by three cousins who asked for documents to confirm clearly delineated properties (Cihodaru and Caproşu 1980: 33-134, 205-206, 215-216, 305-309, 314-315, 396-397, 382, 452). This phenomenon was also signalled by women; in 1497, "Anuşca, daughter of Oană Căuia" asked for her inheritance to be clearly divided from the one owned by Toader Căuie's children, five daughters and a boy. She got the village Hăoeşti, while Toader's children, her nephews, got the village Căueşti. The properties were confirmed to both parties (Cihodaru and Caproşu 1980: 396-398).

Another significant matter was how women presented themselves in front of the judges. Starting with the 1460s, we saw that they were represented by husbands sometimes and but also appeared before the court on their own, such as in the case of Cerna, Ivul Solca's wife. Over time, an increasing number of women represented themselves in court. Thus, in 1462, Anna, Sima chancellor's sister, "Bârsanul's wife", had a trial with her cousin, Şandru Negrul, over the loss of some privileges from the "old Stephen voivode" (Şimanschi 1976: 156-157). In 1474, Maruşca, Andreico şerbici's wife, Ion Cupcici's daughter, sued Ivan, Vasco de Horodnic's son, who pretended to be Ion Cupcici's grandson. Ivan refused to swear, thus Maruşca had to swear, for her and her grandson Mihnea, in front of 24 judges, that Ivan was not Ion Cupcici's descendant (Şimanschi 1976: 296-299). Although both aforementioned women had husbands, in the trials that concerned their own families and their inheritance, they represented their family even male relatives also existed. It must be stated that Maruşca took an oath in front of men, which considered valid.

In 1480, Marina, the daughter of Iacuş, the treasurer, had to sue for her estates, with her two daughters and her grandsons, sons of Iurie Buceaţchi, Stephen, chief magistrate of Hotin. The document states that they "negotiated and shared the estates" (Şimanschi 1976: 343-345).

The presence of women as witnesses occurred in 1464 when Mândre was in trial with Misea for the village of Târnăuca. Mândre's witnesses were his wife and two sisters-in-law, "Voineag's daughters" (Şimanschi 1976: 174-176). He ended up losing the village in the trial.

Confirming the property was a matter already stated in the trials of 1461. The 7th decade of the 15th century had frequent cases where the inherited properties of those bought by women were confirmed to their husbands. On the 3rd of December 1462, when other privileges were issued for the lost ones of his wife, when Laţco demanded it, the villages were confirmed to his name and it was decided that they "will be his property, with their income, to their children, grandchildren and great-grandchildren..." (Şimanschi 1976: 162-164).

In 1464, on the 28th of April, the husband had the confirmation of the part of the village bought by his wife, while the other half of the village Toporăuţi was given to the husband. Finally, the right of inheriting the village fell to man's relatives: "this true faithful servant of ours, pan Luca, son of pan Petru the chancellor, served us right and faithfully. That is why, we, seeing his right and faithful service to use, bestowed our special mercy on him and confirmed his wife's estate, Marena, half a village of Toporăuţi that he bought together with his wife in our country, Moldova, with Mihnea: and the other half of the village will be pan Luca's for his right and faithful service... All these will be his property to his children, grandchildren..." (Şimanschi 1976: 169-171).

In 1480, pan Duma the key bearer obtained the confirmation of his wife's purchase, Nastea, daughter of Petru Brăescul, more precisely, three villages, one of which was inherited, the other two having been bought by her father, together with a number of Gypsy slaves. The charter shows that "All these will be pan Duma's as property, with all its income, to him and his wife, Nastea, her brother Iurie, and their sisters, Fedora and Oliuşca, children of pan Petru Brăescul, their children, grandchildren ..." (Şimanschi 1976: 349-351). Unlike other mentioned cases, here the right of inheritance belonged to the wife and her relatives.

The same happened to Dragoşe, the son-in-law of Severin in 1484. He obtained the confirmation of his wife's villages and her relatives: "we bestowed our mercy and gave him, confirmed in our country, Moldova, the estate of his

wife, Anuşca, the villages Fundeştii, on Albinea, and Lăţcanii, at the same border. This will be his property, with all its income, to him and his wife, her sister, Stana, Severin's daughters and their children, grandchildren..." (Şimanschi 1976: 292-293).

The succession right of the women's relatives seems to be granted only in case of inherited properties. In the same period, the husband and wife had confirmation of their purchased lands. For example, in 1480, the ruler confirmed a village bought by şerban and his wife Ghindii. (Şimanschi 1976: 353-354) In 1491, one third of the village Ruptura, bought by Oană Teligă and his wife, Muşa, was confirmed to both owners (Cihodaru and Caproşu 1980: 187-188). In the 9th decade, there were no cases when the wife's properties were confirmed to the husband, but there were several situations in 1489, 1490, 1491, 1495, 1497, 1501 when women bought villages and land and they had the ownership right recognized (Cihodaru and Caproşu 1980: 98-99, 120, 187, 304, 396-398, 487-488). In these cases the name of a husband was never mentioned.

The fact that men confirmed their wives' properties makes it clear that sometimes they were benefiting from these properties, as they could sell them. In 1466, "pan Ivanco Ungureanu with his wife, Furău's daughter" sold his wife's estate (Şimanschi 1976: 188-189), and in 1488, "pan Fete Iacobescul and his wife, Marina, the daughter of Ştibor the old and Zoica's granddaughter, sold their estate, of their own free will, the privilege of their grandparents, Ştibor and Zoica, which they had from our grandfather, Alexandru voivode, a village on the river Bârlad..." (Cihodaru and Caproşu 1980: 81-83). The right of the woman to own land also allowed her to donate. Thus, in 1469, Ivaşco Păşcu received his sister's share, Stana, as "he redeemed her from Tatars, and she bequeathed him her share, as she didn't have children" (Şimanschi 1976: 236-237).

As mothers, women disposed of their children's inheritance. In that way, it was possible that in 1468, "Marena, wife of pan Ivanco of Brae, daughter of Iaţco Branici, with her children that she had with Ivanco of Brae, Ivaşco and Iliaş, sold their estate, of their own free will,..." (Şimanschi 1976: 227-229).

The document of 15th October 1481 is explicit regarding this issue, as it shows the widow and estranged properties were her daughters' inheritance after their father: "Elena, wife of Manoil Raicii, with her daughters with Manuil Raicii, Duma and Zoica, of their own free will, sold their estate, the village Iucşani, on Jijia, and a mill, the daughters' right estate after their father..." (Şimanschi 1976: 367-369).

6. Conclusive ideas

Although the situation of women in Moldova improved during the reign of Stephen the Great, we must state that women didn't benefit from the estates received by their husbands as repayment for their service to the ruler and didn't have the right to found settlements as it was given to many boyars (Boldur 2004: 75; Gorovei and Székely 2005: 76, 80; Cihodaru and Caproşu 1980: 499, 517).

The manner in which the role and place of women in Moldova crystallized within family and society in the 15th century was the result of internal and external policy conjunction. We mention thus some role-models of powerful women such as Hedviga de Anjou, the first wife of the Polish king Wladyslaw II Jagiello (1377-1434) and the wives of Moldavian rulers in the first decades of the Moldavian state. The Polish model and the life at the Polish court had a powerful influence, given that Alexander the Good and his son, Iliaş, were related to the king Wladyslaw II Jagiello through their wives. These circumstances explain the long process of defining the women's status in Moldova, as well as hesitations in offering or annulling their rights.

The status of Moldavian women had been defined in the years of Stephen the Great's reign and were kept the same in the following years due to the fact that the rulers of the first half of the 16th century kept him in high regard. In Moldova, women had a special social status, almost the same as men, a fact that individualized the Moldavian society in the context when the neighbouring countries were ruled by the masculinity principle.

References

Boldur, A. (2004). *Ştefan cel Mare voievod al Moldovei (1457-1504). Studiu de istorie socială şi politică.* Iaşi: Editura Junimea.

Cihodaru, C. and Caproşu, I. (1975.). *Documenta Romaniae Historica*, A, Moldova, vol. I, (1384-1448). Bucureşti: Editura Academiei.

Cihodaru, C. and Caproşu, I. (1980). *Documenta Romaniae Historica*, A, Moldova, vol. III, (1487-1504). Bucureşti: Editura Academiei.

Costăchescu, M. (1931). D*ocumentele moldoveneşti înainte de Ştefan cel Mare*, vol. I, Iaşi: Editura Viaţa Românească.

Costăchescu, M. (1932) D*ocumentele moldoveneşti înainte de Ştefan cel Mare*, vol.II, Iaşi: Editura Viaţa Românească.

Giurescu, C.C. (2007). *Istoria românilor,* vol. I-II, Bucureşti: Editura ALL.

Gonţa, A. (1998). "Femeia şi drepturile ei la moştenire în Moldova după „obiceiul pământului". In Gonţa, A. (Ed.). *Studii de istorie medievală*. Iaşi: Editura Dosoftei, pp. 269-276.

Gorovei, S. S. and Székely, M. M. (2005). *Princeps omni laude maior. O istorie a lui Ştefan cel Mare*. Suceava: Muşatinii.

Sachelarie, O. and Stoicescu, N., (1988). *Instituţii feudale din ţările Române. Dicţionar*. Bucureşti: Editura Academiei.

Székely, M. M.. (1995). "Femei ctitor în Moldova medievală". A*nuarul Institutului de Istorie A.D.Xenopol* 32: 441-457.

Székely, M.M. (1997). "Viaţa de familie în Moldova medievală". M*agazin istoric*. Seria nouă 10: 75-77.

Şimanschi, L. (1976). *Documenta Romaniae Historica*, A, Moldova, vol. II, (1449-1486). Bucureşti: Editura Academiei.

Zabolotnaia, L. (2011). *Femeia în relaţiile de familie din ţara Moldovei în contextul european până la începutul sec. al XVIII-lea (căsătorie, logodnă, divorţ)*. Chişinău: Editura Pontos.

The Population of Timişoara at the Turn of the 19th and 20th Centuries

Corneliu Pădurean

University Aurel Vlaicu of Arad, Revoluției Bulevard 77, 310032, Arad, Romania, corpad@gmail.com

Abstract. After it was awarded the status of "free royal city" on December 21st 1781, Timişoara witnessed the prospect of novel developments in various fields. The colonization process carried out by the Austrian state after the conquest of the Banat in 1716 with a population of German origin, and then by the Hungarian authorities, changed the ethnic and confessional composition of the province. This demographic policy also marked the population of Timişoara. The present article aims, based on the results of the Hungarian census of 1900, to identify the main demographic characteristics of the population of the city located on the Bega River.

Keywords: Banat, urban, demographics, ethnicity, denomination, dynamics.

By the Peace of Passarowitz in 1718, the Ottoman state recognized pragmatically the Habsburgs' rule over the Banat, following the battles of 1716. Eugene of Savoy, the conqueror of the Banat, established the legal status of the new Habsburg province as "domain of the Crown" (Munteanu and Munteanu 1998: 60). This status was replaced by the document from 6th of June 1779, when the central and northern part of the province was incorporated into Hungary. Gradually, the Hungarian administrative structures replaced the Austrian ones, with the county being reintroduced (Munteanu and Munteanu 1998: 62). The centre of the Habsburg province, and later of Timiş County and of the other forms of organization that Banat knew, was Timişoara. Although through the 1718 document, a foreign dominion was replaced by another dominion, also foreign, from a historical perspective, the establishment of the Habsburg rule meant a progress for Banat and its capital.

https://doi.org/10.24193/RJPS.2022.1.03

On December 21st, 1781, the Reformist Emperor Joseph the 2nd signed the Diploma which conferred Timişoara the status of "free royal city". The cities that benefited from such imperial diplomas also benefited from a series of advantages, which paved the way to a favourable economic and political evolution, being exempted from a series of tax obligations, and having the right to have their own representatives in the Diet of Hungary.

For example, the city of Arad enjoyed a similar status, following a similar diploma, issued on August 21st, 1834. Acquiring the title of "free city" propelled Arad into the category of the most developed cities of Hungary, until the First World War, the most developed city in the western part of present-day Romania. In the interwar period, however, Timişoara increasingly established itself as the most important economic centre in western Romania.

After December 21st, 1781, and then in 1790, when Emperor Leopold the 2nd renewed the diploma that gave it the status of "free royal city", the prospect of a favourable evolution in various aspects opened before Timişoara. The city's current situation is in part, the result of this status, which has over time allowed various accumulations, and placed the city permanently on a positive trend.

In the following, we intend to make a foray into the history of the population of the city at the watershed between the nineteenth and twentieth century, to identify some of its main demographic characteristics. In order to achieve this objective, we refer to the results of the census conducted by the Hungarian authorities in 1900. Of course, a discussion can also focus on the accuracy of the results recorded by this official document of the Hungarian administration in Transylvania, Banat, Crişana and Maramureş, especially from a Romanian perspective. However, this topic has already been covered, since over time a series of papers have been published, which have called into question the methodology used by the Hungarian Institute of Statistics on the occasion of each census conducted until 1918.

Firstly, of interest is the size of the population in the reference year 1900. In order to better understand the population dynamics of Timişoara, in the table below, we have included the results of other censuses conducted by the Hungarian administration after the establishment of the Austro-Hungarian regime in 1867, beginning with the 1870 census.

In 1870, the civil population of Timişoara amounted to 32,223 present individuals. According to the published data, this figure was composed of 25,045 native souls, to which were added 7,178 foreigners 3 (Census 1871: 4).

Table 1. The dynamics of the population of Timişoara between 1870-1900

Year	Civilian population			Military	Total	Increase	%
	men	women	total				
1870	16,072	16,151	32223	-	32,223	-	100
1880	-	-	33694	-	33,694	1,471	4.5
1890	18,207	21,677	39884	-	39,884	6,190	18.4
1900	22,599	27,025	49624	3,409	53,033	9,740	24.4

Source: *A Magyar Korona Országaiban ay 1870 év elején végrehajtott népszámlálása eredménye* (1871): 34; *A Magyar Korona Országaiban az 1881 év elején végrehajtott népszámlálása eredménye* (1882) :292; *Magyar Statisztikai Kőzlemények*, "A Magyar Korona Országainak 1891 év elején végrehajtott népszámlálása eredményei"(1893): 20. *Magyar Statisztikai Kőzlemények*, "A Magyar Korona Országainak 1900 évi népszámlálása" (1907): 33.

From the table presented above, it follows that throughout the 30-year period, there has been a permanent trend of growth in population. The largest increase was recorded was 18.4%, in the 1881-1890 period. In the period 1870-1900, the population growth was 54.0%. In the same period, however, the population of Arad increased by 64.7%, from 32,725 inhabitants in 1870 (Census 1871: 11) to 53,903 civilians (MSK 1902: 338). In the last year of the 19th century, the civil population of Timişoara accounted for 12.5% of the civilian population of Timiş county (MSK 1902: 577).

On the other hand, we note that regarding the gender structure of the city's population, women have always held the supremacy, with variations from one decade to the another. At the beginning of the temporal segment, the number of births of boys was higher. Over the decades, however, due to higher mortality among men, women ended up exceeding the number of men. This phenomenon can also be seen in the table illustrating the marital status of people, according to which number of widows is much higher than that of widowers.

The increase of the population of the city situated on Bega was due to its natural growth and internal immigration. Most of the people from Timişoara were originally from the city and from the Timiş county. But there were also hundreds of people, coming from the neighbouring counties, especially Torontal, Caraş-Severin, Arad, but also from the Transylvanian counties (MSK 1907: 106-111). The city's progress in the economic field certainly stimulated the immigration phenomenon in the rural area of Timiş County, but also in other counties.

In 1900, the total civilian population included a total of 1,463 people who were not Hungarian citizens. This number consisted of 645 men and 818 women. The situation was similar for the military. A total of 224 men were foreign nationals (MSK 1907: 33). This means that at the time of the census, in the city on the Bega River, there were 1,687 people coming from outside Hungary. The vast majority, meaning 1,094 civilians and 221 soldiers, came from different areas of the Austrian part of Austro-Hungary (MSK 1907: 42). The rest of the foreigners came from America, Bosnia and Herzegovina, Bulgaria, Switzerland, France, Germany, Italy, Great Britain, Montenegro, Romania, Serbia, or Turkey (MSK 1907: 46-49).

At that time, i.e. in 1900, Timişoara had a young population, meaning that 56.6% of the civilian population was up to 29 years old, the most numerous category (22.1%) being the one between 10-19 years (MSK 1907: 136). Thus, over half of the city's inhabitants were under the age of 30. There were also 25 people, five men and twenty women, who were over the age of 90 (MSK 1907: 139), which for those times was a rather advanced age.

Another aspect on which the study focuses is the one regarding the civil status of the population. In order to be able to identify a possible attitude of the population towards the institution of marriage, we also introduced for comparison the results of the 1870 census.

From the table, it appears that the largest share was held by unmarried people. It is natural that it should be so, since among them also entered those who did not have a marriageable age. Over the 30-year period, although the city's population increased, the relative values of the unmarried have declined. On the other hand, the percentage of those who were interested in entering into a matrimonial alliance increased, thus increasing the rate of nuptiality.

In the same temporal segment, the share of people who lost their life partner also increased. Both in the year 1870 and in 1900, widows predominated over widowers.

For the year 1900, the highest number of people who had the marital status of widow, i.e. 540, were registered in the age category ranging between 60-64 years. They accounted for 12.5% of all widows and 1.1% of the entire civilian population (MSK 1907: 264). A case of a widowed woman was also registered, at a very young age, in the category between 15-19 years (MSK 1907: 262).

As for divorced people, we see a stagnation, or even a small regression. The youngest individuals belonged to the age segment 20-24 years, and the oldest between 70-74 years (MSK 1907: 268-269).

Table 2. The civil status of the population of Timişoara in the 1870s and 1900s

Marital status	Year	Values	Men	Women	Total
unmarried	1870	No.	9, 971	8,770	18,741
		%	30.9	27.2	58.1
	1900	No.	12, 964	14,308	27,272
		%	26.1	28.8	54.9
married	1870	No.	5,625	5,452	11,077
		%	17.4	16.9	34.4
	1900	No.	8,836	9,054	17,890
		%	17.8	18.2	36.0
widower	1870	No.	437	1,871	2,308
		%	1.36	5.8	7.2
	1900	No.	747	3,574	4,321
		%	1.5	7.2	8.7
divorced	1870	No.	39	58	97
		%	0.1	0.2	0.3
	1900	No.	45	88	133
		%	0.1	0.1	0.2

Source: *A Magyar Korona Országaiban ay 1870 év elején végrehajtott népszámlálása eredménye*(1871): 34; *Magyar Statisztikai Közlemények*, "A Magyar Korona Országainak 1900 évi Népszámlálása" (1907): 202-203.

The age groups most willing to accept divorced status, which was not necessarily perceived positively but rather ostracised in a society dominated by conservatism in terms of matrimonial relationships, were those located between 30-34 and 35-39 years. 24 people of this age group, or 18.0%, divorced for various reasons, although the churches, regardless of their denomination, found it difficult to accept divorce, only allowing it under certain conditions (MSK 1907: 68). This status was generally accepted by younger people. With the increase in age, the number of people who had the status of divorced decreased.

The colonization policy initiated by the Habsburg authorities after the entry of Banat into the Habsburg Empire influenced the structure of its population. According to some estimates, around the revolution of 1848, in the entire Banat about 150,000 people of German, Serbian, Hungarian, Ruthenian, French, Czech, Italian, Romanian, or Hungarian nationality were colonized (Munteanu, Munteanu 1998: 84). A similar wave of colonization continued after the Austro-Hungarian dualism, but at a lower intensity.

This demographic policy, pursued by the political rulers of Banat, persisted in the ethnic structure of the city of Timişoara. The ethnical composition of the population of Timişoara in 1900 is shown in Table 3.

We would like to point out that the Hungarian authorities, during the censuses they have organized, did not register the ethnicity of the population, but rather the enumerated individuals' mother tongue. Based on the mother tongue, the ethnicity of the population was then established. Jews and Gypsies were registered as having Hungarian as a mother tongue. The relative number and weight of the Jewish population, however, can be established on the basis of the Israeli confession, although it should be noted that there was a sizeable group of Jewish individuals who had converted to the Roman Catholic religion.

Table 3. The ethnic structure of Timişoara's population in 1900

Ethnicity	Sex			Military	Total	%
	masculine	feminine	total	total		
Romanian	1,882	1,558	3,440	574	4,014	7.5
Hungarian	8,615	9,249	17,864	760	18,624	35.1
German	10,792	14,881	25,673	1378	27,051	51.0
Slovak	107	126	233	47	280	0.5
Ruthenians	3	6	9	4	13	< 0.1
Croatian	43	61	104	17	121	0.2
Serbs	738	685	1,423	550	1,973	3.7
Others	419	459	878	79	957	1.8

Source: *Magyar Statisztikai Közlemények*, "A Magyar Korona Országainak 1900 évi Népszámlálása"(1907): 205, 208-209.

The results of the colonization policy conducted by the Austrian and Hungarian states are reflected by the ethnic structure of the city of Timişoara. In 1900, more than 51% of the population was of German ethnicity, followed by Hungarians at a fairly large distance, with 35.1%. The third largest group were Romanians, with a share of 7.5%. However, that at the level of Timiş county, Romanians constituted the largest ethnic group with a share of with 40.9% (MSK 1907: 363). The rest of the ethnic groups, apart from Serbs who contributed 3.7% to the ethnic composition of the city, were less well represented.

Before concluding this brief analysis of the presence of different ethnicities within the population of the most important centre of Banat, it is worthwhile to dwell on the gender structure of ethnic groups. Over all three decades, women surpassed men in terms of gross values. Table No. 3 shows, however, that in 1900, the Romanians and the Serbs did not fit into this pattern, as men were more numerous than women.

The confessional structure was closely related to the ethnic structure. In general, Romanians and Serbs were Orthodox, while Hungarians, Germans, Slovaks and Croats belonged to the Roman Catholic Church. Romanians could also be Greek Catholic, while some Hungarians belonged to the Reformed or Unitarian Church. There were also members of the Evangelical Church among the Germans and Slovaks. Although Jews were of Israeli confession, this group could also include converts to the Roman Catholic church, the church of the ruling political class.

Table 4 continues to pursue the contribution of different denominations to the pluri-confessionalism of the population of Timişoara. In order to be able to more easily track the dynamics of believers of different denominations, we also introduced the results of the 1870 census.

Table 4. Confessional structure of the population of the city of Timişoara, in the 1870s and 1900s

Confession	YEAR		
	1870		1900
	No.	%	No.
Orthodox	5,487	17.0	6,129
Roman Catholic	20, 631	64.0	37,080
Greek Catholic	302	0.9	552
Reformed	629	1.9	2,064
Evangelicals	1,120	3.5	1,186
Unitarians	2	0.0	1
Israelites	3,982	12.3	5,916
Nazarenes	-	-	9
Baptists	-	-	8
Others	66	0.2	14
Non-Christians	4	0.0	2
Unknown	-	-	22

Source: A Magyar Korona Országaiban ay 1870 év elején végrehajtott népszámlálása eredménye (1871): 60; Magyar Statisztikai Kőzlemények, "A Magyar Korona Országainak 1900 évi Népszámlálása"(1907): 234-237.

During the three decades concerned, some denominations increased their share in the city: the Roman Catholic group grew by 6%, the Reformed by 2% and the Greek Catholic by 0.1%. On the other hand, other groups witnessed smaller absolute values, although the numbers of their adherents increased. These were the Orthodox, Evangelical and Israelites.

Towards the end of the 19th century, statistics also recorded novelties in the confessional field throughout Hungary, and therefore also in Timişoara. This concerned the emergence of churches born from the religious reform, which also entered Transylvania through the Hungarian or German route. In Timişoara, nine Nazarenes and eight Baptists were registered.

The connections between ethnicity, one's stated mother tongue, and confessional adherence have already been discussed. As in other areas of society, however, there were exceptions to the predetermined matrix. The following table confirm the general matrices, also highlighting the exceptions.

Table 5. The relationship between the ethnicity and the confession of the believers in the city of Timişoara in 1900

Religion	Mother tongue						
	Romanian	Hungarian	German	Slovak	Ruthenian	Croatian	Serbian
Orthodox	3,622	305	241	3	1	11	1,884
Roman catholic	93	12,205	23,651	148	2	105	64
Greek catholic	277	141	44	47	10	2	22
Reformed	3	1,952	92	3	-	-	-
Augustinian	4	465	640	63	-	3	-
Unitarians	4	29	6	11	-	-	-
Israelites	6	3,506	2,357	5	-	-	5
Nazarenes	2	-	6	-	-	-	1
Baptists	-	8	-	-	-	-	-
non-Christian	-	-	-	-	-	-	-
Other	3	12	14	-	-	-	1
Total	4,014	18,624	27,051	280	13	121	1973

Source: *Magyar Statisztikai Kőzlemények*, "A Magyar Korona Országainak 1900 évi Népszámlálása"(1907): 352-387.

The table confirms the matrices we mentioned above, while also illustrating that there were Romanians who were Roman Catholics, but also Reformed, Evangelical, Unitarian and Nazarenes. It also appears that six Jewish individuals declared Romanian language as their mother tongue. Hungarians and Germans were present in all the traditional Protestant churches, but also in the neo-protestant ones. The large number of Jews who declared Hungarian or German as their mother tongues is also noteworthy.

To a lesser extent, however, according to their place in the ethnic and confessional rigging of the city, other ethnic groups were also part of other churches apart from those to which they traditionally belonged. The presence of several Romanians in the Roman Catholic Church, or of several Hungarians in the Orthodox Church was the result of a multicultural society, in which people of different ethnicities and confessions lived together and consequently ended up concluding mixed marriages. These mixed marriages ended with the conversion of one of the spouses to the confession of the other. Usually, although there were exceptions, women switched to the husband's confession.

Another aspect related to the population of Timişoara at the watershed between the 19th and 20th centuries refers to its habitat, or the housing conditions of the civilian population, in the main urban centre of Banat. A synthesis of the habitat in Timişoara of 1900s can be found in tables no. 6 – 8.

Table 6. The habitat of Timişoara in 1900

Walls made of:	The roof made of:			Total
	tile or slate, or other resistant materials	shingles or planks	reeds or reeds	
stone or brick	1,577	653	31	2,261
stone or brick with adobe or earth	196	252	31	479
adobe or earth	281	633	308	1.222
of wood or other materials	29	106	26	161
total	2,083	1,644	396	4,123

Source: *Magyar Statisztikai Kőzlemények*, "A Magyar Korona Országainak 1900 évi Népszámlálása" (1907): 5.

Table 7. The situation of private dwellings in the city of Timişoara and their inhabitants in 1900

Location of dwellings	Housing		Inhabitants
	No.	%	No.
cellar	365	2.6	1,017
basement	160	1.1	520
ground floor	11,808	86.0	41,317
mezzanine	59	0.4	204
first floor	970	7.0	4,343
second floor	332	2.4	1,355
third floor	42	0.3	168
attic	8	0.0	23
Total	13,744	100	48,947

Source: Magyar Statisztikai Közlemények, "A Magyar Korona Országainak 1900 évi Népszámlálása" (1907): 11.

Table 8. The location of private dwellings and living rooms in the city of Timişoara in the year 1900

Location of dwellings	Housing		Location of the living quarters
	No.	%	No.
cellar	365	2.6	404
basement	160	1.1	178
ground floor	11,808	86.0	16,694
mezzanine	59	0.4	128
first floor	970	7.0	2,977
second floor	332	2.4	1,078
third floor	42	0.3	124
attic	8	0.0	15
Total	13,744	100	21,598

Source: Magyar Statisztikai Közlemények, "A Magyar Korona Országainak 1900 évi Népszámlálása",(1907): 11.

We firstly discuss the materials from which the houses were built in Timişoara and what they were covered with. From Table No. 6, it appears that at the time of the census, there were a number of 4,123 houses, 1,746 more (73.4%) compared to 1870, when according to the records made by the enumerators, there were 2,377 houses (Census 1871: 12). It means that the 30 years also represented an accentuated period of urban development, of enrichment of the built heritage. Most houses – 2,261 (54.8%) – were built of durable materials, namely stone and brick. Paradoxically, a number of 31 houses (1.4%) were covered with straw or reeds, easily flammable materials which provided little resistance to weather. They were probably located on the outskirts of the city. However, most houses – 1,577 or 70% – were covered with tile, slate or other resistant materials.

On the other hand, 1,222 (29.6%) of houses were built of adobe or earth, which made them vulnerable in case of flooding. The remaining 640 (15.5%) houses were erected, using in different combinations, brick, stone, wood, adobe and earth, being more resistant than those built only from just adobe and earth. It is worth remembering that among the houses built of adobe and earth, most 633 (51.8%) had a shingle or wooden roof and only 308 (25.8%) were covered with straw. They were certainly located on the outskirts of the city. In the Mehala neighbourhood (Munteanu and Munteanu 2002: 199), 281 (6.8%) of houses made of adobe or earth were also registered, which, however, had the roofs made of tile, slate or other resistant materials. In fact, most of the houses in Timişoara – 2,082 (50.5%) – were covered with tile, slate or other resistant materials. Shingles and plank were used to cover 1,644 (40.0%) of homes. In general, until 1900, in the city of Timişoara, houses were mostly durable for the period.

Next, let's follow the height regime of the built houses. Of the 4,123 houses, a total of 3,763 were built at ground level, that is, on the ground floor; 233 houses had one floor; 116 were two-storey, and a total of 11 houses were built with three floors. It is noteworthy that there were no houses with four or more floors (MSK 1907: 4).

As Table 7 shows, there were 13,744 dwellings in private property, most of which – 11,808 (86.0%) – were at ground level or on the ground floor of buildings. On the next place, with 970 (7.0%), were the dwellings located on the first floor of the buildings. The fewest dwellings were found on attic levels, but there were also dwellings located on the ground floor or basement of buildings. There were 48,947 people living in the 13,744 dwellings, which means an average of 3.5 people per dwelling.

But it should not be forgotten that there were also single-room dwellings, in which three or more people lived, or only one. Most people, 84.4%, lived in dwellings located at ground level, or on the ground floor of buildings.

In the 4,123 houses, a total of 43,730 rooms were registered. By their destination, 21,598 were living quarters. 1,551 were vestibules, 12,124 represented kitchens, 7,033 were food pantries, 862 rooms were for maids, 241 were sleeping rooms, and 321 were bathrooms (MSK 1907: 14).

Comparing the number and destination of the rooms with the number of dwellings existing in Timişoara in 1900, we can say that on average, each dwelling had 1.57 living rooms. According to the results contained in the census, however, not all the dwellings also had a kitchen, which means that some families had to prepare their food and serve it in the living room, which served as a space to sleep, cook and serve food.

On the other hand, we note that a number of 862 families had the possibility to offer the maid or maids in the house a room exclusively for them. According to statistics, in the city of Timişoara, in 1900 there were a number of 2,959 maids (MSK 1904: 38*), consequently a number of about 2,097 travelled daily to work.

To conclude these brief findings, it should also be noted that 321 (2.3%) of dwellings also had a bathroom. Few, many? Compared to Oradea, which registered 254 bathrooms, there were more, but fewer for instance than in nearby Arad, where the inhabitants of 565 dwellings could enjoy the benefits of such facilities (MSK 1907: 14).

Of all these rooms mentioned above, of course the most important were the living rooms, the central place where the family life of most of the inhabitants took place. Through table no. 8, we can track their number and location by type of housing. In fact, they accounted for 49.3% of the total rooms.

We found above that each house had 1.57 rooms. Of course, there were single-room dwellings, and others with two or more. The dwellings located in the cellar, basement and ground floor, had on average at least one room. As it climbed to the upper levels, the average number of living rooms increased. At the mezzanine, each house had 2.1 living rooms, on the first floor, 3.0 rooms, on the second floor, 3.2 rooms, third floor, 2.9 rooms. In these rooms, surely lived those from the aristocracy of Timişoara. Those in the lower layers of society lived from ground level down, and people from the middle class and categories had personal homes in single storey or double-decker houses.

A final aspect that we have proposed to address on this occasion in relation to the population of Timişoara, refers to its level of literacy. The Hungarian Institute of Statistics has established two levels of literacy: those who knew how to read and write, and those who only knew how to read.

The vast majority were those who attended at least four years of primary schooling, and thus knew how to read and write. People who only knew how to read accounted for under 1%. Those who had at least minimal knowledge of writing and reading accounted for 72.2% of the population. The remaining 27.7% were the illiterate category. Compared to the population of other cities such as Arad or Oradea, the level of literacy of the inhabitants of Timişoara was higher (MSK 1907: 642).

Table 9. The level of literacy of the population of Timişoara in 1900

Literacy level	Sex			Military	Total	%
	masculine	feminine	total			
know how to write and read	16,851	18,057	34,908	2,909	37,817	71.3
know how to read	69	363	432	31	463	0.9
illiterate	5,673	8,603	14,276	465	14,741	27.7
missing information	6	2	8	4	12	0.0

Source: *Magyar Statisztikai Közlemények*, "A Magyar Korona Országainak 1900 évi Népszámlálása", (1907): 240-241.

To conclude this analysis, it should also be noted that women surpassed men in all chapters, in the sense that there were several who knew how to read and write, or just read. But there were also more illiterate women compared to men. Of course, the higher share of women in the gender structure of the civilian population in Timişoara should be taken into account in this respect.

At the end of this brief foray into the population of the city of Timişoara in 1900, we can draw some conclusions. The growth rate of the civilian population was average after 1867, a more pronounced growth being recorded in the last decade of the 20th century. After 1910, Timişoara would experience, as one of the effects of industrialization, an increase in the number of inhabitants, a trend that continued even after the First World War, becoming one of the most populous cities in Romania.

The colonization initiated by the Austrian and continued by the Hungarian state gave Banat and implicitly to its main urban centre, an ethnic and confessional structure that allowed the shaping of a multicultural society.

As in other cities in Transylvania, there was a strengthening of the Hungarian ethnic group. Despite all the efforts of the Hungarian administration to increase the share of Hungarians, at the beginning of the 20th century, the city of Timişoara continued to be a city dominated by ethnic Germans. At the same time, after 1870, an increase in the share of Roman Catholic parishioners by 6% can be witnessed, amid a decrease in the share of Orthodox by about the same percentage.

Finally, it should be noted that the living conditions of the population were in line with the status of urban centre and that the population had a fairly high level of literacy compared to other urban centres.

References

Primary sources

Census (1871). *A Magyar Korona Országaiban az 1870 év elején végrehajtott népszámlálása eredménye* [The census of Hungary from 1870] Pesta: Az Országos Magyar Kir. Statistikai Hivatal.

MSK (1902). "A Magyar Korona Országainak 1900 évi Népszámlálása. A népesseg általános leirása kőzségenkint" [The census of Hungary from 1900. General description of the population by locality] *Magyar Statisztikai Kőzlemények*. New series, 1, Budapest.

MSK (1904). "A Magyar Korona Országainak 1900 évi Népszámlálása. A népesség foglalkozása kőzségenkint" [The census of Hungary from 1900. Occupation of the population by locality] *Magyar Statisztikai Kőzlemények*. New series, II, Budapest.

MSK (1907). "A Magyar Korona Országainak 1900 évi Népszámlálása. A népesseg részletes leirása" [The census of Hungary from 1900. Detailed description of the population] *Magyar Statisztikai Kőzlemények*, New series, V, Budapest.

Secondary sources

Munteanu, I., Munteanu, R. (1998), *Timiş. Monografie* [Timis Monograph]. Timişoara: Marineasa

Munteanu, I., Munteanu, R. (2002), *Timişoara. Monografie* [Timişoara Monograph]. Timişoara: Mirton.

Local Human Development of Rural Places in Romania: A Community Capitals Framework

Dumitru Sandu

University of Bucharest, 9 Schitu Magureanu, 10181, Bucharest, Romania,
dumitru.sandu@unibuc.ro

Abstract: The article aims to understand human development at the level of the communes in Romania. The context of development is given by the community capitals associated with the population, the urban region, the cultural area, the natural environment, and the historical conditioning of development. The main dependent variable is measured both quantitatively by the local human development index and qualitatively by a typology of local development. The results of multiple regression analyses that have operated with both types of measurements of the dependent variable are complementary and contribute to the validation of the research and the generation of new hypotheses or research questions.

Keywords: local human development, rural development, community capitals framework, cultural areas

1. Introduction

Analyses of the degree of satisfaction of human needs can be oriented differently, descriptively or explanatory, qualitatively or quantitatively, by using data at an individual or aggregated level and by comparative reporting at different times. One of the possible approaches relates to the local development of micro-territorial units of the local community type, basic administrative units such as communes or cities, census sectors or simply small areas for which data is available. The literature argues through multiple analyses that regional factors, of context, tend to matter more than the internal, local ones, in the development of small areas (Lagendijk and Oinas 2005) because, frequently, the extra-local intervenes in the local development through networks, systems for integrating production actors.

https://doi.org/10.24193/RJPS.2022.1.04

In the same direction pleads the theory of the '3D' –distance, density, disunity – promoted by the World Bank (2009), regarding the national spaces within the macro-regions or through analyses at the local-regional level (Ionescu-Heroiu et al. 2013). However, local resources are sometimes mentioned as an important source of development, especially for small towns (Zadęcka 2018). It remains to be seen, in context, whether one cannot speak of different hierarchies between local and extra-local, depending on the type of region or locality.

The degree of satisfaction of social-human needs is approached differently depending on the level of data aggregation. In individual and household-centred approaches, the focus is placed on the degree of satisfaction of consumer needs, on the lack of resources (Atkinson 2019) with the identification of poverty below certain consumption thresholds. It is also at this level that relative deprivation is discussed depending on the missing goods in the series of those desired. By aggregation, starting from individual data one can speak of different types of poverty depending on expenditure or income. The term *social inclusion* increasingly tends to take the place of *poverty*, but still with measurements at the level of individual/household or their aggregations. However, there is also community development or poverty in which access to public goods does not only matter to individual ones and the measurements are mainly made on a one-scale small area. This is the case with the multiple deprivation index calculated in the UK or its variant for Scotland SMDI (Clelland and Hill 2019). Such an index aggregates indicators for seven areas related to housing, crime, accessibility, education, health, income, and employment. The index of local human development at the level of the village or small town in Romania was built on a similar logic, using data from the 2011 census (Sandu 2016) on education, employment, territorial mobility, active population, housing quality, development of communes/cities that include villages or component localities. The model followed is that of the human development index calculated by the United Nations Development Program UNDP (2013), adapted from country level to small territorial area level.

What matters most in local development, endogenous factors or exogenous ones? Or, to customize in the context of this analysis, does the composition of the population in rural areas or regions that include those areas matter more? This is the question from which we start the analysis of the case of the communes in Romania today. *Today* means here the year 2018 or the period close to this year for which we have measurements of the human development of the communes.

The specification of the question at the regional level leads to an exploration of the regional-urban framework of understanding human development. From a methodological point of view, we operate with measurement through the values of the local human development index (LHDI) for 2018, with values at the locality level or by their regional aggregation (Sandu et al. 2020).

Next, we introduce the essential characteristics of measuring local human development considered quantitatively and qualitatively, with emphasis on the typology of local human development as a qualitative measure. The results of the analysis are presented first by reference to the prediction of the level of human development of the communes and, subsequently, by details of the types of local human development.

2. Methodology

The level of development of the localities was estimated primarily quantitatively, through LHDI 2018. The reference model was the one put into circulation, at the societal level, by the UNDP, through the human development index (2013). A society is considered to be all the more developed from a socioeconomic point of view, the better it stands in terms of its economic situation, human capital and health status. To develop an approach similar to that of the UNDP, but at the level of the local community, the conceptual framework of community capitals was used (Emery and Flora 2006), which highlights the role of seven types of capital in local development - natural, cultural, human, social, political, financial and built framework. Depending on the available data, in the 2018 version of LHDI, indicators on socio-human, economic or material capital and health status were used to measure development (Sandu et al. 2020).

The socio-human capital was measured by the internet penetration rate in the households in the locality, starting from the premise that a locality with a high share of households connected to the internet indicates not only a modern communication infrastructure but also a high education stock and increased connectivity of its inhabitants with the local and extra-local population. In different contexts, the indicator may be more or less relevant. Material capital is a factor score for indicators relating to the average living floor area per dwelling, the average gas consumption per inhabitant and the income from the local budget, from own sources, per inhabitant. The state of health is estimated by the standardized mortality rate by the five-year age groups for the period 2016-2018. LHDI as a synthetic measure is a factor score of the three types of indicators mentioned above, calculated for the localities that in 2018 had more than 1000 inhabitants (for the calculation algorithm, see Sandu et al. 2020).

A simple validation of the LHDI is given through the average values of the LHDI and the component indicators by seven categories of localities depending on the residential environment and the size category of the locality (Table 1). The values of the defining indices for local human development are systematically increasing from small rural communes to the urbanities of large cities. Illustrative is the case of the internet connection rate at the household level. Similarly, the synthetic index of local developments increases from 44, the average for communes under four thousand inhabitants, to 71 the average for cities of over 200 thousand inhabitants. The state of health estimated by the standardized mortality rate does not differ significantly between small and large communes but is systematically improving in urban areas by moving from small towns to large cities.

Table 1. The profiles of communes, towns and cities function as components of LHDI 2018

Residential type of locality	Number of inhabitants by permanent residence in 2018	Average value by locality category			
		Material capital 2018	Standardised rate of mortality 2018-2018	Rate of private connectivity to internet 2018	LHDI 2018
communes of	under 4 thousands	46.8	50.5	47.2	44.3
	over 4 thousands	52.5	50.9	52.4	49.4
towns of	under 20 thousands	61.7	47.4	59.5	58.0
	20-50 thousands	68.4	41.6	64.7	63.8
cities of	50-100 thousands	69.1	38.0	66.9	65.5
	100-200 thousands	68.5	34.5	69.2	66.2
	more than 200 thousands	72.8	33.5	78.6	71.0

Data source: National Institute of Statistics (NIS). Unweighted data. To ensure comparability between the component indicators of the index, the data series were normalized by the MIN-MAX procedure.

It is likely, however, that the development disparities between localities are identifiable not only quantitatively, through LHDI as an index with continuous variation, but also qualitatively. To test this methodological hypothesis, we have built a development profile for each of the localities with over 1000 inhabitants. This profile is given by the values that each locality has on the three constituent indicators of the LHDI, plus the synthesis value of the respective index. Subsequently, through k-means cluster analysis, we

obtained a grouping of localities in five categories (Table 2). In addition to the three standard categories with maximum or comprehensive, minimum and medium development, two other categories resulted. One of these is made up of localities defined mainly by a high level of material capital or economic development. The second category concerns localities with below average development, but with good population health status.

Table 2. Type of local human development by locality size and rural-urban status, 2018

Locality by type of residence and number of inhabitants	Type of human local development (%)					Total
	poor	healthy but lower middle developed	middle development	economically developed	comprehensive development	
communes of less than 4 thou. inhabitants	26.4	22.5	33.7	15.8	1.6	100
communes of over 4 thou.	21.0	13.7	30.1	25.6	9.6	100
towns of less than 20 thou.	1.9	8.0	22.1	60.6	7.5	100
towns of 20_100 thou.	0.0	0.0	2.4	76.8	20.7	100
cities of over 100 thou. inhabit.	0.0	4.0	0.0	40.0	56.0	100
Total	22.4	18.5	30.9	23.3	5.0	100

Data source: NIS. Own computations. Unweighted data. Example: 60.6% of the towns of less than 20 thousand inhabitants were in the category of economic development and the association between the row and the column values is a significant one for p=0.001, the function of the adjusted standardised residuals that are not shown here.

The first validation of this typology of local human development is given by the analysis in Table 2 which presents the associations between the type of human development and the category of demographic size-residence. As expected, the poorest localities are the smallest communes and the most developed are the big cities. The category of localities with good health but with development below the national average is within small communes. We will highlight other characteristics of the five types of human development in

the next section that presents analysis results with reference only to the commune.

3. Results

3.1. Determinants of the level of local development

The level of development of communes has a strong "path dependency". If we group the explanatory /prediction factors of local development into five categories by type of capital or development context, we will find that history matters a lot (Table 3).

Table 3. Contribution of different blocks of variables to predicting LHDI

Block of variables	F	Block df	Residual df	Pr > F	R2	Change in R2
1. Demographic profile	140.83	3	2493	0.000	0.176	
2. Historic capital	1712	1	2492	0.000	0.590	0.414
3. Natural capital	29.68	1	2491	0.000	0.594	0.004
4 Regional-urban location	33.54	4	2487	0.000	0.616	0.021
5 Cultural area	55.47	14	2473	0.000	0.701	0.085

Data source: NIS. Own computations. Nested regression in STATA. The numbers for the blocks of variables indicate the order of introducing them in the computation. If one changes the order of the blocks of variables and one starts with natural capital and the historical capital is the last, the R2 change will be different: natural capital 0.04, demographic profile 0.17, urban regions 0.11, cultural areas 0.26, and historical capital 0.16.

The localities that were strongly developed in 2011 continue to be, statistically speaking, still strongly developed, at the level of 2018. For example, it should be mentioned that the first five communes in terms of level of development in 2018 were Chiajna, Corbeanca and Drăgăneşti-Vale in Ilfov, Dumbrăviţa in Timiş and Cârcea in Dolj. Three of them, namely Chiajna, Corbeanca and Dumbrăviţa were also in the grouping of the top five in terms of the level of development in 2011. In 2011, they were also joined by Mogoşoaia from Ilfov and Giroc from Timiş. This strong dependence on the path, of the previous state of development, relates not only from the perspective of LHDI but also from that of its compositions (Table 4).

The communes with an increased demographic vitality index (Sandu et al. 2020b) are also those that register high values of socio-human development. Similarly, the overall fertility rate appears as an indicator of demographic modernity. Its low values at the local level indicate localities with a high level of cultural modernity, favourable for local human development. The respective meaning of a relation is also found in the material and socio-human capital of the locality, not in the one regarding the health status of the population. Also in the series of endogenous predictors of local development, we considered the experience of external migration in the locality based on the data provided by the censuses of 2002 and 2011. The richer that experience was and the higher the relative number of those who went abroad, the higher the local human development. It could be, at an interpretative level, a migration effect mediated by remittances. A large number of departures abroad are positively associated with bank transfers at home, and implicitly, with greater investments in protecting the health of the population. However, it can also be a specific effect on the regression model. A better specification of the model (see footnote of Table 4) leads to an insignificant value of the coefficient in question.

In the series of endogenous factors of development, vital capital given by the natural movement of the population and age structures matters significantly.

The role of natural capital in local human development was estimated by the share of arable in total agricultural land in the community. A large share of arable land signifies a probable location of the commune in the plain area. The empirical relationship recorded is a positive one, in the sense that a higher share of arable land signifies a higher level of development. The theoretical meaning of the relationship is not, however, very clear because the material capital and arable land relationship do not appear to be statistically significant. The relationship may not be a linear one. It remains to be seen in detail, when human development will be approached not quantitatively but qualitatively, and typologically.

The impact of the regional context on the local development was also estimated by reference to the close urban system of the distances from the commune to the big cities or the modernized roads, but also by the consideration of the cultural areas of belonging. The impact of a cultural area of belonging appears to be stronger than that associated with the system of distances to urban centres or extra-local communication (Table 3).

Table 4. Predicting the level of LHDI 2018 in rural communes of Romania

Categories of predictors	Predictors	Dependent variable							
		LHDI 2018		Material capital		Rate of penetration of internet in the households		Standardised rate of mortality	
		Coef.	P>t	Coef.	P>t	Coef.	P>t	Coef.	P>t
Demographic profile	Index of migration experience abroad 2002, 2011	0.032	0.050	-0.006	0.749	-0.014	0.564	-0.093	0.002
	Index of demographic vitality 2018	0.105	0.000	0.131	0.000	0.093	0.014	0.083	0.079
	General fertility rate 2011	-0.066	0.000	-0.020	0.095	-0.066	0.000	0.000	0.985
Historic capital	LHDI 2011	0.765	0.000	0.799	0.000	0.787	0.000	-0.401	0.000
Natural capital	% arable out of the total agricultural area	0.465	0.017	0.295	0.196	0.954	0.000	3.167	0.000
Regional-urban location	distance to the nearest city of 200 thou.+ (ln)	-2.368	0.000	-2.567	0.000	-3.518	0.000	-0.054	0.905
	distance to the nearest city of 100 thou.-200 thou. (ln)	-1.444	0.000	-2.215	0.000	-0.830	0.045	0.790	0.111
	population of the nearest city of 30 thou.+ (ln)	0.302	0.023	0.293	0.055	0.451	0.022	0.410	0.052
	commune close to an European road*	0.955	0.006	1.647	0.000	0.565	0.222	1.552	0.012
Cultural areas of the country as subareas of historical regions (reference	Alba, Arad, Caraş-Severin, Hunedoara	1.576	0.091	-4.375	0.000	5.460	0.000	-8.165	0.000
	Sălaj, Bistriţa-Nasaud	2.635	0.006	-5.203	0.000	7.107	0.000	-9.913	0.000
	Covasna, Harghita, Mureş, Bihor	1.766	0.044	-6.115	0.000	6.465	0.000	-7.307	0.000
	Maramureş	1.880	0.064	-6.212	0.000	8.851	0.000	-2.360	0.178
	Braşov, Sibiu, Cluj, Timiş	6.674	0.000	3.482	0.000	6.401	0.000	-13.553	0.000

category: Dobrogea)	North Oltenia	-3.320	0.000	-14.235	0.000	1.693	0.150	-19.618	0.000
	South Oltenia	-3.556	0.001	-8.785	0.000	0.852	0.470	-5.257	0.000
	North Muntenia	-1.552	0.113	-9.091	0.000	2.266	0.056	-8.222	0.000
	North East Muntenia	-1.972	0.063	-8.763	0.000	1.031	0.416	-11.935	0.000
	South Muntenia	-0.862	0.363	-9.729	0.000	4.856	0.000	-11.656	0.000
	Iaşi, Suceava	-6.894	0.000	-12.008	0.000	-2.972	0.060	-14.520	0.000
	Botoşani, Vaslui	-7.222	0.000	-13.509	0.000	-0.571	0.615	-11.174	0.000
	South-West Moldova	-4.484	0.000	-9.317	0.000	-0.313	0.767	-7.748	0.000
	Bucharest-Ilfov	9.212	0.000	8.194	0.000	15.397	0.000	-10.001	0.000
	_cons	36.067	0.000	47.950	0.000	36.048	0.000	54.206	0.000
R2		0.701		0.675		0.543		0.252	
N		2497		2497		2497		2497	

Data source: NIS. Own computations. OLS regressions, commune level, using population of locality 2018 for pweights option. Shadow for regression coefficients with $p<0.05$[1]. If on replace, for sensitivity analysis (Treiman 2014), the two variables on the distance to large cities with an index of urban connectedness (Heroiu et al. 2013) in the first regression one gets a similar pattern of significance for the regression coefficients. The only change is with the regression coefficient of migration abroad experience that is no more significant in the new version of computation. This could be the effect of a better specification of the regression model as the index of the urban connectedness includes information on four categories of distances (very large, large, medium and small urban centres) between the commune and the nearest cities

[1] The prediction of LHDI at commune leve, for 2002 and 2011, using a different model of regression is available in Heroiu et al. 2013, annex 11.

Communes close to large cities or modernized European roads tend to be more developed (Table 4), as expected (Ionescu-Heroiu et al. 2013). The impact of large cities, with more than 200 thousand inhabitants, tends to be stronger than that of cities smaller than 100 thousand-200 thousand inhabitants. Why the standardized mortality rate, a component index of LHDI, does not correlate significantly with the system of distances between the commune and the large cities (Table 4) remains to be seen in the section where the dependent variable in the regression is no longer the level of development but the category/type of human development (Table 5).

For now, we will refine the analysis by mentioning that in the urban system of conditioning the development of the commune, it was not only the distance of the village-city that matters but also the size of the nearest town. The larger the nearby city, the greater the chances of development of the communes in the vicinity of the city.

Is there also an effect of a cultural area of belonging on the development of the commune even if we keep under control the demographic composition, the natural environment, the dependence on the path we talked about and the urban region of belonging? The data we have worked with allows for an affirmative answer. The cultural areas to which we relate are not eternal. These are subregions of the historical regions of the country with a slow variation. There are groups of counties from the same historical region similar in terms of socio-cultural profiles (Sandu 2020).

Most of all, the cultural areas in Transylvania, in a broad sense, tend to include communes significantly more developed than those in Dobrogea (Tulcea and Constanţa counties) (Table 4). The positive effect of cultural area on the local human development in the communes is maximum, in Transylvania, at the level of the highly urbanized area formed by the counties of Braşov-Sibiu-Cluj-Timiş. At a county level, the maximum positive effect on rural development is recorded in the communes of Ilfov. By contrast, all three cultural areas of the historical region of Moldova include communes that tend to be poorer than those in the reference category formed by the communes of Dobrogea. At the level of these cultural areas in Moldova, the strongest negative effects of the cultural area on the local rural development are recorded. Similarly, the communes of Northern and Southern Oltenia behave, systematically, more poorly than those in Dobrogea. The cultural areas of Muntenia do not exert a significant effect on the local human development of the communes.

Surprisingly, the effect of belonging to the cultural areas of Transylvania on LHDI is mostly positive, but the same effect on the material

capital in the communes of the same areas is negative. Why? Hard to say. For now, we note the question and will try to answer it in the next section, devoted to understanding the types of local human development.

3.2. Determinants of local development types

The five common categories depending on the type of local development differ strongly from each other in terms of determination patterns (Table 5). They are arranged on an ordinal scale from poor to comprehensively developed, but the ordering is partial if we consider it from a causal perspective. Only on two of the predictors, do the development categories have the regression coefficients ordered increasingly or decreasing, respectively depending on the distance to the city of over 200 thousand inhabitants and the belonging to Ilfov county. The developed communes and those developed mainly from an economic point of view have a location associated especially with Ilfov county in opposition to the poor communes or with good health but with below average development, located in other cultural areas than Bucharest-Ilfov.

The demographic traditionalism estimated by the high general fertility rate is specific only to poor communes. For the rest, no other type of commune appears to be significantly associated or disassociated with this kind of traditionalism. In fact, of the four types of localities for which the contextualization profile is determined, the poor municipalities are the best specified (through 14 predictors significantly associated with this category). They are, in line with the expectations derived from previous studies, characterized by demographic traditionalism, isolation concerning the big cities or the European traffic roads, with predominant localization in the south of Oltenia and the east of Moldova and systematically outside the cultural areas of Transylvania and Ilfov (Heroiu et al. 2013).

Communes with development below the national average but with good health are located mainly in mountain / hill-mountain areas (small share of arable land in total agricultural land), away from major cities or modernized roads. The highest probability of localization of such communes is in the cultural areas of eastern Moldova and northern Oltenia. If we follow the county location of the respective type of communes, we will find that they have a maximum concentration in Vâlcea county, in northern Oltenia (Annex 1).

Table 5. Predicting the type of LHDI 2018 in rural communes of Romania

Categories of predictors	Predictors	Type of local development (reference category - middle level development)							
		poor		lower middle developed but healthy		economically developed		comprehensive development	
		coeff.	p	coeff.	p	coeff.	p	coeff.	p
Demographic profile	Index of migration experience abroad 2002, 2011	-0.008	0.284	0.004	0.578	-0.005	0.523	-0.052	33
	Index of demographic vitality 2018	-0.006	0.611	-0.012	0.305	0.063	0.000	0.089	0.104
	General fertility rate 2011	0.022	0.000	0.006	0.219	-0.014	0.071	-0.026	0.284
Historic capital	LHDI 2011	-0.164	0.000	0.002	0.886	0.259	0.000	0.516	0.000
Natural capital	% arable out of the total agricultural area	-0.478	0.000	-0.603	0.000	-0.410	0.000	-0.181	0.484
Regional-urban location	distance to the nearest city of 200 thou.+ (ln)	0.463	0.004	0.447	0.003	-0.841	0.000	-2.301	0.000
	distance to the nearest city of 100 thou.-200 thou. (ln)	-0.098	0.573	-0.010	0.946	-0.848	0.000	-1.954	0.000
	population of the nearest city of 30 thou.+ (ln)	0.054	0.405	-0.049	0.440	0.117	0.113	0.287	0.086
	commune close to an European road*	-0.488	0.018	-0.450	0.014	0.204	0.250	0.579	0.128

Cultural areas of the country as subareas of historical regions (reference categori -Dobrogea)	Alba, Arad, Caraş-Severin, Hunedoara	-1.146	0.010	0.663	0.257	0.538	0.307	-0.082	0.940
	Salaj, Bistriţa-Năsăud	-2.394	0.001	0.722	0.234	0.955	0.087	-14.426	0.000
	Covasna, Harghita, Mureş, Bihor	-2.153	0.000	0.604	0.300	-23	0.965	-0.625	0.564
	Maramureş	-2.363	0.000	0.204	0.742	0.010	0.986	1.833	0.116
	Braşov, Sibiu, Cluj, Timiş	-2.258	0.000	1.436	0.018	2.579	0.000	3.012	0.002
	North Oltenia	0.507	0.182	2.213	0.000	-0.474	0.398	-0.961	0.593
	South Oltenia	0.773	0.032	0.667	0.298	-0.580	0.409	-0.323	0.832
	North Muntenia	-0.143	0.738	0.998	0.097	-0.515	0.319	-1.526	0.140
	North East Muntenia	-0.126	0.778	1.597	0.010	-0.405	0.534	-17.565	0.000
	South Muntenia	0.275	0.427	1.355	0.019	0.168	0.802	3.353	0.009
	Iaşi, Suceava	2.341	0.000	3.527	0.000	0.584	0.370	0.379	0.800
	Botoşani, Vaslui	2.638	0.000	3.025	0.000	1.530	0.092	-12.758	0.000
	South-West Moldova	0.608	0.086	1.445	0.011	-0.570	0.314	-1.494	0.185
	Bucharest-Ilfov	-25.920	0.000	-24.782	0.000	3.649	0.000	4.270	0.002
	_cons	2.687	0.111	-1.059	0.513	-2.121	0.273	-4.706	0.246
Pseudo R2		0.380							
N		2497							

Data source: NIS. Own computations. OLS regressions, commune level, using population of locality 2018 for pweights option. Shadow for regression coefficients with $p<0.05$.

Economically developed municipalities are the only ones that have high values, of significant level, of the demographic vitality index. Their priority location is near the major cities and especially in the mountainous or hill-mountain areas (Table 5). The cultural areas that favour this kind of local development are especially the highly urbanized Transylvania Braşov-Sibiu-Timiş-Cluj and the Ilfov county located around the capital city of Bucharest. If we make the evaluation not in terms of the specific or net effect, as in the regression models, we find that this kind of local development is specific to the counties in Transylvania (Annex 1). Out of nine counties for which the communes with predominantly economic development are specific, eight are from Transylvania. From the Old Kingdom regions, only the county of Prahova fits this pattern.

Municipalities with integrated or comprehensive development are located close to major cities more than in the case of economically developed municipalities. The highly urbanized cultural areas of Braşov-Sibiu-Timiş-Cluj and Bucharest-Ilfov favour comprehensive rural development to a greater extent than the strictly economic one. In addition, the probability of locating the communes with integrated development is extremely low for the cultural areas of Sălaj – Bistriţa-Năsăud, North East Muntenia and Botoşani-Vaslui. The recording of an increased probability of localization of some highly developed communes in the South Muntenia, a relatively poor cultural area, is a surprise. The situation is clarified, to a large extent, after we identify that the exception is given, in essence, by three highly developed communes in Giurgiu county, close to Bucharest (Bolintin-Deal, Joiţa and Săbăreni).

4. Conclusions

The level of human development of communes, as local administrative units of rural life, has a multiple determination that goes beyond endogenous-exogenous polarity. History matters and the previous level of development of a locality involves both internal and external development factors. In the analysed case, the previous development levels in 2011 were decisive positive conditions for the levels of development of the communes in Romania in 2018. Not only does the LHDI synthetic index have its values from the reference moment conditioned by those of the past, but also composite indicators related to material, socio-human and health capital. In other words, today's local development has had a strong path dependency.

Regional conditioning of local development can be considered an exogenous factor. Useful, however, to differentiate between the effects of an urban region, given by the positioning of the commune in the system of

distances from the large cities nearby and those of cultural area. The effects of the cultural area or region of belonging appear to have been stronger than those of the urban region (Table 3).

The proximity of the communes to the major cities of over 200 thousand inhabitants favoured the rural community development to a greater extent than the proximity to the cities of 100 to 200 thousand inhabitants. The regularity is valid whether we relate to the level or the type of local human development.

Cultural areas as historical subregions continue to exert a major influence on local rural development. The major polarity is between the highly urbanized areas in Transylvania, plus the Ilfov-Bucharest grouping, and the cultural areas of Moldavia and Southern Oltenia. The communes of Sibiu-Braşov-Timiş-Cluj in Transylvania and those in Ilfov-Muntenia benefit from their proximity to the great urban centres. Belonging to cultural areas in Moldova and Southern Oltenia significantly reduces the chances of rural local development, or, what is equivalent, increases the chances of community poverty. Why is this so? History, culture, and labour productivity depend on the way of employment, effects of migration, and ageing.

Traditional-type culture with high fertility favours community poverty. Of course, there is also a reverse effect with poverty that favours the high level of fertility as a demographic phenomenon. In the context here of the analysis we had in mind only the first sense of the relationship.

The effects of international migration on development appear to be contradictory (Rotariu 2009). It is not clear whether the situation is in the plane of reality or has methodological conditioning, of a lack of sufficient current data. The empirical finding indicates an increased index of local human development for municipalities with many departures abroad recorded in the 2002 and 2011 censuses. It could be a positive effect of migration through remittances, the money transmitted home by migrants. The more detailed analysis by the types of local human development (Table 5) contradicts, however, the previous finding. In this context, the massive departures abroad from the locality reduce the chances of the commune being in the category of those with comprehensive development. As a working hypothesis for future research, with newer data (hopefully also provided by the ongoing census of 2022) one can support the idea that intense emigration abroad leads to inconsistent development. On the one hand, long-term departures abroad can contribute to the increase of the economic and social remittances entered into the commune, but, on the other hand, they can lead to the ageing of the local population and the reduction of local budgets through the departure of those

who brought income to the local budget through employment in enterprises in the community. However, it may also be the simple fact that the distances from the commune to the nearby towns are not sufficiently specified (see the basement Table 4).

The explanatory or prediction picture associated with local human development changes consistently by moving from the measurement of the phenomenon through a continuous variation, such as LHDI, to the nominal variable type of local human development. The option to measure the main dependent variable of the analysis through both an interval scale and a nominal scale proved methodologically effective. The double measurement allowed the validation of some findings, highlighting new regularities, generating new hypotheses or formulating new research questions.

Communes with development below the national average but with good population health are an example of a finding favoured by the proposed typology. The communes in this category are from the category of isolated ones, relatively far away from the big cities, located in mountain, hill or hill-mountain areas. The probability of their identification in the field is higher in cultural areas such as Northern Oltenia (in Vâlcea county, in particular) and cultural areas of Moldova (Suceava, Neamț and Vrancea counties in particular). The same series of new findings, favoured by the proposed typology, is the one relating to the existence of communes whose profile is marked by economic development. They seem to be characterized mainly by increased values of the index of demographic vitality, proximity to large cities, localization in mountain or hill areas, in the cultural area of large cities in Transylvania or Ilfov county. From a methodological point of view, the analysis confirms the validity of the new LHDI measurement, made with data that no longer depend on the census. In addition, the construction of LHDI 2018 by aggregating information on material, socio-human and health capital allows for the comparability of its values with those based on census data (2002 or 2011) even if the operationalization of the concept of human capital has been made differentiated, over time[2].

Of course, the methodology of LHDI 2018 remains dependent both on the theoretical framework given through the reference framework of community capitals and on the UNDP variant of operationalizing the concept of human development, but also on the data available at the local level in the national context. In so far as the conceptual framework based on the theory of community capitals remains relatively constant, then comparability and

[2] The human capital of the locality was measured by the education stock in the LHDI variants of 2002 and 2011 and by the internet penetration rate in households in 2018.

interpretability of research results can also be ensured under different conditions of empirical data provision.

Questions may arise about the appropriateness of analysing this material as we operate with spatial data, aggregated. Is it appropriate to interpret the results of regression analyses using values of the significance level (p) for different regression coefficients? The answer is an affirmative one and I support it with several arguments. The analyses we have used refer only to communes with populations of over 1,000 inhabitants. The basic argument is given, however, by the fact that many of the variables that we use as predictors or as dependent variables are affected by measurement errors. The migration experience index, for example, is calculated from migration records abroad to the 2002 and 2011 censuses. In particular, long-term migration for more than a year has been severely affected by under-estimation errors. Under these circumstances, one can no longer speak of records that have measured without error the entire population of migrants abroad, for all the communes. Similarly, we can speak of measurement errors at the level of fertility, the share of arable land in agriculture, etc. And finally, the communes are territorial units with an administrative status of minimum level. Consequently, there can be no talk of an impairment of the analysis results by the modifiable area unit problem (MAUP).

References

Atkinson, A. B. (2019). *Measuring Poverty around the World*. Princeton University Press.

Clelland, D., Hill, C. (2019). "Deprivation, policy and rurality: the limitations and applications of area-based deprivation indices in Scotland". *Local Economy 34*(1): 33-50.

Emery, M., Flora, C. (2006). "Spiraling-up: Mapping community transformation with community capitals framework". *Community development* 37(1): 19-35.

Eurostat. (2010). *European Regional and Urban Statistics Reference Guide 2010*.

Ionescu-Heroiu, M., Burduja, S. I., Sandu, D., Cojocaru, S., Blankespoor, B., Iorga, E., ... , van der Weide, R. (2013). *Romania-Competitive cities: reshaping the economic geography of Romania.* Romania regional development program. Washington DC: World Bank.

Lagendijk, A. and Oinas, P. (2005). "Towards Understanding Proximity, Distance and Diversity in Economic Interaction and Local Development". In Lagendijk, A. and Oinas, P. (eds) *Proximity, Distance and Diversity, Issues on Economic Interaction and Local Development.* Ashgate Publishing, pp. 307-332.

Rotariu, T. (2009). *Demografia şi sociologia populaţiei. Structuri şi procese demografice*. Iaşi: Polirom.

Sandu, D. (2016). "Local Human Development in Rural and Small Urban Romania" In Teşliuc, E., Grigoraş, V., Stănculescu, M. S. (eds) *The atlas of rural marginalized areas of local human development in Romania*. World Bank, Bucharest.

Sandu, D., Ionescu-Heroiu, M., Franţ, O., Butacu, B., Moldoveanu, G. (2020a). "An update of the local human development index for 2018, and methodology for regularly calculating the LHDI". In Cira, D., Kriss, P. (eds) *Romania Urban Policy*. MLPAD, The World Bank Group.

Sandu, D., Ionescu-Heroiu, M., Franţ, O., Butacu, B., Moldoveanu, G. (2020b). "Demographic Vitality Index - methodology and results". In Cira, D., Kriss, P. (eds) *Romania Urban Policy*. MLPAD, The World Bank Group.

Sandu, D. (2020). "The cultural areas of way of life in today's Romania". In Rostasz, Z., Vacarescu, Th. *In Honorem Sanda Golopentia*. Bucharest: Spandugino .

Treiman, D. J. (2014). *Quantitative data analysis: Doing social research to test ideas*. John Wiley & Sons.

Tuson, M., Yap, M., Kok, M. R., Murray, K., Turlach, B., Whyatt, D. (2019). "Incorporating geography into a new generalized theoretical and statistical framework addressing the modifiable areal unit problem". *International Journal of Health Geographics* 18(1): 1-15.

UNDP. (2013). *Human Development Report. The Rise of the South: The Rise of the South: Human Progress in a Diverse World*. New York: UNDP.

World Bank. (2008). *World development report 2009: Reshaping economic geography*. The World Bank.

Zadęcka, E. (2018). "Slow city" as a local development model. *Economic and Regional Studies (Studia Ekonomiczne i Regionalne)*, *11*(673-2019-3131), 84-106.

Annex 1. Counties by the share of the typology of the distribution of the population in the categories of communes by LHDI18

Specific profile of the LHDI18 typology	County	Share of rural population by LHDI18 typology of communes					Total	Mean of LHDI18
		poor	lower development but healthy	medium level	economically developed	developed		
Developed	Ilfov	.0	.0	1.2	24.3	74.5	100	78.5
	Cluj	.6	10.5	13.7	43.8	31.4	100	62.2
	Timis	.0	1.8	12.2	56.5	29.5	100	64.8
	Brasov	8.3	5.2	12.6	45.5	28.4	100	61.5
	Sibiu	.0	8.2	15.3	59.1	17.4	100	61.3
	Prahova	1.9	8.9	28.9	45.1	15.1	100	56.4
Economically developed	Bistrita	1.0	26.1	35.6	37.3	.0	100	50.8
	Alba	5.0	17.5	15.0	60.4	2.1	100	53.4
	Mures	2.5	12.3	29.3	43.4	12.5	100	55.6
	Arad	.7	6.8	45.6	38.4	8.5	100	55.8
Medium level of development	Bihor	2.9	4.9	68.0	20.7	3.5	100	50.7
	Satu Mare	3.4	2.7	67.4	25.5	1.0	100	49.8
	Covasna	7.7	20.2	64.6	7.5	.0	100	46.2
	Salaj	5.4	13.6	61.8	19.3	.0	100	48.0
	Caras-Severin	7.5	13.2	58.6	19.7	1.0	100	48.6
	Tulcea	31.2	6.8	57.2	4.8	.0	100	42.8
	Constanta	16.5	3.2	37.7	31.0	11.5	100	52.7
	Galati	19.6	9.3	55.3	13.6	2.2	100	46.3
	Ialomita	23.1	19.3	50.4	7.3	.0	100	40.4
	Giurgiu	31.9	3.2	47.6	10.4	6.8	100	45.9
	Dolj	29.9	3.4	55.6	6.9	4.2	100	43.8

	Olt	34.8	9.7	52.7	1.8	1.0	100	41.1
Lower development but healthy population	Valcea	2.8	82.4	1.9	12.9	.0	100	46.7
	Gorj	5.0	30.2	40.3	23.7	.9	100	48.1
	Harghita	8.0	38.2	35.1	18.7	.0	100	48.2
	Suceava	21.2	60.1	10.2	8.5	.0	100	42.3
	Neamt	26.9	38.4	24.8	10.0	.0	100	41.9
Poor	Vrancea	36.8	34.7	20.1	8.4	.0	100	39.7
	Vaslui	85.4	6.1	6.8	1.7	.0	100	29.9
	Botosani	77.6	15.5	3.7	3.2	.0	100	34.1
	Iasi	57.6	18.0	3.5	13.1	7.7	100	39.8
	Bacau	50.2	6.2	37.7	4.4	1.5	100	39.5
	Mehedinti	66.0	11.9	18.9	3.2	.0	100	35.5
	Teleorman	52.4	23.2	24.4	.0	.0	100	36.7
	Calarasi	43.8	6.2	48.9	1.1	.0	100	41.4
Low specificity of the development profile	Braila	30.7	25.6	26.5	14.3	2.9	100	43.5
	Buzau	23.7	17.7	40.6	18.0	.0	100	44.9
	Dambovita	16.1	19.7	26.9	34.2	3.1	100	48.6
	Arges	11.7	14.1	29.8	35.1	9.3	100	52.0
	Maramures	9.4	25.4	34.9	21.9	8.5	100	49.4
	Hunedoara	3.0	22.2	47.3	27.5	.0	100	50.3
	Total	22.8	17.5	31	21.3	7.4	100	47.7

Data source: National Institute of Statistics (NIS). Own computations. All the figures in the table are computed by using weights the population of the commune in 2018. Cells that are marked by shadow are for the cases of significant positive associations between column and row values, according to the adjusted standardised residuals (computations without weighting variable).

Territorial Disparities in Hospital Capacity during the COVID-19 Pandemic: Evidence from Romania

Anca Monica Marin[*], Manuela Sofia Stănculescu[**]

[*]*Research Institute for Quality of Life, 13 Calea 13 Septembrie, 050711, Bucharest, Romania, ancamonicatoba@yahoo.com*
[**] *World Bank Romania, manuelasofia.stanculescu@gmail.com*

Abstract: This article examines territorial inequalities in health resources in relation to the COVID-19 pandemic. The typology built differentiates between the following four categories: (1) counties that succeeded in ensuring good access to both COVID-19 patients and patients with chronic illness; (2) counties with good access to COVID-19 patients but rather low access to patients with chronic illness; (3) counties with mixed situations and (4) poor access for COVID-19 patients and patients with chronic illness. Counties that succeeded in providing good access for both categories of patients are to a significantly greater extent from counties with high GDP per capita.

Keywords: hospital bed capacity, anesthesia and intensive care, chronic illness, COVID-19 pandemic, Romania, territorial discrepancies, GDP per capita, county, typology of access, longitudinal analysis.

1. Introduction

This article examines territorial inequalities in health resources in relation to the COVID-19 pandemic. The analysis is focused on hospital bed capacity at the county level in relation to three key levels: available beds for COVID-19 patients, anesthesia and intensive care beds and intensive care beds for COVID-19 patients, as well as available hospital beds for patients with chronic illnesses. It therefore addresses questions related to health access for COVID-19 patients, together with patients with chronic illness.

Whereas the topic of health inequalities before the pandemic in Romania has been well documented, differentiated access during the pandemic has been less closely examined, particularly in reference to hospital bed capacity.

https://doi.org/10.24193/RJPS.2022.1.05

In relation to hospital bed capacity, studies conducted for the pandemic period aimed to predict the need in relation to the rising waves of confirmed cases worldwide (McCabe et al. 2020; Deschepper et al. 2021; Fort et al. 2021; Heins et al. 2022; Alqahtani et al. 2021; Nogués et al. 2021). Additionally, previous studies highlight overlooking the territorial dimension in the health care planning process, although studies on this topic underline major discrepancies (Dumitrache et al. 2016; Zamfir et al. 2015; Mitrică et al. 2020). Prior analyses on health inequalities during the pandemic signal disproportionate effects on the poor, most vulnerable or gender imbalances worldwide (OECD 2020; Bach-Mortensen and Degli Esposti 2021; Germain and Yong 2020; Kim and Bostwick 2020; Mishra et al. 2021; Nshimyiryo et al. 2021; WHO 2021; Tavares and Betti 2020; European Institute for Gender Equality 2021; Tsai et al. 2022) and in Romania (UNICEF 2020 a,b; Ravnbøl 2020; Mitrică et al. 2021; Safta-Zecheria 2020; Sandu 2022; Stănculescu and Marin 2022). Health inequalities refer both to area or territory as well as to social groups (Galindo-Pérez et al. 2022; Liu et al. 2021; Soldi 2021). Population vulnerability to SARS-CoV-2 infection in Romania has been previously studied in relation to coping capacity, including anaesthesia and intensive care units, testing capacity and number of COVID-19 hospitals at the NUTS-3 level (Mitrică et al. 2021). Other studies have examined the geographical accessibility of the population to public hospitals in Romania (Dumitrache et al. 2020). To the best of our knowledge, longitudinal analyses of hospital bed capacity during the COVID-19 pandemic in Romania in relation to social and economic structural factors at the county level have not yet been examined in the academic literature.

The relevance of the topic of hospital bed capacity has gained increasing importance as a result of the pandemic unfolding across the world. Within the total number of available beds for COVID-19 patients, the number of hospital beds for intensive care has also been assessed as highly relevant, given the estimates that sudden upsurges of critical cases can arise at the national level. At the regional level, resilient regions have been identified as ensuring balanced care of COVID-19-infected patients cared for in ordinary hospital beds and the number of available intensive care beds per 100,000 inhabitants (Soldi 2021). In particular, this latter variable regarding hospital beds has put significant pressure on the national health system for the management of COVID-19 patients. In addition to the transfers between counties, Romania has transferred patients in need of intensive care to other European countries offering support in this respect, such as Hungary, Poland, Italy, Germany, etc. Patients' transfer between EU countries as a way to best use hospital resources has been part of the Emergency Support Instrument

(Transport of essential goods, medical teams and patients).
However, the current analysis also considers the availability of hospital beds for patients with chronic illness to grasp a more balanced picture of the general access of all patients during the pandemic. The access of non-COVID-19 patients to the health system has already been deemed equally important, especially in the present time, when retrospective analyses are more likely to be performed (Hassan, Arawi 2020; Kruse et al. 2022; Lee et al. 2020).

Nonetheless, as the pandemic affected all economic sectors, the hospital bed occupancy rate has been declared in Romania as the criterion to periodically assess whether educational activities can be conducted person-to-person or online. This regulation was issued for the beginning of the current year, 2022, but it represents an indication of the escalation of the severe constraints that the national health system underwent in recent years. The article provides a better understanding of the way this pressure unfolded at the territorial level.

The paper starts by giving information on the research background – the characteristics of the health system in Romania before the pandemic and a short overview of the Romanian health system in 2020, during the pandemic. The fourth section presents data sources and methods, while the fifth section covers the results of the analysis, grouped around three key categories: (a) results at the national level, mainly as a longitudinal analysis, 2020 versus 2019; (b) general results at the county level; and (c) results examining hospital bed capacity and county development. Last two sections discuss the results and present conclusive remarks.

2. Research background: pre-pandemic health system characteristics in Romania

Romania allocates among the lowest financial resources in the EU on health. Additional characteristics of the health system resources before the spread of COVID-19 in 2020 include (i) a focus on spending on hospitals, coupled with policy priorities directed to strengthening primary care; (ii) a lower number of doctors and nurses than the largest part of EU countries, compounded by the migration of health professionals; and (iii) overuse of hospitals over outpatient care (OECD/EU 2019: 9-12). Several policy measures intended to be implemented before the pandemic outlined the need to rationalize the network of hospitals in Romania (Government of Romania 2011, 2014) and transform it into outpatient care, yet there was no visible change in terms of fund allocation by type of expenditure. In 2019, the financial resources for the health system recorded an increase in total allocations, yet still counted as one

of the lowest values among EU countries (5, compared to 8 percent of GDP at the European level). Nonetheless, the value is higher than the financial resources available for health in 2019 in Bulgaria, Poland, Cyprus, Latvia and Ireland. The value of expenditures for hospital services is almost equal to the EU level in 2019 – 2.9 percent in GDP in Romania and 3 percent of GDP in the EU. Romania spends the highest share among EU countries for inpatient care – 44 percent of total spending in 2019 (OECD/EU 2021:10). Although on an increasing trend, the supply of medical doctors for the population is still far from the EU level. In 2019, the value registered at the national level was 318.67, whereas the European value was 390.58 medical doctors per hundred thousand inhabitants. Only two development regions from Romania registered higher levels than the EU ones, namely, Bucharest-Ilfov (617.92) and West (416.35). The lowest number of medical doctors was registered in the South Muntenia region (159.76 in 2019).

Prior to the pandemic, Romania stood in a good position concerning adult intensive care beds at the international level (Table 1). Most likely, this is a result of overuse of hospital resources, despite several attempts to develop outpatient care. OECD countries began to implement reductions in the number of beds per inhabitant starting with 2009 (OECD 2022). However, international comparisons should be read carefully, alongside definitional differences that might influence the equivalence of data. OECD (2022) warns against methodological differences between countries on what an intensive care bed might mean, following several features like "regulations, specifying requirements such as the patient/nurse ratio, physical properties of the bed (including ventilators, monitoring equipment, infusion equipment and so on) and patient characteristics". Nevertheless, as the COVID-19 pandemic outburst in 2020, it appears that Romania was in a better position than the OECD average at the start of the pandemic, concerning one of the essential indicators of hospital resources for critically ill patients.

However, several other health indicators showed rather adverse circumstances. Approximately one in four persons aged two years and above has a chronic illness or an illness that requires long-term care in Romania (NIS 2021). Moreover, about one in five persons declared alcohol consumption at least once a week, and 18.7 percent of the resident population aged 15 years and above smoked daily. Only a small share, 11.6 percent of the same resident population, practice sport leisure activities (NIS 2021).

Table 1. Adult intensive care beds, 2019 (or nearest year)

Country	**2019 (or nearest year)**
Czech Republic	43.2
Estonia[1]	38.1
Turkey	30.6
Germany	28.2
Austria	21.8
Romania	24.6
United States	21.6
Luxembourg	21.3
Lithuania	20.4
Denmark	18.5
Greece	17.5
Belgium	17.3
France	16.4
OECD33	14.1
Japan	13.8
Israel	12.1
Canada	12.1
Hungary	11.3
Latvia[2]	11.1
Spain	10.4
Poland	10.1
Switzerland	9.9
Portugal	8.9
Italy	8.7
Australia	8.1
Chile	7.6
United Kingdom[2 3]	7.3
Netherlands	7.0
Finland	5.4
Norway	5.4
Ireland[2]	5.2
Sweden	5.1
Mexico	3.5
New Zealand	3.0
Costa Rica	2.9

Source: OECD for all countries and author computations for Romania, 2019, based on data from the National Institute of Statistics. For Romania, data refer to 2019, and the number of intensive care beds reported to the resident population does not include hospital beds for children. 1. Neonatal and pediatric ICU beds included. 2. Data cover critical care beds only. 3. Data refer to England only.

Other official statistics report a shortage of general practitioners in several counties - Giurgiu (2,571 inhabitants for one doctor), Vaslui, Ilfov and Călăraşi. In contrast, there are other countries with good coverage of the population with general practitioners – Municipality of Bucharest (911 inhabitants for one doctor), Timiş, Arad, Bihor and Dolj (Cucu et al. 2021: 140). From the point of view of hospital bed capacity at the NUTS 3 level, a low provision of this type of supply resource has been registered in the counties of Ilfov, Giurgiu, Ialomiţa, Vrancea and Călăraşi, and at the other end of the scale, good coverage is recorded in the Municipality of Bucharest, Cluj, Covasna, Iaşi, Hunedoara and Timiş (data for 2020, in Cucu et al. 2021: 142). Other health system resources like high-performing medical equipment, for instance computer tomography, magnetic resonance imaging, angiography and coronary bypass, also register significant territorial discrepancies. For instance, coronary bypass has been performed in only twelve counties (out of 42), mostly in counties that also have large university centres: Bucharest, Timiş, Cluj, Iaşi and Mureş. These results are the same with the largest number of angiography procedures conducted in the same year (Cucu et al. 2020: 207-209). As a concluding remark, access and provision of healthcare are significantly different based on area as well as on social and economic inequalities. Self-reported unmet need for medical examination and care, with reason related to being too expensive or too far to travel or waiting list, are presented in Table 2. Although on a decreasing trend, the indicator still registers one of the highest values in the EU.

3. Research background: short overview of the Romanian health system in 2020 during the pandemic

The first cases of COVID-19 were identified in Romania in February 2020. On March 11, 2020, schools were closed, and free movement restrictions were imposed. A state of emergency was issued from March 16, 2020, until May 2020, while afterwards, a state of alert was put into effect. At the onset of the pandemic in Romania, a Ministerial Order was enacted on a plan of measures aimed at preparing hospitals to face the epidemic of COVID-19 (Order 533/March 29, 2020). This order states explicitly that there is a decrease of up to 80 percent for scheduled hospital admissions such as scheduled surgical interventions for patients with chronic illness from health units placed in university centres, alongside a decrease of up to 50 percent compared to February for the activity in outpatient care. Hence, part of the specialized health personnel working in the surgical departments (with reduced activity) was redirected to work in intensive care units. Consequently, Romania

followed international practices that recommended cancellation of elective surgery (Myles and Maswime 2020).

Table 2. Self-reported unmet need for medical examination and care

Country	**2019**
EU 27	1.7
Belgium	1.8
Bulgaria	1.4
Czechia	0.5
Denmark	1.8
Germany	0.3
Estonia	15.5
Ireland	2
Greece	8.1
0	0.2
France	1.2
Croatia	1.4
Italy	1.8
Cyprus	1
Latvia	4.3
Lithuania	1.4
Luxembourg	0.2
Hungary	1
Malta	0
Netherlands	0.2
Austria	0.3
Poland	4.2
Portugal	1.7
Romania	4.9
Slovenia	2.9
Slovakia	2.7
Finland	4.7
Sweden	1.4

Source: Eurostat, Self-reported unmet need for medical examination and care by sex [SDG_03_60]

Constant monitoring of hospital bed capacity is envisioned to be conducted on a daily basis – in the electronic system of the Ministry of Health – on bed capacity occupancy rate. The same legislative measure specifies a support

network of additional hospitals organized for COVID-19 patients. This support network can include smaller-scale hospitals or health units, most likely if they have a department on infectious diseases. The network is not restricted to hospitals subordinated to the Ministry of Health but can also be formed of health units subordinate to other Ministries, like the Ministry of Defence and Ministry of Transportation. There are also notices about situations that can arise when the intensive care bed capacity is exceeded – for redirecting in the same county critical cases, if the capacity of the Hospitals of Infectious Diseases is exceeded by a sudden spread of the epidemics. To report the total number of intensive care beds, the order also specifies private health units, together with separate statistics on the total number of intensive care beds with fully functioning oxygen sources and compressed air.

The OECD/EU report on the health system in 2021 in Romania notes several characteristics unfolding in the pandemic period: the limited testing capacity, the shortage of health workforce, especially physicians and nurses in intensive care units (although health workers have been redeployed from other specialities, training has been provided and additional temporary jobs have been created), a significant increase in the availability of intensive care hospital beds, a marked vaccine hesitancy that hampered the results obtained in vaccination campaigns, electronic information systems have been developed within the pandemic context and EU funds supported investments in health infrastructure (OECD/EU 2021: 21). The available hospital bed capacity for COVID-19 patients, increased by designating certain health units, has been assessed as sufficient up to summer 2020, yet in challenging demands during winter 2020 (OECD/EU 2021:20).

During the pandemic, Romania reported a total number of 5,722 hospital beds in 2020 for the medical speciality of anaesthesia and intensive care (NIS 2021). Of these, 1,489 are mentioned for COVID-19 patients. This means approximately 29.60 intensive care beds in 2020 (in total), per 100,000 population, figures which include beds for children. Although definitional differences make direct comparisons difficult, it is worth mentioning that OECD data show, for 2020, maximum values of 21.3 in Denmark, 26.7 in Belgium and 10.3 in Sweden for adult intensive care beds. Before the pandemic, in 2019 (or the nearest year), the same source for statistics indicated values of 43.2 for the Czech Republic, 38.1 for Estonia and 30.6 for Turkey for adult intensive care beds per 100,000 population.

The next sections present the data and methods, followed by the results of the analysis conducted on hospital bed capacity, discussion and conclusions.

4. Data and methods

The paper is based on an analysis of data available from official statistics, namely the National Institute of Statistics, National Institute of Public Health and Ministry of Development, Public Works and Administration. In addition, data on the county development index computed by professor Dumitru Sandu were used. A full list of the variables used is provided in the Annex. On hospital bed capacity, information on anaesthesia and intensive care hospital beds – total and for COVID-19 patients, hospital beds for patients with chronic illness, for day care and for continuous hospitalization – was analysed. At the county level, several predictors have been used: GDP per capita, own revenues and expenditures for health from local budgets, infant mortality rate, general practitioners by inhabitant, angioplasty procedures and local human development index. Limitations of the analysis mainly pertain to the inherent limitations of the data sources used. Hospital bed capacity has fluctuated throughout the pandemic period, yet the official statistics capture the reported bed capacity in a specific reporting period, namely, the status of all investigated health units at the end of 2020. Information provided by the National Institute of Public Health is collected only from the network of public hospitals subordinated to the Ministry of Health, local public authorities and Romanian Academy. In addition, there are several other hospitals subordinated to other institutions, like the Ministry of Defence, Ministry of Transportation, and Ministry of Internal Affairs. In addition, it is possible that other independent variables (such as the maximum number of COVID-19 patients in a specific period) might work as better predictors for explaining variations in hospital bed capacity. Moreover, data analysis at the county level, in relation to the resident population, does not capture transfers of patients between counties. During the whole period of the pandemic, press articles signalled that various well-known patients were transferred from their home counties to the Bucharest hospitals. In fact, most likely hospital bed occupancy rate should be used in future analyses, subject to data availability. Nonetheless, the data used provide a reliable picture of territorial discrepancies in hospital bed capacity during the first year of the pandemic in Romania at the NUTS-3 level.

The hypothesized relationships between the examined variables refer to a significant influence (a positive correlation) of pre-existing health and general resources at county level with available hospital bed capacity for all types of indicators, meaning total number of hospital beds for (1) COVID-19 patients, (2) patients with chronic illness, (3) for anaesthesia and intensive care, and for (4) anaesthesia and intensive care for COVID-19 patients. The entire set of variables at the county level, presented in the Annex, has been tested in

regard to the four key indicators on bed capacity included in the analysis.

5. Results

This section presents the results of the analysis at the national and county levels by type of hospitalization, medical speciality and county development indicators.

5.1. General results at the national level

There has been a notable decrease in hospital bed capacity for patients with chronic illness. Overall, at the national level, there has been a reduction of more than three thousand beds for this group of patients (3,357 hospital beds). By medical speciality, the largest declines in the number of beds for patients with chronic diseases are noticed for patients from pneumology (1,356), rehabilitation (875), and oncology (442). It is important to note here that the category of hospital beds for patients with chronic illness is registered separately from that of COVID-19 patients in the official statistics provided by the National Institute of Statistics. The two categories are included in the total number of beds for continuous hospitalization.

Additional drops in the national hospital bed capacity have been registered for beds with continuous hospitalization for children (829 hospital beds) and patients with day hospitalizations (229 hospital beds). In general, in Romania, the number of hospital beds for continuous hospitalizations (including that of COVID-19 patients and patients with chronic diseases) increased, with 479 hospital beds. By medical speciality, the number of beds for intensive care increased by 541 units compared to 2019. Most likely as part of the reorganization measures mentioned above and included in the Ministerial Order no. 533/2020, hospital beds for infectious illness increased in 2020, with 1,596 units (for continuous hospitalization).

Hospital beds for COVID-19 patients represent a distinct category of health resources registered in 2020. They amounted to 21,123 units and represented approximately 15 percent of the total number of hospital beds for continuous hospitalization. Most of them are grouped around medical specialities such as infectious diseases (5,789 hospital beds), pneumology (2,835), anaesthesia and intensive care (1,489) and surgery (1,217). Hospital beds for intensive care for COVID-19 patients represent slightly more than a quarter of the total number of intensive care beds in 2020 and, simultaneously, amount to 7 percent of the total number of hospital beds allocated for COVID-19 patients.

5.2. General results at the county level

The results presented at the county level are related to the resident population, corresponding to the two years under study, 2019 and 2020.

Downsizing hospital bed capacity for patients with chronic illness has been uneven across the counties. There is a set of 28 counties with negative differences, a group of 13 counties in which this number increased and one county, namely Ialomiţa County, where the value of the indicator remained constant and will be discussed separately in the next paragraphs. The largest reductions in the number of beds for non-COVID-19 patients with chronic illness (by 10,000 inhabitants from the resident population) have been recorded in the counties of Sălaj, Covasna, Mehedinţi and Dâmboviţa. At the other end of the scale, Iaşi, Bacău, Prahova and Vâlcea registered positive differences. Moreover, the counties of Sălaj, Covasna and Mehedinţi have not increased their capacity for intensive care hospital beds. Nonetheless, the reduction in hospital beds for non-COVID-19 patients has at least partially resulted in access to care for COVID-19 patients, as the counties of Sălaj and Mehedinţi are placed in the upper quartile of the indicator on the number of hospital beds for COVID-19 patients (total number, by 10 thousand inhabitants).

There is a large set of counties where the capacity of hospital beds for anaesthesia and intensive care did not increase at all in 2020. They comprise a set of 17 counties, which are placed in various positions from the point of view of the supply of hospital beds for COVID-19 patients (Table 3).

Admission of COVID-19 patients in hospitals is counted in the total number of hospital beds for continuous hospitalization, similar to the indicator on the number of beds for patients with chronic illness. In some cases, the share of hospital beds for COVID-19 patients represents more than a quarter of the total number of hospital beds for patients in need of continuous inpatient stay. From the point of view of the total number of hospital beds for continuous hospitalization at the county level, there is a group of 11 counties that recorded no change under this indicator. They overlap with those that failed to increase the number of intensive care units.

The total number of hospital beds for COVID-19 patients varies substantially across counties. If reported to the resident population, the best coverage is registered for the counties of Sălaj and Vaslui, with more than 20 hospital beds (per 10,000 inhabitants). Half of the counties have a value higher than 10 beds for this indicator, whereas the counties of Giurgiu and Ilfov account for values of no more than 5 such hospital beds and represent the lowest numbers at the national level.

Table 3. Increase in intensive care beds by county (number of units)

County	Increase in intensive care beds 2020-2019	County	Increase in intensive care beds 2020-2019
Bucharest	339	Satu Mare	2
Ilfov	131	Suceava	2
Braşov	92	Vrancea	2
Iaşi	45	Hunedoara	1
Sibiu	44	Bistriţa-Năsăud	0
Constanţa	44	Salaj	0
Timiş	42	Covasna	0
Cluj	36	Harghita	0
Argeş	30	Botoşani	0
Bihor	28	Vaslui	0
Maramureş	23	Buzău	0
Arad	19	Galaţi	0
Mureş	17	Tulcea	0
Prahova	13	Călăraşi	0
Neamţ	11	Giurgiu	0
Dolj	11	Ialomiţa	0
Dâmboviţa	8	Teleorman	0
Brăila	6	Gorj	0
Vâlcea	5	Mehedinţi	0
Bacău	4	Olt	0
Alba	3	Caraş-Severin	0

Source: Authors' computations, based on NIS data. The indicators on intensive care beds in both years include beds for children.

In addition to the above-mentioned results, Ialomița County stands out as a case study different from the rest of the country. It seems that, in this territory, there has been no response to the pandemic from the part of hospital resources. In this county, none of the indicators under scrutiny in a comparative approach changed for the examined first year of the pandemic. The total number of hospital beds for patients with chronic illness, beds for intensive care units, and beds for continuous or day hospitalization remained unchanged in 2020 compared to 2019. This finding is at least partially in contrast to the high number of COVID-19 patients registered at the beginning of the pandemic located in one of the county's towns, Țăndărei, which has also undergone a local quarantine period.

5.3. Hospital bed capacity and county development

This subsection examines variations in hospital bed capacity for COVID-19 patients, patients with chronic illness and beds from intensive care units (total and for COVID-19 patients). The whole analysis is related to a set of variables considered proxies for general county development – be it in terms of economic resources, other types of health resources or local human development. All analyses are placed at the NUTS 3 level, and variables are presented in the Annex.

Hospital capacity for anaesthesia and intensive care for COVID-19 patients varies depending on the county development. The counties with a good level of hospital bed capacity for intensive care are to a statistically significant greater extent from counties with a high level of GDP per capita.

Based on the indicators of hospital bed capacity for COVID-19 patients and patients with chronic illness, a typology at the county level was built. The typology differentiates between the following four categories: (1) counties that succeeded in ensuring good access to both COVID-19 patients and patients with chronic illness; (2) counties with good access to COVID-19 patients but rather low access to patients with chronic illness; (3) counties with mixed situations and (4) poor access for COVID-19 patients and patients with chronic illness. Therefore, the typology considers disparities of access within and between counties. Consequently, most of the counties are placed in a mixed type of access (16 counties), whereas the best type of access is found in only eight counties. The least favourable type of access is associated with ten counties. Table 5 presents the county distribution based on this typology.

Several examples stand out from this typology, particularly those of large university medicine centres such as Iaşi, Dolj and Timiş. They are placed in the category of "mixed access", as, according to the data provided by the official statistics, they ensured a varied type of access for COVID-19 and non-COVID-19 patients. Iaşi, for instance, is placed in the "best" type of access for the total number of beds for COVID-19 patients and patients with chronic illness but low (medium-lower quartile) for anaesthesia and intensive care hospital beds for COVID-19 patients. Dolj County stands out as holding an unfavourable position regarding coverage of the population with intensive care hospital beds for COVID-19 patients (lowest quartile). Dolj County also hosts a large medicine university centre, together with a training residency centre in emergency medicine. It is placed in the lowest quartile on intensive care units, yet in a good position regarding the rest of the economic development of the county – GDP per capita, own revenues and human development. Timiş County has a favourable position for ensuring hospital beds in anaesthesia and

intensive care for COVID-19 patients, as well as for hospital beds for patients with chronic illness but poor access concerning the total number of beds allocated for COVID-19 patients.

Table 5. County typology based on hospital capacity for COVID-19 patients and patients with chronic illness

	Hospital beds for COVID-19 patients	**Hospital beds for patients with chronic illness**	**Number of counties**	**Counties**
Good access for patients	+	+	8	Arad, Argeş, Bihor, Bucharest, Constanţa, Cluj, Gorj, Hunedoara
Good access for COVID-19 patients, but rather poor for patients with chronic illness	+	-	8	Botoşani, Caraş-Severin, Mureş, Mehedinţi, Vaslui, Satu Mare, Sălaj, Sibiu
Mixed access	+-	+-	16	Brăila, Bacău, Braşov, Buzău, Covasna, Dolj, Dâmboviţa, Galaţi, Iaşi, Ilfov, Maramures, Prahova, Neamţ Teleorman, Timiş, Vâlcea
Poor access for patients	-	-	10	Alba, Bistriţa-Năsăud, Călăraşi, Ialomiţa, Giurgiu, Harghita, Olt, Suceava, Tulcea
Total			42	

Note: Author's calculations. "+" designates upper and medium-upper quartiles, whereas "-" stands for lowest and medium-lower quartiles. Indicators analysed for hospital beds for COVID-19 patients include the total number of beds for COVID-19 patients and hospital beds from anaesthesia and intensive care for COVID-19 patients (data for 2020). All indicators are reported in reference to the county resident population from 2020.

In total, out of the ten largest medicine university centres in Romania, four are placed in the category of good access, two are placed in the category of good access for COVID-19 patients and poor access for patients with chronic illness, and four have a mixed type of access. Notwithstanding, data are

reported to the resident population and are therefore subject to limitations inherent to this particular data source. It is most likely that data on the population provided by the current census can provide a better estimation in this respect.

The typology of patients' access to COVID-19 and non-COVID-19 patients is significantly associated with county-level indicators on the coverage of the population with general practitioners, GDP per capita, share of older population and differences in the number of intensive care units from 2020 to 2019. Table 6 presents the results.

Table 6. Typology of patient access and county-level indicators

	Good access for patients	Good for COVID-19, but poor for chronic illness	Mixed access	Poor access for patients	Total
General Practitioners by inhabitant					
Lower quartile	0	2	3	6	11
Low-medium	0	2	5	3	10
Upper-medium	5	1	4	1	11
Upper	3	3	4	0	10
GDP per capita					
Lower quartile	0	3	3	4	10
Low-medium	0	1	6	5	12
Upper-medium	3	3	4	0	10
Upper	5	1	3	1	10
Increase in intensive care beds units					
No increase	1	5	4	7	17
Less than ten units	1	1	4	3	9
More than ten units	6	2	8	0	16
Share of older population					
Lower quartile	0	4	1	5	10
Low-medium	2	3	3	3	11
Upper-medium	2	1	7	1	11
Upper	4	0	5	1	10
Total	**8**	**8**	**16**	**10**	**42**

Note: Author's calculations. Data represent the number of counties. Shaded cells indicate significant values (adjusted standard residuals).

Counties that succeeded in providing good access for both categories of patients are to a significantly greater extent from counties with high GDP per

capita. Counties with poor access to hospital beds for the two categories of patients under study come, in a significantly higher share from counties with poor coverage of the population with general practitioners, with low shares of older population in the total population and which failed to make any positive change regarding number of intensive care units, in 2020, in comparison with 2019.

In summary, there is a mixed picture alongside the typology of access for COVID-19 and non-COVID-19 patients at the county level, although several pre-existing health and economic development inequalities seem to prevail in the examined structures. The analysis can be improved by adding supplementary information from 2021, when Romania experienced a severe crisis of hospital capacity for COVID-19 patients, particularly in what concerns anaesthesia and intensive care units.

Other results regard the rest of the examined indicators. Contrary to the expected relationships, hospital bed capacity for COVID-19 patients was not statistically associated with the examined set of variables. Most likely, the total number of beds for COVID-19 patients is more closely related to the administrative decisions made at the central (Ministry of Health), county (Public Health Directorate, a deconcentrated institution subordinated to the Ministry of Health) and hospital levels. The indicator on the number of hospital beds for patients with chronic illness is statistically associated with the coverage with general practitioners and whether the county performed angioplasty procedures.

Interestingly, the analysed indicators on hospital bed capacity are not associated with the level of expenditures for health from the local budgets, including budget execution from the County Council and all large urban municipalities, towns and communes from the corresponding county. It can be the case that some of the hospitals located in some territories are funded from other sources, for instance the Ministry of Health, Ministry of Transportation, and Romanian Academy. These funds are not reflected in the local budgets' execution. In contrast, the level of local budgets' own revenues is a good indicator of the level of economic development at the county level, similar to GDP per capita.

6. Discussion

The article signals differentiated access to hospital resources during the pandemic. It expands the perspective of access of COVID-19 patients by also considering hospital capacity for patients with chronic illness. The spatial differences presented in this study highlight the importance of territorial disparities in the provision of healthcare, in line with previous studies

conducted in Romania (Zamfir et al. 2015; Dumitrache et al. 2020; Mitrică et al. 2020; Mitrică et al. 2021).

A previous analysis considering vulnerability at the county level during the pandemic concluded that the territory of Romania is divided into two sections, with the southern and north-eastern parts affected by a very high and high degree of vulnerability (Mitrică et al. 2021). Concrete county examples from the same study include Iaşi, Constanţa, Cluj, Timiş, Hunedoara Counties and Bucharest Municipality, which are among the least vulnerable. The anaesthesia and intensive care capacity as well as the number of physicians are taken into consideration when computing the degree of vulnerability. Nonetheless, direct comparisons are difficult to conduct, as the vulnerability index includes various indicators, such as the number of COVID-19 hospitals, people suffering from cardiovascular diseases and respiratory diseases, primary and secondary school drop-out rates, share of dwellings not connected to the public water network supply of total dwellings in the county, PCR testing laboratories, available places in vaccination locations and number of vaccinated persons (Mitrică et al. 2021). Under the three key indicators used in the present paper, the counties of Cluj, Constanţa, Hunedoara and Bucharest municipality ensured good access for COVID-19 patients and patients with chronic illness, while Iaşi and Timiş provided a rather mixed picture. Notwithstanding, as the pandemic unfolded in 2021 and 2022, the position of these counties might have changed. The number of confirmed cases, of critical patients, mortality rates, and rolling out of vaccination campaign might all prove to be relevant factors of the health impacts at the county level. A longitudinal perspective can strengthen further analyses on these topics.

Furthermore, the reduction in availability of hospital beds for patients with chronic illness might be an explanatory factor for the high rates of excess mortality reported in Romania for the year 2020. Excess mortality between the onset of the pandemic and December 2020 was much higher than the total number of reported COVID-19 deaths (OECD/EU 2021: 5). Explanations prompt low access to non-COVID-19 hospital care, in addition to the limited testing capacity in Romania (OECD/EU 2021: 5). In addition, other types of hospital resources, including full-feature ventilators, the availability of PPE, or alternative solutions, mobilizing the retired health workforce, might prove to be important to be analysed if accurate information on them is available or compared at the national and subnational levels, with government effectiveness as an explanatory factor in the COVID-19 fatality rate (Sen-Crowe et al. 2021; Serikbayeva et al. 2021).

7. Conclusions

The findings highlight different outcomes in adapting hospital bed capacity in the challenging circumstances of the pandemic. Prior county-level development inequalities seem to be persistent in regard to the typology of patients' access to hospital resources during the pandemic.

There was a notable decrease in hospital bed capacity for patients with chronic illness in 2020 compared to 2019. This reduction has been uneven across counties. The typology built in this article differentiates between four categories, depending on the degree of access for COVID-19 patients and patients with chronic illness. Counties that succeeded in providing good access for both COVID-19 patients and patients with chronic illness are to a significantly greater extent from counties with high GDP per capita. Counties with poor access come, in a significantly higher share, from counties with poor coverage of the population with general practitioners, low shares of older population and that failed to make any positive change regarding number of intensive care units, in 2020, compared to 2019.

The results of the study add knowledge on the resilience of health systems during the challenging period of 2020 and further clarify the need to include the territorial dimension in social policies. Even if the analysis is focused on a single country, the methodology can be easily replicated in other contexts as well, reliant upon the availability of all data sources.

The study opens up the discussion for subsequent analyses on deaths at the county level throughout the entire pandemic period, particularly as Romania faced a massive outnumber of bed capacity for COVID-19 patients during the fall of 2021. Nevertheless, as highlighted by the present study, an important line for further investigation rests on the topic of access to hospital care for non-COVID-19 patients, especially in the country context, where most of the health funding sources are directed to hospitals.

References

Alqahtani, F., Khan, A., Alowais, J., Alaama, T., Jokhdar, H. (2021). "Bed Surge Capacity in Saudi Hospitals During the COVID-19 Pandemic". *Disaster medicine and public health preparedness* 1–7. Advance online publication.

Bach-Mortensen A.M., Degli Esposti M. (2021). "Is area deprivation associated with greater impacts of COVID-19 in care homes across England? A preliminary analysis of COVID-19 outbreaks and deaths". *Journal of Epidemiology & Community Health* 75:624–627

Cucu, M., A., Cristea, C., Matei, E., Galan, A., Ursu, C., Dima, C., Georgescu, D. (2020). *Raport Național privind Starea de Sănătate a Populației României 2019* [National Report on Population Health Status in Romania 2019]. National Institute of Public Health. https://insp.gov.ro/download/cnepss/stare-desanatate/rapoarte_si_studii_despre_starea_de_sanatate/starea_de_sanatate/starea_de_sanatate/Raport-Starea-de-Sanatate-2019.pdf

Cucu, M., A., Cristea, C., Matei, E., Galan, A., Ursu, C., Dima, C., Georgescu, D. (2021). *Raport Național privind Starea de Sănătate a Populației României 2020* [National Report on Population Health Status in Romania 2020]. National Institute of Public Health. https://insp.gov.ro/2021/12/29/raportul-national-al-starii-de-sanatate-a-populatiei-2020/

Deschepper, M., Eeckloo, K., Malfait, S., Benoit, D., Callens, S., Vansteelandt, S. (2021). Prediction of hospital bed capacity during the COVID−19 pandemic. *BMC Health Services Research* 21: 468.

Dumitrache, L., Nae, M., Dumbrăveanu, D., Simion, G., Suditu, B. (2016). "Contrasting Clustering in Health Care Provision in Romania: Spatial and Aspatial Limitations". *Procedia Environmental Sciences* 32290 – 299.

Dumitrache L., Nae M., Simion G., Taloș A-M. (2020). "Modelling Potential Geographical Access of the Population to Public Hospitals and Quality Health Care in Romania". *International Journal of Environmental Research and Public Health*. 17(22): 8487.

European Institute for Gender Equality (2021). *Gender equality and the socio-economic impact of the COVID-19 pandemic*. Luxembourg: Publications Office of the European Union. https://eige.europa.eu/publications/gender-equality-and-socio-economic-impact-covid-19-pandemic

Fort, D., Seoane, L., Unis, G. D., Rice-Haywood, E. G. (2020). "Locally Informed Modeling to Predict Hospital and Intensive Care Unit Capacity During the COVID-19 Epidemic". *The Ochsner journal* 20 (3): 285–292.

Galindo-Pérez M.C., Suárez M, Rosales-Tapia A.R., Sifuentes-Osornio J., Angulo-Guerrero O., Benítez-Pérez H., de Anda-Jauregui G., Díaz-de-León-Santiago J.L., Hernández-Lemus E., Alonso Herrera L., López-Arellano O., Revuelta-Herrera A., Ruiz-Gutiérrez R., Sheinbaum-Pardo C., Kershenobich-Stalnikowitz D. (2022). "Territorial Strategy of Medical Units for Addressing the First Wave of the COVID-19 Pandemic in the Metropolitan Area of Mexico City: Analysis of Mobility, Accessibility and Marginalization". *International Journal of Environmental Research and Public Health* 19(2): 665.

Germain, S., Yong, A. (2020). "COVID-19 highlighting inequalities in access to healthcare in England: A case study of ethnic minority and migrant women". *Feminist Legal Studies 28*(3): 301-310.

Government of Romania (2014). Strategia Națională de Sănătate 2014-2020 [National Health Strategy 2014-2020] https://www.ms.ro/strategia-nationala-de-sanatate-2014-2020/

Government of Romania (2011). *Strategia Națională de Raționalizare a Spitalelor* [National Strategy for Hospitals' Rationalization] https://www.srcv.ro/pgs/strategia%20nationala%20de%20rationalizare%20a%20spitalelor.pdf

Hassan, H., Arawi T. (2020). "The Care for Non-COVID-19 Patients: A Matter of Choice or Moral Obligation?" *Frontiers in Medicine* 7.

Heins, J., Schoenfelder, J. , Heider, S., Heller, A.R., Brunner, J.O. (2022). "A Scalable Forecasting Framework to Predict COVID-19 Hospital Bed Occupancy". *Informs Journals on Applied Analytics*. https://doi.org/10.1287/inte.2021.1115

Kim, S., Bostwick, W. (2020). "Social Vulnerability and Racial Inequality in COVID-19 Deaths in Chicago". *Health Education & Behavior* 47 (4): 509-513.

Kruse, M.H., Durstine, A., Evans, D.P. (2022). "Effect of COVID-19 on patient access to health services for noncommunicable diseases in Latin America: a perspective from patient advocacy organizations". *International Journal for Equity in Health* 21(1): 45.

Lee, K.D., Lee, S.B., Lim, J.K., Kang, Y.M., Kim, I.B., Moon, H.J., Lee, W.J. (2020). "Providing essential clinical care for non-COVID-19 patients in a Seoul metropolitan acute care hospital amidst ongoing treatment of COVID-19 patients". *Journal of Hospital Infection* 106 (4): 673-677.

McCabe, R., Schmit, N., Christen, P., D'Aeth, J. C., Løchen, A., Rizmie, D., Nayagam, S., Miraldo, M., Aylin, P., Bottle, A., Perez-Guzman, P. N., Ghani, A. C., Ferguson, N. M., White, P. J., & Hauck, K. (2020). "Adapting hospital capacity to meet changing demands during the COVID-19 pandemic". *BMC Medicine* 18(1): 329.

Ministerial Order no. 533/ 29.03.2020, https://scjucluj.ro/pdf/covid19/OMS533_Ordin_spitale_suport_pdf.pdf

Nogués, X., Sánchez-Martinez, F., Castells, X., Díez-Pérez, A., Sabaté, R. A., Petit, I., Brasé, A., Horcajada, J. P., Güerri-Fernández, R., Pascual, J. (2021). "Hospital-at-Home Expands Hospital Capacity During COVID-19 Pandemic". *Journal of the American Medical Directors Association* 22(5): 939–942.

Mishra, V., Seyedzenouzi, G., Almohtadi, A., Chowdhury, T., Khashkhusha, A., Axiaq, A., Wong, W.Y.E.,Harky, A. (2021). "Health inequalities during COVID-19 and their effects on morbidity and mortality". *Journal of Healthcare Leadership* 13: 19-26.

Mitrică, B., Mocanu, I., Grigorescu, I., Dumitraşcu, M., Pistol, A., Damian, N., Şerban, P.R. (2021). "Population vulnerability to the SARS-CoV-2 virus infection. A county-level geographical methodological approach in Romania". *GeoHealth* 5, e2021GH000461.

Mitrică, B., Şerban, P., Mocanu, I., Grigorescu, I., Damian, N., Dumitrașcu, M. (2020). "Social Development and Regional Disparities in the Rural Areas of Romania: Focus on the Social Disadvantaged Areas". *Social Indicators Research* 152: 67–89.

Myles, P., Maswime S. (2020). "Mitigating the risks of surgery during the COVID-19 pandemic". *Lancet* 396(10243):2-3.

National Institute of Statistics (2021). *Starea de sănătate percepută în anul 2019 de populația din România* [Health Status perceived by the population from Romania in 2019], https://insse.ro/cms/sites/default/files/com_presa/com_pdf/sanatate2019.pdf

National Institute of Statistics (2021). *Activitatea rețelei sanitare și de ocrotire a sănătății în anul 2020* [Activity of the Health and Health Promotion Network in 2020]. https://insse.ro/cms/ro/content/activitatea-re%C8%9Belei-sanitare-%C8%99i-de-ocrotire-s%C4%83n%C4%83t%C4%83%C8%9Bii-%C3%AEn-anul-2020

Nshimyiryo A, Barnhart DA, Cubaka VK, Dusengimana JMV, Dusabeyezu S, Ndagijimana D, Umutesi G, Shyirambere C, Karema N, Mubiligi JM, Kateera F. (2021). "Barriers and coping mechanisms to accessing healthcare during the COVID-19 lockdown: a cross-sectional survey among patients with chronic diseases in rural Rwanda". *BMC Public Health* 21: 704.

OECD (2020). *Protecting People and Societies*. www.oecd.org/inclusive-growth/resources/COVID-19-Protecting-people-and-societies.pdf

OECD/ EU (2021). *State of Health in the EU Romania Country Health Profile 2021*. https://www.oecd.org/publications/romania-country-health-profile-2021-74ad9999-en.htm

OECD (2022). *Hospital beds and occupancy*. https://www.oecd-ilibrary.org/sites/e5a80353-en/index.html?itemId=/content/component/e5a80353-en

OECD/ EU (2019). *State of Health in the EU*. Romania Country Health Profile 2019. https://eurohealthobservatory.who.int/publications/m/romania-country-health-profile-2019

Ravnbøl, C. I. (2020). *Magnifying Inequalities for the Roma During the COVID-19 Pandemic*, Blogpost on inequalities for the Roma during the Covid-19 pandemic, University of Copenhagen, Denmark, https://rwi.lu.se/blog/magnifying-inequalities-for-the-roma-during-the-covid-19-pandemic/

Sandu, D. (2022). "Community roots of COVID-19 infection rates between population composition and regional systems in Romania". https://doi.org/10.21203/rs.3.rs-1263042/v1

Sandu, D., Ionescu-Heroiu, M., Franţ, O., Butacu, B., Moldoveanu, G. (2020) "An update of the local human development index for 2018 and methodology for regularly calculating the LHDI" In Cira, D., Kriss, P. (eds) *Romania Urban Policy*, MLPAD, The World Bank Group. https://www.researchgate.net/publication/357753022_An_update_of_the_local_human_development_index_for_2018_and_methodology_for_regularly_calculating_the_LHDI

Safta-Zecheria, L. (2020). "Challenges posed by COVID-19 to the health of people with disabilities living in residential care facilities in Romania". *Disability & Society* 35 (5): 837-843.

Sen-Crowe, B., Sutherland, M., McKenney, M., Elkbuli, A. (2021). "A Closer Look Into Global Hospital Beds Capacity and Resource Shortages During the COVID-19 Pandemic". *The Journal of surgical research* 260: 56–63.

Serikbayeva, B., Abdulla, K, Oskenbayev, Y. (2021). "State Capacity in Responding to COVID-19". *International Journal of Public Administration* 44 (11-12): 920-930.

Soldi, R. (2021). *Regional differences in COVID-19 response: exposure and strategy*. European Committee of the Regions. European Union. https://op.europa.eu/en/publication-detail/-/publication/4a25e68a-2d64-11ec-bd8e-01aa75ed71a1/language-en

Stănculescu, M. S., Marin, A. M. (2022). "Health-Related Effects at the Outbreak of COVID-19 Pandemic in Vulnerable Communities of Romania". *Calitatea Vieţii* 33(1): 1–18.

Tavares, F. F., Betti, G. (2020). *Vulnerability, poverty and COVID-19: Risk factors and deprivations in Brazil*. https://www.researchgate.net/publication/340660228_Vulnerability_Poverty_and_COVID-19_Risk_Factors_ and_ Deprivations_in_Brazil

Tsai, T. C., Jacobson, B. H., Orav, E. J., Jha, A. K. (2022). "Association of community-level social vulnerability with US acute care hospital intensive care unit capacity during COVID-19". *Healthcare* 10(1): 100611.

UNICEF (2020a). *Rapid Assessment of the Situation of Children and their Families, with a focus on the vulnerable ones, in the context of the COVID-19 outbreak in Romania. Round 1*. Bucharest: UNICEF Romania. https://www.unicef.org/romania/documents/rapid-assessment-situation-children-and-their-families-focus-vulnerable-ones-context-0

UNICEF (2020b). *Rapid Assessment of the Situation of Children and their Families, with a focus on the vulnerable ones, in the context of the COVID-19 outbreak in Romania. Round 2*. Bucharest: UNICEF Romania. https://www.unicef.org/romania/documents/rapid-assessment-situation-children-and-their-families-focus-vulnerable-ones-context-0

WHO (2021). *Drawing light from the pandemic*. A New Strategy for Health and Sustainable Development Report of the Pan-European Commission on Health and Sustainable Development. https://www.euro.who.int/__data/assets/pdf_file/0015/511701/Pan-European-Commission-health-sustainable-development-eng.pdf

Zamfir, D., Dumitrache, L., Stoica, I.V., Vîrdol, D. (2015). "Spatial Inequalities in Health Care Provision in Romania: Milestones for Territorial Sustainable Development". *Carpathian Journal of Earth and Environmental Sciences* 10 (3): 177 – 188.

Annex

Variables names	Description	Data processing	Measurement unit	Time series	Data source	Weblink
Anaesthesia and Intensive Care Hospital Beds – total and for COVID-19 patients	Hospital Beds by medical speciality and county	Own computations for data per inhabitant, based on resident population from the National Institute of Statistics (NIS)	Number per 10,000 inhabitants	2019 and 2020 for total number of beds, 2020 for COVID-19 patients	National Institute of Statistics, Activitatea reţelei sanitare şi de ocrotire a sănătăţii în anul 2020 [Activity of the Health and Health Promotion Network in 2020]	https://insse.ro/cms/ro/content/activitatea-re%C8%9Belei-sanitare-%C8%99i-de-ocrotire-s%C4%83n%C4%83t%C4%83%C8%9Bii-%C3%AEn-anul-2020
Hospital Beds for Patients with Chronic Illness, For Day Care Hospitalization, Continuous Hospitalization	Hospital Beds by medical speciality and county	Own computations for data per inhabitant, based on resident population from NIS	Number per 10,000 inhabitants	2019 and 2020 for total number of beds, 2020 for COVID-19 patients	National Institute of Statistics, Activitatea reţelei sanitare şi de ocrotire a sănătăţii în anul 2020 [Activity of the Health and Health Promotion Network in 2020]	https://insse.ro/cms/ro/content/activitatea-re%C8%9Belei-sanitare-%C8%99i-de-ocrotire-s%C4%83n%C4%83t%C4%83%C8%9Bii-%C3%AEn-anul-2020
Own revenues and expenditures for health	Indicators from local budgets execution, aggregated indicators (sum) for all local government units, at county level	Own computations for data per inhabitant, based on resident population from NIS	Thousand lei per inhabitant	2019	Ministry of Development, Public Works and Administration, Revenues and Expenditures by territorial-administrative unit, 2019	http://www.dpfbl.md rap.ro/sit_ven_si_chelt_uat.html

GDP per capita at NUTS 3 level	Gross domestic product (GDP) at current market prices by NUTS 3 regions [NAMA_10R_3GDP] 1	-	Euro per inhabitant	2019	Eurostat	https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_3GDP__custom_2648066/default/table?lang=en
Infant Mortality Rate	Infant Mortality Rate, at county level	-	The ratio of the number of deaths of children under one year of age during the year to the number of live births in that year. Expressed per 1 000 live births.	2019	National Institute of Public Health, in Cucu (2021), Raport Naţional privind Starea de Sănătate a Populaţiei României [National Report on Population Health Status in Romania], page 160	https://insp.gov.ro/2021/12/29/raportul-national-al-starii-de-sanatate-a-populatiei-2020/
General Practitioners by inhabitant	General Practitioners by inhabitant, at county level	-	Rate per 10,000 inhabitants	2019	National Institute of Public Health, in Cucu (2021), Raport Naţional privind Starea de Sănătate a Populaţiei României [National Report on Population Health Status in Romania], page 172	https://insp.gov.ro/2021/12/29/raportul-national-al-starii-de-sanatate-a-populatiei-2020/

Angioplasty Procedures	Procedures conducted in the hospitals from the public network (Ministry of Health, Local public administration, Romanian Academy), by counties	-	Rate per 100,000 inhabitants	2019, 2020	National Institute of Public Health, in Cucu (2021), Raport Naţional privind Starea de Sănătate a Populaţiei României [National Report on Population Health Status in Romania], page 174	https://insp.gov.ro/2021/12/29/raportul-national-al-starii-de-sanatate-a-populatiei-2020/
Local Human Development Index weighted by locality population 2018	Local Human Development Index at county level	-	-	2018	Sandu, D., Ionescu-Heroiu, M., Franţ, O., Butacu, B., Moldoveanu, G. (2020) An update of the local human development index for 2018 and methodology for regularly calculating the LHDI, in Cira, D., Kriss, P. (coord.) Romania Urban Policy, MLPAD, The World Bank Group	https://www.researchgate.net/publication/357753022_An_update_of_the_local_human_development_index_for_2018_and_methodology_for_regularly_calculating_the_LHDI

Demographic Resilience versus Pronatalism

Cornelia Mureşan

Babeş-Bolyai University, Faculty of Sociology and Social Work, 128, 21 Decembrie 1989 Bvd, Cluj-Napoca, Romania, cornelia.muresan@ubbcluj.ro

During the latest edition of the conference organized by the UNFPA (the United Nations Population Fund) in Sofia, on December 1st-2nd 2021, the main topic put forward for consideration concerned "demographic resilience". The stated purpose of this ministerial conference was to reframe current discussions pertaining to demographic tendencies so that they would more clearly evidence both the need to adapt current societies to an ageing population and the necessity of providing more efficient support to youth and families who wished to have and raise children, emphasizing neither pro-natalism nor sounding an alarm, as current Central and Eastern European public discourse has often done. Likewise, the conference proceedings underlined the need to base population policy on empirical evidence, direly necessary to understanding current demographic changes.

I wholeheartedly agree with the above-stated perspective, and am a staunch supporter of the UNFPA's initiatives, as the agency of the United Nations which is tasked with tackling sexual and reproductive health matters and with militating for a world in which every pregnancy is a desired one, every birth is a safe one, and each young individual's potential can be fulfilled.

The demographic change is not a crisis. It is an opportunity.

Europe currently finds itself caught in a demographic transition which will have ample consequences. Individuals have fewer children and live a longer and healthier life. Many choose to relocate in their search for better opportunities. As a result, Europe's population is rapidly ageing. Already today, one in four Europeans is aged 60 or older. By 2050, more than one third of the continent's population will have entered this age group. Some national populations have begun to decrease. This is occurring mostly in Central and Eastern Europe, including in Romania, where fertility rates are extremely low,

https://doi.org/10.24193/RJPS.2022.1.06

and where many individuals move to other countries, as governments could not – or did not want to – attract external immigrants.

These demographic changes are often described as a crisis. However, the factors on which they are predicated are, in many ways, reasons for joy. Populations are ageing because individuals are healthier and live longer. Fertility rates are lower – not only, but also – because women have a heavier say, have a wider spectrum of options and opportunities. Population numbers are dropping in certain areas because people have more freedom to choose where they wish to live and work.

Nevertheless, dealing with the effects of demographic changes is not an easy task. Increasingly fewer active-aged individuals must shoulder the burden for a rising number of elderly persons. Social insurance and welfare systems are witnessing massive pressures, while the maintenance of healthcare infrastructure and services in rural areas, where the population is rapidly decreasing, is proving to be increasingly costly and difficult to keep up.

However, these are not existential threats. They are challenges in need of solutions. The good news is that a growing consensus seems to be emerging about the best approaches to demographic changes – and about what doesn't seem to be working.

A greater part of the attention in Eastern Europe has been awarded to increasing birth rates, as governments have tried to offer financial stimulus packages to individuals in the attempt to encourage them to have more children. The evidence we have suggests that this does not work as well as expected: birth rates can rise temporarily, but, in general, the average number of children born to a woman during her lifetime barely registers an increase. Even where fertility rates rise, the changes are limited, and no country in Europe, not even one where the highest GDP shares are invested in supporting families, can claim to have reached a birth rate that would ensure population replacement (2.1 children/woman, approximately), leaving aside the issue of population growth.

This does not mean that the idea of supporting the family should be discarded. On the contrary, intelligent measures that facilitate the establishment of a family, which are geared towards young individuals, are essential to allow people to reach the number of children they wish for. This requires the elimination of numerous barriers encountered by individuals in the decision-making process concerning children: economic insecurities, high housing costs, rising infertility, the lack of cost-accessible childcare and the expectation that women will compromise their professional careers in favour of housework and providing family care.

Generally, what works in approaching demographic changes, is setting up an inclusive and wide-ranging public policy package that is centred on the individual, evidence-based, and takes into account the numerous social, economic, political and cultural factors which play a part in influencing people's decisions and choices regarding their lives and futures.

Birth rates have dropped even lower since the COVID-19 pandemic hit. However, now is not the time to worry about numbers.

Focusing on the drop in birth rates is losing its meaning, argues Alanna Armitage, the director of the regional UNFPA Office for Eastern Europe and Central Asia. What matters is building countries where people wish to stay, live, and raise families.

The COVID-19 pandemic may have accelerated, at least temporarily, the global tendency towards lower fertility rates. The statistics from the end of 2020 – nine months after the first states of emergency had been declared – show a sudden drop in the number of births in many European countries. In 2020 Romania, only 176.766 children were born, for the first time registering a figure under 200.000. Nevertheless, the total fertility rate for 2019 was 1.77 children/woman, a figure that exceeded the European average of 1.53 children/woman. The total fertility rate, which expresses the average number of children a woman would give birth to over the course of her fertile period if she were to have the same age-based fertility rates as in the measured year, proves to be a much more reliable indicator that birth rates – the number of live-born children as a share of the total population.

News decrying a COVID-19 "baby bust" have fuelled anxiety in some countries. The pandemic – and its impact on individuals' reproductive decisions – hit at a time when fertility rates were already very low throughout Europe. In Eastern Europe, mass emigration added to this issue: individuals not only had fewer children, but also massively left their countries of origin in order to find better opportunities elsewhere. Consequently, population numbers have dropped. For instance, in 2021 Romania had 4 million fewer inhabitants than in 1990, a decrease in population by 17%.

We do not know whether birth rates will recover after the pandemic. From a historical perspective, major crises have always led to drops in fertility rates, which were generally followed by increases. Data compiled thus far by a group of researchers from the Max Planck Institute for Demographic Research and the Vienna Institute of Demography, based on information from the Human Fertility Database, show that birth rates in Europe has indeed been exhibiting signs of recovery in the last few months of 2021. Whether this

tendency will continue or not will depend on how enduring the social and economic impact of the pandemic will be.

Nevertheless, placing the emphasis on birth rates obscures a more important issue. Instead of manifesting concern for ups and downs experienced by population numbers, it is time to recognize that low birth rates are likely to remain so. It is time to try to understand what should be done to prepare the economy and the society for this almost inevitable demographic future.

This will not be an easy shift. Common sense tells us that high birth rates and population growth are desirable assets for a country, and that they reflect national wealth and power. We are used to thinking in these terms. On the other hand, it is also true that, in absolute terms, economic strength can decrease when population numbers dwindle.

However, this does not mean that people will grow poorer. Per capita prosperity levels could rise as the labour force is decreasing and wages might even experience growth, while increased automation could mean increased productivity. Smaller populations might prove beneficial for the planet, because fewer people mean lower consumption, less pressure on limited resources, and less pollution.

The transition from population growth to population decrease is a challenge, as is the case in many countries, and especially in those in Eastern Europe. Societies are ageing rapidly, but there are fewer working-age individuals who need to provide support for a growing number of elderly persons. Rural areas gradually lose their populations, as individuals relocate to larger cities or abroad in order to find better opportunities. Social systems are undergoing demographic pressures, and the maintenance of infrastructure and public services in low-population areas is a costly endeavour.

Nevertheless, these challenges can be managed. They can open opportunities for innovation which could catapult countries to a more prosperous future. Emerging places (such as Cluj in Romania) have appeared as veritable technology hubs, attracting talented individuals from within the country and from abroad. Throughout Eastern Europe, former emigrants have returned home because of the pandemic, bringing with them abilities, know-how, and valuable networks. Governments are experimenting with ways of harnessing the potential of the elderly to contribute to society and with better integrating this age category into economic and social life. Previously under-utilized resources, such as women, minorities, and other marginalized groups, could begin to occupy a wider share of the labour market and of the public sphere. Public discourse has even begun to reference the topic of immigration,

which has long been a tabu subject in Eastern Europe. All of these will contribute to countries' ability to successfully face demographic challenges.

Does this mean that birth rates do not matter at all? This is not exactly the case. They do matter, because they speak about a story of refused reproduction rights. People in Europe generally say that they want two children, but many wind up having one or even none. It is on this gap, between the desired and the accomplished fertility, that governments should be focusing. However, their intentions should not be to raise population numbers, but rather to aid individuals in accomplishing their reproductive goals so that they can reach the desired number of children. As already mentioned, this requires the elimination of numerous barriers encountered by individuals when establishing family: economic uncertainties, high housing costs, growing infertility, the lack of accessibly priced childcare opportunities and the expectation that women will compromise their professional careers and become full-time care-providers instead.

The progress made in creating more family-favourable societies, with increasingly balanced opportunities for women and men, can lead to higher birth rates, because people will feel more confident that they can establish their own family and bring into the world as many children as they wished for. Unfortunately, this is not guaranteed either, as the Scandinavian countries' example shows: here, birth rates have dropped despite family-friendly policies. Raising the birth rate should not be the sole reason behind the implementation of such family-favourable policies. The measures needed to ensure that individuals can have as many children as they wish for are valuable in themselves, as they increase individuals' wellbeing and improve countries' development potential.

By understanding the role of demographic changes in shaping the country's future and supporting the consolidation of demographic resilience, by harnessing the opportunities lent by change to the best of our abilities, we can ensure that the future will be a successful one. The sooner we admit that the solution to Europe's demographic problems is not increasing birth rates, the sooner we will be able to focus on what truly matters in approaching the current population crisis on the continent, the sooner we will be able to focus on building countries where people want to stay, live, and build families.

Conclusions

The concept of "demographic resilience" comes to meet the implementation of the Program for Action adopted by 179 countries at the International Conference for Population and Development (ICPD) in 1994 and re-

confirmed at the 2019 Nairobi Summit on ICPD25. The ICPD Program for Action offers a strong framework for approaching demographic changes. It emphasizes individual rights and wellbeing, as opposed to abstract numerical population objectives, thus laying the foundation for a modern, holistic approach to population and wellbeing and aiming to create environments that will allow individuals and societies to prosper in a context of demographic change. The measures it proposes – for ensuring access to sexual and reproductive health, for promoting gender equality and social inclusion of marginalized groups, for developing gender-sensible family policies, and for supporting young individuals' success in life – are all geared toward assisting countries in unleashing the potential of all people, the growth of human capital, and the shaping of a prosperous future that will successfully weather rapid demographic shifts. The revision of the ICPD25 in Europe and Central Asia has arrived at the conclusion that the approach to complex interrelations in population dynamics requires "holistic policies based on human rights, which would eliminate inequalities and embrace all individuals' and generations' contributions to sustainable development".

It is time to leave aside the narrative of anxiety and vanishing that has long dominated public discourse and look at demographic changes as an opportunity to build more inclusive, more diverse, and finally, stronger and more prosperous societies.

The *Romanian Journal of Population Studies* is published twice yearly by the Centre for Population Studies. The journal is included in the EBSCO, ProQuest, ERIH PLUS and C.E.E.O.L databases.

The purpose of the *Romanian Journal of Population Studies* is to disseminate historical and contemporary demographic research with a focus on Romania and Central and Southeast Europe, to all scholars from around the world who have an interest in this field, and to provide a publication platform for relevant studies in this field. Both descriptive studies and research papers in the field of demography are welcome.

The *Romanian Journal of Population Studies* is an interdisciplinary journal covering the social, historical, geographical, and economic aspects of the population. The journal focuses both on analysis made from the historical perspective and the present realities as well as the predictions made in the field of population studies in Romania and in other countries from this part of Europe. The journal is also open to studies on population phenomena from other parts of the world or to theoretical or methodological papers relevant for the study of population.

Information for authors

The journal accepts submitted manuscripts in one of the following languages: English, French or German, with a short abstract (approx. 100 words) and keywords written in English. The main text of contributions should not exceed 10,000 words. We ask authors to provide notes and comments as footnotes within the flow of the text, generally at the bottom of the page. In case your notes contain charts, tables, long equations, or other tems that make a footnote impractical, you can include this information in an appendix or as an endnote. The references should be cited in the text. No full length bibliographic references should appear in the main text of the submission. All references should be placed at the end of the submission.

Submission should contain original unpublished work and not have been submitted or under consideration for publication anywhere else.

All submissions will undergo a double blind peer review process, during which both the author identities are concealed from the reviewers, and the reviewer identity remains undisclosed to the author.

For further information please access our website at:
http://rjps.reviste.ubbcluj.ro/.

Centre for Population Studies
Avram Iancu St, No. 68, 3rd floor
400083 Cluj-Napoca, Romania
rjps@ubbcluj.ro