Reconsidering the Northwest European Family System: Living Arrangements of the Aged in Comparative Historical Perspective

STEVEN RUGGLES

BETWEEN THE LATE NINETEENTH CENTURY and the 1960s, social theorists argued that economic development was inversely associated with complex family forms. The idea originated with Frédéric Le Play, one of the earliest scholars to undertake empirical analysis of the family. Le Play idealized stem families, in which one child remained at home to work on the family farm and eventually inherit it, thus continuing the family line. In 1872, Le Play wrote that stem families were disappearing "among the working class populations subject to the new manufacturing system of Western Europe" (Silver 1982: 260). Durkheim (1888) expanded on Le Play's interpretation, stressing the loss of specialized functions of the family and weakening of kin ties with the growth of social differentiation (Lamanna 2002: 61). Burgess (1916) generalized the theory that the nuclear family emerged as a consequence of industrialization, and by the middle of the twentieth century the idea that simple nuclear families were functionally adapted to industrial society became a fundamental tenet of sociological thought (Ogburn 1933; Parsons 1944). Goode (1963: 6), reflecting this consensus, wrote that "wherever the economic system expands through industrialization . . . extended kinship ties weaken, lineage patterns dissolve, and a trend toward some form of the conjugal system generally begins to appear."

Policy analysts discussing changes in the living arrangements of the aged in the first half of the twentieth century similarly emphasized the declining importance of agriculture and the rise of industrial wage labor. The creators of the Social Security system—the landmark US old-age support program, adopted in 1936—routinely justified the need for assistance in terms of the decline of farming and the flight of the younger generation to cities (Eliot 1961; Clague 1961; Brown 1969; *Helvering v Davis* 301 U.S. 619 [1937]). Mid-

twentieth-century literature on aging frequently raised the same points about agriculture and urbanization to explain the increasing tendency for the elderly to reside alone (e.g., Burgess 1960; Cowgill 1974; Nimkoff 1962).

A revisionist paradigm emerged in the 1960s. Laslett and Harrison (1963) discovered that only a tenth of households in the village of Clayworth in the seventeenth century included extended kin—a fraction almost identical to that reported by the 1961 census of England and Wales. Laslett and his colleagues soon demonstrated that Clayworth was not an anomaly; there was similar evidence for many other preindustrial English and Northwest European villages (Laslett 1965, 1972). Over the next two decades, Laslett and his followers elaborated a theory that Northwest Europe had, from a very early date, a unique family system characterized by nuclear family structure and neolocal marriage (Hajnal 1982; Laslett 1983; Reher 1998). Almost immediately after Laslett's first publications on the family, historians asserted that nuclear families had also been standard in England's North American colonies from the time of earliest settlement (Demos 1965; Greven 1966). American social historians were soon among the most prominent and enthusiastic supporters of the hypothesis that the nuclear family had predominated for centuries in both North America and Northwest Europe (e.g., Hareven 1994, 1996).

Proponents of the nuclear family hypothesis argue that that in Northwest Europe and North America—especially England and its colonies—adult children ordinarily left their parental home and established new households when they married. Many scholars maintain that elderly persons resided with their children only in cases of poverty or infirmity, circumstances that could force aged parents to move into their children's household (Hareven 1994, 1996; Kertzer 1995; Hammel 1995; Smith 1979). Advocates of the hypothesis further maintain that these "weak-family" patterns were unique to Northwest Europe and North America, and that the rest of the world had "strong-family" systems with much higher levels of intergenerational coresidence (Reher 1998; Hartman 2004; Hajnal 1982). This idea of a unique Northwest European family system has been seen by some as an essential stimulus for the early development of capitalism and industrialization (Macfarlane 1978, 1986, 1987; Cain and McNicoll 1988; Hartman 2004). Despite extensive criticism of the methods and measurements used by Laslett and his followers (e.g., Berkner 1972, 1975; Ruggles 1987, 1994, 2003), the hypothesis that Northwest European and North American families were exceptional in their preference for nuclear residence remains the dominant interpretation (Hartman 2004; Thornton 2005).

In the literature dealing with the rest of the world, there is some empirical support for the thesis that economic development is associated with a decline in family complexity. There is clear evidence, for example, of diminished intergenerational coresidence in Japan, Korea, and Taiwan, which have experienced rapid economic growth and development (Martin 1990; Hirosima 1997; Hermalin, Ofstedal, and Chang 1992; De Vos and Lee 1993;

Knodel and Debavalya 1997; Chattopadhyay and Marsh 1999). Bongaarts and Zimmer (2002) found a country-level cross-sectional relationship between schooling and nuclear family structure, suggesting that as educational levels increase, residential family complexity declines. Some comparative survey data also suggest a trend toward independent residence of the aged in developing countries (United Nations 2005). Other recent studies, however, suggest that there have been no clear trends in coresidence in less-developed countries (Logan and Bian 1999; Bongaarts 2001; Palloni 2001; Knodel and Ofstedal 2002; Ruggles and Heggeness 2008).

This article evaluates the case for European and North American exceptionalism in nuclear family residence by exploiting a vast collection of newly available historical and contemporary data from 87 censuses of 34 countries around the world between 1850 and 2007. My goal is to begin to systematically assess cross-temporal and cross-national variation in the living arrangements of persons aged 65 or older.

The family patterns of the aged are a key indicator for the European exceptionalism hypothesis. All things being equal, one would expect that populations with weak nuclear family systems and neolocal marriage would have comparatively low residence of aged persons with kin or in multigenerational families. By contrast, elderly in strong-family societies in which stem families or joint families predominate would be expected to have relatively high coresidence. Accordingly, I compare living arrangements of the aged in nineteenth-century Northwest Europe and North America to the living arrangements of the aged in both developed and developing countries in the second half of the twentieth century, applying a basic set of controls for agricultural employment and demographic conditions.[1]

The results suggest that nineteenth-century Northwest Europe and North America did not have exceptionally simple or nuclear family structure. In fact, the family patterns in the historical data from these countries are generally similar to the family patterns found in the recent past in countries that share similar levels of agricultural employment and demographic characteristics.

Data

This study is based on census microdata from three sources. The North Atlantic Population Project (NAPP 2006) provided data from six censuses taken between 1865 and 1901 in Canada, England and Wales, Norway, Scotland, and Sweden. The Integrated Public Use Microdata Series—referred to below as IPUMS-USA—provided data from the US decennial censuses of 1880 through 2000, and from the American Community Survey of 2007 (Ruggles et al. 2008). The International Integrated Public Use Microdata Series—known as IPUMS-International—provided data from 65 censuses of 28 countries dating from the period 1960 through 2002 (Minnesota Population Center 2007).

All censuses available from these three databases in December 2008 were included in the analysis except for those with inadequate information on family interrelationships or agricultural employment.[2] For the IPUMS-USA censuses, I relied on the one percent samples available for each census year. In the case of the NAPP and IPUMS-International databases, I used an online sampling tool available on the project websites to draw 200,000 households from each census, except for a few censuses for which fewer than 200,000 households are available. The Appendix Table provides the basic characteristics of each sample.

Even though the data span great distances of time and space, they provide closely comparable information on living arrangements. Both nineteenth-century and more recent censuses have generally defined households on the basis of shared meals or a shared physical structure. Family compounds in Africa composed of multiple physical dwellings are ordinarily counted as single households, as long as the residents have a single household head and either eat together or share common housekeeping. One key variation among censuses is in the enumeration rule: some censuses enumerated all persons present in the household on a designated census night (*de facto* rule), and others enumerated all persons who usually resided in the household (*de jure* rule). The enumeration rule proved to have significant implications for the measurement of intergenerational coresidence, as described below.[3]

Measures of living arrangements

Household-level measures of family structure—such as those used by Laslett and his followers—are highly sensitive to demographic conditions and therefore inappropriate for comparative analysis of populations with substantially differing demographic behavior. Populations characterized by high fertility and mortality have relatively few elderly persons, and therefore only a small percentage of households have the potential to include elderly kin (Ruggles 2003). In societies that also have late marriage and long generations—such as those of historic Northwest Europe—the potential for multigenerational households is especially limited. In many such populations, the average grandchild was born when the grandparents were in their mid-60s, and people were likely to die before their grandchildren were born or shortly thereafter. Thus, the potential for multigenerational households in preindustrial Northwest Europe was sharply constrained (Ruggles 1987, 1994, 2003).

If we measure coresidence from the perspective of the aged, we minimize the effects of variation in demographic conditions on indicators of family structure. Even in populations where few households have the potential to include elderly kin, the great majority of elderly persons have the demographic potential to reside with offspring. Nevertheless, demographic conditions can affect the living arrangements of elderly people. For example, fertility affects the number of options the elderly have for residing with their

children, and marriage age affects the duration of overlap across multiple generations. Accordingly, although measurement from the perspective of the oldest generation greatly reduces the effects of demographic conditions on the potential for intergenerational coresidence, it is important when comparing populations with pronounced differences in demographic conditions to take these differences into account.

This analysis uses three measures of living arrangements of the aged, which are described in Table 1. The elderly population is defined as persons aged 65 or older.[4] Married couples in which both partners are aged 65 or older are treated as single observations, since the partners share a single living arrangement.

1) Percent residing with any kin. This measure assesses the percentage of elderly individuals and couples residing with any kin other than a spouse, including lateral kin such as siblings. The measure has the advantage that it can be consistently applied to virtually any census with a question on the relationship of each individual to a household head or reference person, even when little detail is available. Because of its simplicity, this measure poses the lowest risk of measurement error.

2) Percent residing with descendants. The second measure focuses on residence with descendants, defined as children, children-in-law, or grandchildren of the elderly person or couple. This is intended as a broad indicator of intergenerational coresidence, and may capture temporary residence with

TABLE 1 Measures of living arrangements of individuals and couples aged 65 or older

	Percent residing with		
	Any kin	Descendants	Three generations
Nineteenth century			
Britain	62.3	50.2	23.5
Nordic countries	48.7	46.4	14.5
North America	71.3	63.3	28.0
Twentieth and twenty-first centuries			
Latin America	72.2	59.1	33.9
Middle East	52.8	47.3	26.2
Sub-Saharan Africa	78.1	66.9	46.5
East Asia	79.8	69.6	45.9
Northwest Europe	34.3	27.1	11.2
Eastern/Southeastern Europe	45.5	38.7	19.1
United States	42.3	34.6	13.8
Overall mean	60.3	50.5	27.6
Standard deviation	18.4	16.7	7.6
Number of census samples	84	84	84

NOTE: Measures are means of the percentages in each sample census.
SOURCES: Minnesota Population Center 2007; NAPP 2006; Ruggles et al. 2008.

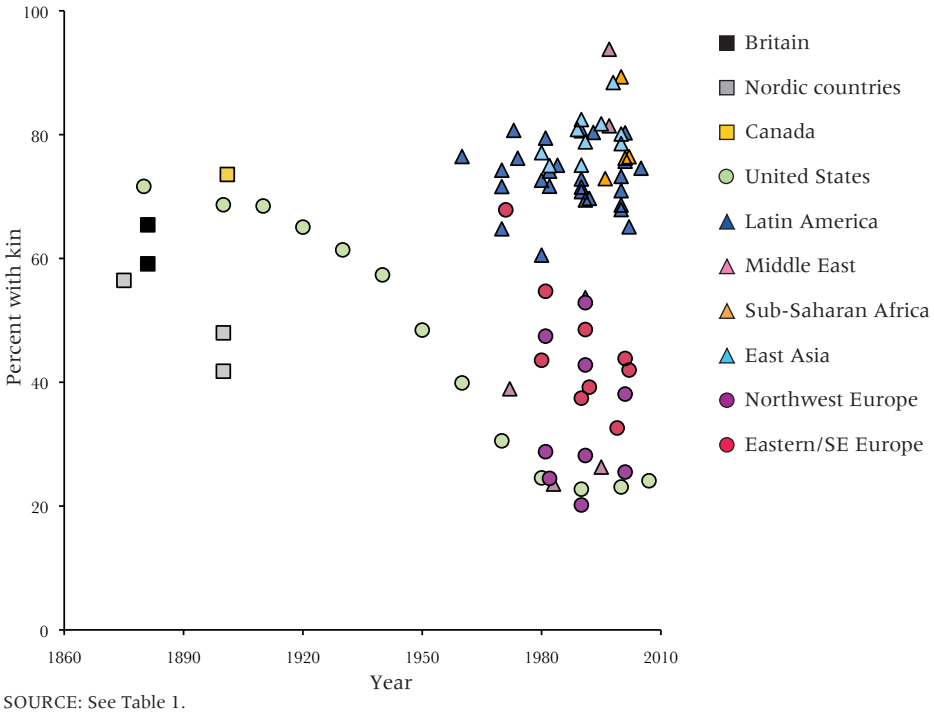
children—including unmarried "boomerang" children—as well as the enduring multigenerational families described by Le Play.

3) Percent residing with three generations. The final measure is the percentage of elderly individuals and couples residing with both a child (or child-in-law) and a grandchild. Residence with three generations provides the clearest measure of the multigenerational extended families of the sort envisioned by nineteenth- and twentieth-century social theorists, while circumventing the major problems associated with household-level measures of multigenerational families.[5]

As shown in Table 1, the level of the three indicators differs substantially: on average, across all samples, over 60 percent of the aged resided with kin, but just 28 percent resided with three generations. Nevertheless, the regional and chronological patterns are broadly similar across the three measures. The lowest coresidence is found in twentieth-century Northwest Europe and the United States, and the highest in sub-Saharan Africa and East Asia. The nineteenth-century samples from Great Britain, the Nordic countries, and North America fall between these extremes.

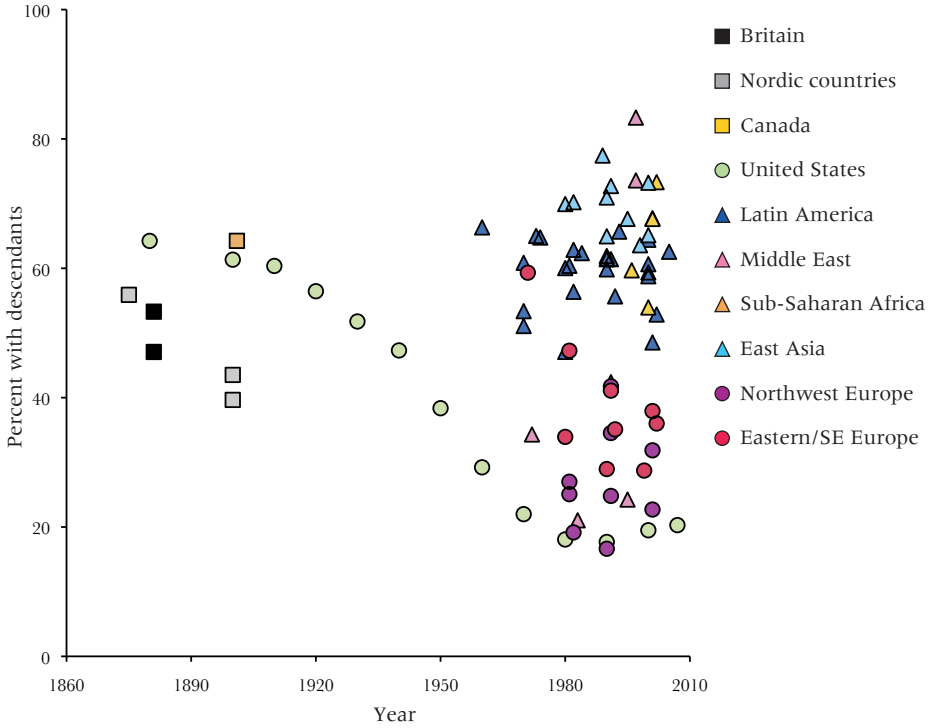
Figures 1 through 3 show the three family measures for each census sample. The NAPP datasets for nineteenth-century Britain, Norway, Swe-

FIGURE 1 Percent of elderly residing with any kin, by year and region, 1875–2007



SOURCE: See Table 1.

FIGURE 2 Percent of elderly residing with descendants, by year and region, 1875–2007

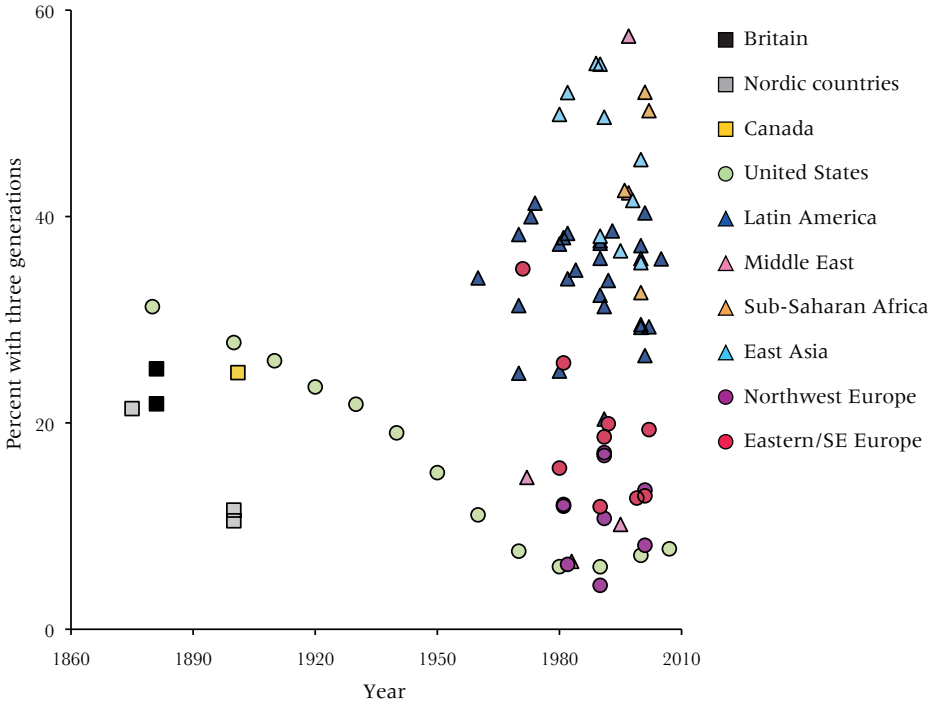


SOURCE: See Table 1.

den, and Canada are represented by squares, and the IPUMS-USA samples are represented by light green circles. IPUMS-International data from Latin America, Africa, and Asia appear as triangles, and the post-1960 censuses from Europe appear as darker circles.

In all three graphs, the countries fall into distinct clusters. The countries of Africa, Asia, and Latin America have had high coresidence, with the sole exception of Israel, represented by light red triangles. The European samples taken during the past 50 years have much lower coresidence, with the exception of the earliest samples available for Greece. The nineteenth-century data from the United States and Canada generally fall in the same range as the twentieth-century data from developing countries in Africa, Asia, and Latin America, but the nineteenth-century data from Britain and the Nordic region suggest significantly lower coresidence. The United States is the only country with a continuous series of data spanning the entire period, and by all measures it shows dramatic declines in coresidence. For example, Figure 1 shows that 72 percent of elderly in the United States resided with any kin in 1880, and such coresidence dropped to a low point of 23 percent in 1990.

FIGURE 3 Percent of elderly residing with three generations, by year and region, 1875–2007



SOURCE: See Table 1.

Control variables

To evaluate whether the data provide evidence for a distinctive Northwest European family pattern, I assess how the data on family structure in the nineteenth-century census samples compare with more recent data on family structure from populations with similar economic and demographic characteristics. The variables used to control for these characteristics are summarized in Table 2.

Agricultural employment is of key theoretical importance. The declining role of agriculture in the economy was central to the arguments made by Le Play and early-twentieth-century social theorists about the simplification of family structure. In a recent article (Ruggles 2007), I argued that the decline of agricultural employment among the younger generation was the key determinant of the long-run decline in intergenerational coresidence in the United States. Not only did the traditional family forms depend on agricultural inheritance, but the rise of nonagricultural wage-labor opportunities also provided the incentives for the younger generation to leave the farm. Agricultural employment is one of the few measures of economic development that are closely comparable across virtually every census sample. Agricultural employ-

TABLE 2 Independent variables included in the analysis

Variable	Defined as	Mean	Standard deviation
Agricultural employment	Natural log of percent of men aged 18–64 employed in agriculture	2.7	0.9
Percent elderly	Percent of population aged 65 or older	7.5	4.0
Marital fertility	Age-standardized marital fertility ratio	62.7	21.0
Unmarried elderly women	Percent of population 65+ who are women without spouses	44.6	4.4
Married elderly couples	Percent of population 65+ who are residing with spouse	38.5	5.0
De jure census	*De jure* census enumeration rule	0.6	0.5

SOURCE: See Table 1.

ment is measured here as the natural log of the percentage of men aged 18 to 64 engaged in agricultural work, including farm owners, tenant farmers, and agricultural laborers. The log transformation is needed to accommodate a curvilinear relationship between agricultural employment and the three measures of family composition.

Percent elderly is a powerful variable that summarizes key elements of the prevailing demographic regime. In any population, the percentage of persons aged 65 or older is determined mainly by past fertility and mortality. There are two reasons to expect that percent elderly would be related to coresidence of the elderly. The first is related to the availability of kin. When the percentage of elderly in the population is low, the elderly generally have many younger kin available for coresidence. The second reason pertains to social norms. Some demographers have proposed an indirect effect of the relative size of the elderly population on coresidence, by arguing that growth in the percentage of elderly in the population may undermine the norm of intergenerational coresidence (Levy 1965: 49; Kobrin 1976: 136; cf. Burch 1967; Ruggles 1987). In either case, we would expect an inverse relationship between percent elderly and coresidence.

Marital fertility is intended to control for variation in the opportunity to reside with children. In low-fertility populations, the aged have fewer children with whom they can reside, and some demographers have suggested that this helps explain the low levels of intergenerational coresidence in economically advanced countries (Kobrin 1976; Soldo 1981; Wister and Burch 1983). There is some evidence, however, that this fertility effect is relatively small. In populations where coresidence of the aged is the norm, the likelihood of living with a child appears to be relatively insensitive to the number of surviving children (Knodel et al. 2000; Smith 1986; Ruggles 1994; see also Elman and Uhlenberg 1995).[6] Fertility is calculated here as the mean number of own-children under age five per 100 married women aged 15 to 49. I used direct standardization to control for age structure; the standard population was the average across all census samples of the age distribution of married

women (Siegel, Swanson, and Shryock 2004: 389–390). It should be noted that this is not a pure measure of marital fertility, since the own-child fertility ratio is also influenced by infant and child mortality.[7]

I also controlled for the sex and marital status composition of the elderly population. I divided the elderly population into three groups: *married couples*, *unmarried women*, and *unmarried men*. The sex and marital status of the aged population mainly reflects patterns of widowhood and remarriage. It is influenced by mortality levels, differential mortality of men and women, the prevalence of divorce, proportions of men and women remarrying following widowhood or marital disruption, and the proportion of each sex never marrying. In virtually every population, unmarried women are especially likely to reside with kin, and in most populations unmarried men are the group most likely to reside independently. The models explicitly include the percent of elderly persons who are unmarried women and married couples, and unmarried men are the residual category. Overall, an average of 45 percent of the aged were unmarried women, 38 percent were married couples, and the remainder—just 17 percent—were unmarried men.[8]

Finally, I included an indicator to distinguish between *de jure* and *de facto* censuses. The enumeration rules determine whether the census includes persons present on census night (*de facto*) or persons ordinarily resident in a particular household (*de jure*). The censuses are split between *de jure* (56 percent) and *de facto* (44 percent), and both enumeration rules were used in every period and region under study. This variable did not have a substantial substantive effect on the findings of the analysis, but it did significantly improve the fit of the model.

Analysis

I use ordinary least squares regression to control for the effects of variation in demographic conditions and agricultural employment on coresidence with kin. My goal is not to assess the statistical significance of each independent variable.[9] Demographic and economic conditions are clearly related to family composition, but the primary purpose of the regression exercise is to evaluate the level of coresidence in each census sample. The regressions provide us with a systematic way to assess whether the level of coresidence in a particular country is high or low, given the demographic and economic circumstances. Thus, I use the regression to predict living arrangements of the aged in each census. I then compare the predicted family structure with the actual family structure in each census, to gauge whether a given population has higher or lower elderly coresidence than would be expected on the basis of that population's economic and demographic characteristics.

Table 3 shows the results of ordinary least squares regressions of agricultural employment and demographic conditions on the measures of living arrangements of the aged. The models fit well, with adjusted R^2 of .79 to .84.

TABLE 3 OLS regressions of agricultural employment and demographic characteristics on living arrangements of the aged

	With any kin		With descendants		Three generations	
	B	Standard error	B	Standard error	B	Standard error
Agricultural employment	8.37	1.46***	8.06	1.30***	6.54	1.19***
Percent elderly	–4.10	0.37***	–3.61	0.33***	–3.11	0.30***
Marital fertility	–0.20	0.06**	–0.15	0.05**	–0.19	0.05***
Unmarried elderly women	0.76	0.28**	1.04	0.25***	1.52	0.23***
Married elderly couples	0.72	0.24**	1.06	0.21***	0.94	0.19***
De jure census	–9.15	1.83***	–5.54	1.62**	–5.48	1.49***
Constant	24.59	20.34	–19.45	18.04	–55.94	16.60**
Adjusted R square	0.84		0.84		0.79	
N	84		84		84	

*** p<.001; ** p<.01; * p<.05.
SOURCE: See Table 1.

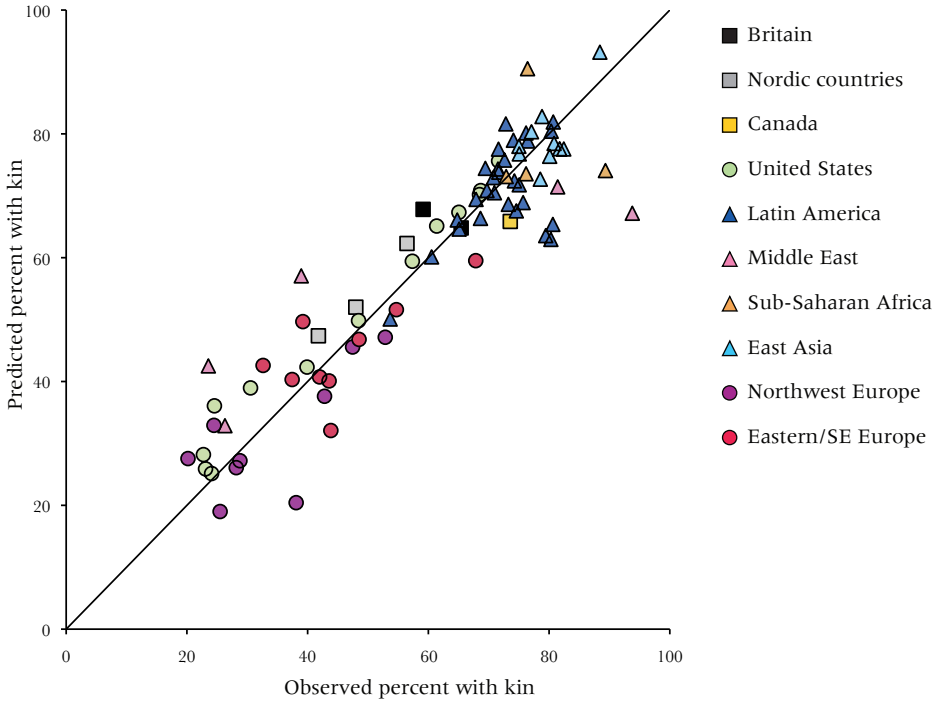
As expected, the most consistently powerful variables are agricultural employment and percent elderly. Populations with a high percentage of agricultural employment tended to have much higher coresidence of the elderly with kin. As anticipated, the percent elderly was inversely related to coresidence.

The other four variables were all associated with living arrangements, but not always in the expected way. As anticipated, there is a substantial positive bivariate correlation between fertility and coresidence, perhaps because elderly persons with many children have greater opportunities to coreside. When the percent elderly is controlled, however, the relationship between fertility and coresidence is inverted. This suggests that—controlling for other aspects of the demographic regime—populations with widespread fertility limitation may actually have closer ties between parents and children. The *de jure* enumeration rule is inversely associated with coresidence, suggesting that the presence of visiting relatives may account for some intergenerational living arrangements.

Figures 4 through 6 plot the *predicted* percent of aged in each living arrangement based on the equations for each model against the *observed* percent. In all three graphs, most countries cluster closely around the diagonal line, underscoring the finding that a few simple economic and demographic indicators effectively predict most variation in coresidence. If historical Northwest European and North American families were truly exceptional, we would expect that the observed percentage residing with kin would be lower than the percent predicted by the regression equation—that is, those countries should fall significantly *above* the diagonal.

Figure 4 shows the observed and predicted coresidence of the elderly with any kin. One of the data points for nineteenth-century Britain (represented by dark squares) is just below the diagonal, and the other is above. The three nineteenth-century Nordic data points (gray squares) are slightly above

FIGURE 4 Observed and Predicted percent of elderly residing with any kin

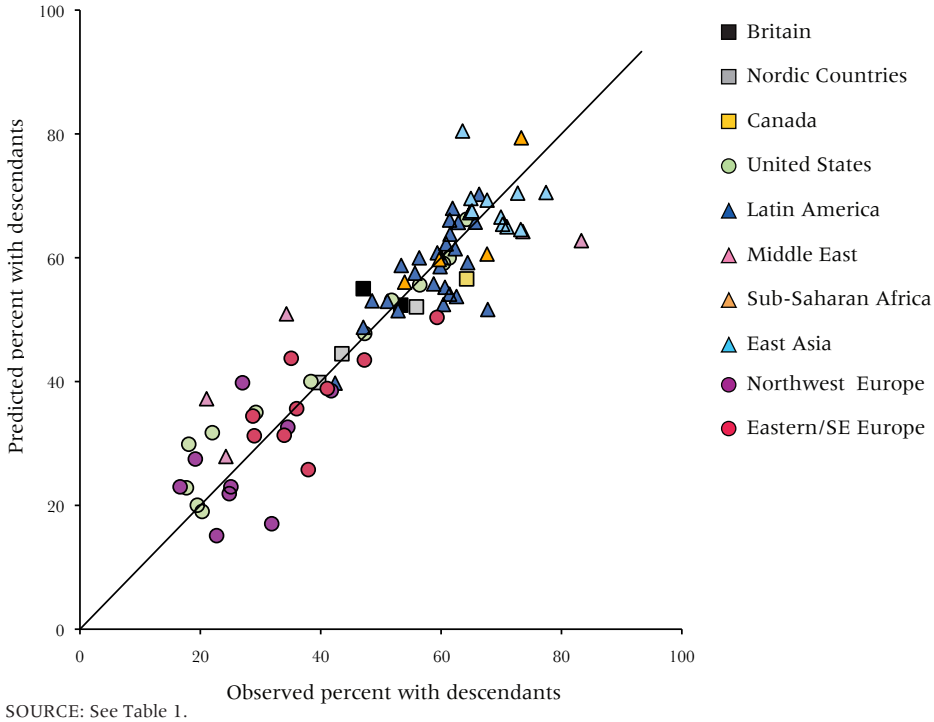


SOURCE: See Table 1.

the line, and nineteenth-century Canada (light yellow square) is slightly below the line. The symbols for the United States (light green circles) are on or above the line. In no case is one of the samples from nineteenth-century Northwest Europe or North America an outlier: the observed coresidence tends to fall within a few percentage points of the predicted coresidence.

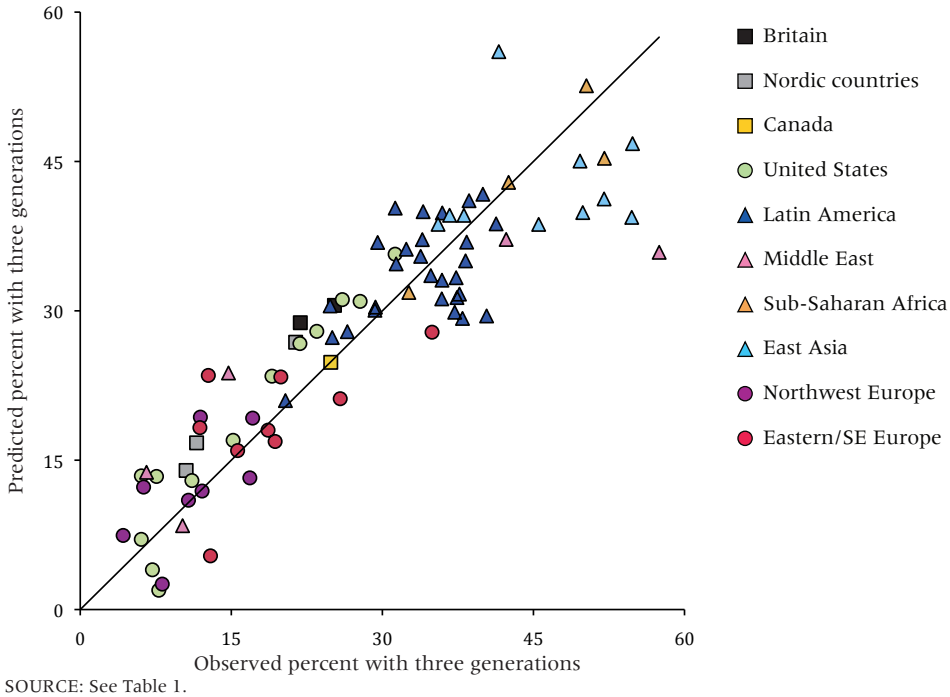
The story is similar for Figure 5, which focuses on coresidence with descendant kin. Here, the historical Northwest European countries are all adjacent to the diagonal or fall below it, with the exception of the sample for England and Wales, which is just above the line. There is somewhat more evidence for the hypothesized pattern of historical European exceptionalism in Figure 6, which focuses on three generations; in this analysis, almost all the Northwest European and North American samples fall slightly above the diagonal, suggesting that these countries did have less coresidence than predicted.[10] From a larger perspective, however, even this effect appears fairly trivial. The historical samples in Figure 6 are not outliers: multiple samples from Latin America, Europe, the Middle East, and Asia are farther above the diagonal than any of the historical Northwest European or North American samples. Thus, there is no evidence here for an exceptional weak Northwest European family pattern.

FIGURE 5 Observed and predicted percent of elderly residing with descendants



SOURCE: See Table 1.

FIGURE 6 Observed and predicted percent of elderly residing with three generations



SOURCE: See Table 1.

Discussion

Goody (1996: 17) argued that the sharp distinction drawn by Hajnal (1982) and others between the Northwest European family and living arrangements in the rest of the world "overstresses the actual differences," and "the data do not altogether justify such a sharp dichotomy." The evidence presented here reinforces Goody's interpretation. The living arrangements of the aged in nineteenth-century England and Wales, Scotland, Norway and Sweden, and also in Canada and the United States were similar to those of developing countries in the second half of the twentieth century that had a similar demographic profile and similar levels of employment in agriculture.

This analysis may have implications that go beyond the debate over the Northwest European family pattern. A few basic demographic indicators, together with the percentage of agricultural employment, proved sufficient to predict most variation in living arrangements of the aged over an extraordinarily diverse collection of countries. This suggests that the effects of cultural factors on family structure may not be as great as some scholars have assumed.

I am not arguing, however, that European families were typical in all respects. My purpose is limited to testing the hypothesis that Northwest Europe and North America had an exceptional preference for nuclear family structure. Analysts such as Hajnal (1982) and Hartman (2004) place at least as much emphasis on the distinctive Northwest European patterns of late marriage and a high proportion remaining unmarried as they do on nuclear family structure. As shown in the Appendix Table, Norwegians, Swedes, Scots, and Canadians did have unusually late marriage in the nineteenth century, and these data therefore support that aspect of Northwest European distinctiveness.[11]

Most of the revisionist literature inspired by Laslett (1965, 1972), however, has focused on family structure rather than marriage age. The new census samples provide nationally representative, high-precision statistics that can for the first time place the living arrangements of nineteenth-century Northwest Europe and North America in broad comparative historical perspective. The results of this comparison demand that we carefully consider the prevailing ideas about the Northwest European family. Accordingly, the paragraphs that follow explore ways we might reconcile the new findings with the theory of Northwest European exceptionalism.

Some might argue that the cross-sectional measures used here are too crude to detect the exceptional character of the Northwest European family. In particular, perhaps Northwest Europe and North America really did have a unique system of neolocal marriage, but also had a unique system of "nuclear reincorporation" under which large numbers of the elderly moved into their children's homes when they became unable to care for themselves

(Kertzer 1995). Under this scenario, even though the living arrangements of the elderly in nineteenth-century Northwest Europe and North America appear similar to those in other parts of the world, they would still be distinctive because they were formed when dependent parents moved in with their children, rather than by children remaining in their parental home. The nuclear reincorporation hypothesis, however, is unlikely to account for the findings presented here. I have presented evidence elsewhere contradicting the hypothesis in the United States (Ruggles 2003, 2007). Moreover, in nineteenth-century Canada, England, Norway, Scotland, and Sweden—as in the United States and most other countries—most intergenerational families were headed by the older generation.[12] This makes the nuclear reincorporation hypothesis strained at best. If most intergenerational families were formed through reincorporation, we would have to assume that when frail and impoverished dependent elders moved in with their children for support, they nevertheless assumed headship of the household.

An alternative defense of the idea of the Northwest European nuclear family system could focus on the temporal and geographic limitations of the data analyzed here. This analysis compared data from nineteenth-century Northwest Europe and North America with late-twentieth-century data from around the world. We presently have no comparable census samples from non-Western countries before the mid-twentieth century. Perhaps the less-developed countries of the world at some point in the distant past had strong-family systems, but by the second half of the twentieth century these had already weakened to the point that they appear similar to the weak-family systems of nineteenth-century Northwest Europe and North America. Such a scenario, however, seems unlikely. The best data we have suggest that there has been little change in coresidence in the least-developed countries during the past several decades (Knodel and Ofstedal 2002; Palloni 2001; Ruggles and Heggeness 2008). Accordingly, any general weakening of the family systems of the developing world probably would have had to occur in the mid-twentieth century or earlier, and this seems unlikely.

This analysis also lacks any observations from Northwest Europe before the nineteenth century. Laslett, Hajnal, and others originally identified the Northwest European nuclear family system in data from the seventeenth and eighteenth centuries, whereas the earliest censuses used here date from the nineteenth century. Perhaps Northwest Europe and North America had a weak-family system in the seventeenth and eighteenth centuries, but then developed a strong-family system sometime in the first half of the nineteenth century. Two decades ago I described a "rise of the extended family" in nineteenth-century England and America (Ruggles 1987), and Anderson (1971) argued that industrialization and urbanization in Lancashire brought about an increase in extended living arrangements. My earlier study, however, argued that the apparent increase in the percentage of households with extended

kin was actually just an artifact of demographic change: as the proportion of available elderly kin in the population increased, so did the percentage of households containing elderly relatives. I am not aware of any evidence for an increase in coresidence of the aged with kin between the end of the eighteenth century and the mid-nineteenth century. All things considered, the idea that Europe developed a stronger family system after the eighteenth century seems unlikely.[13]

The simplest interpretation is that the propensity among the aged to reside with kin was not substantially different in preindustrial Northwest Europe and North America than in the rest of the world. As Le Play and the early-twentieth-century theorists suggested, it makes sense in agricultural societies for a child to remain at home after reaching adulthood. Farmers who reached advanced ages needed help with heavy work, and the younger generation hoped to inherit the farm. Growing commercialization and industrialization in Northwest Europe and North America in the nineteenth and twentieth centuries meant that a declining percentage of families had farms. Young people moved to towns, attracted by the high wages and independence offered by jobs in commerce, manufacturing, and transportation. Thus, economic development undermined the material incentives for intergenerational coresidence, and gradually the elderly began to reside separately from their descendants.

APPENDIX TABLE Characteristics of census samples of elderly (65+) populations and values of variables used in the analysis

	Enumeration rule	Sample size		Percent of elderly residing with			Agricultural employment[b]	Percent elderly[c]	Marital fertility ratio[d]	Unmarried elderly women[e]	Married elderly couples[f]	Marriage age	
		Total	Elderly[a]	Any kin	Descendants	Three generations						Female[g]	Male[h]
Nineteenth-century censuses													
Canada 1901	De facto	264,686	11,112	73.6	64.2	24.9	37.7	5.1	87.4	34.8	44.5	25.5	28.5
England/Wales 1881	De facto	956,806	37,560	59.1	47.1	21.9	12.6	4.6	88.7	42.1	37.5	24.8	25.7
Norway 1875	De jure	625,461	29,829	56.5	55.9	21.4	41.1	6.0	87.6	41.6	34.5	27.3	28.5
Norway 1900	De jure	966,403	61,996	48.0	43.5	11.6	36.4	7.8	99.7	40.2	39.0	26.7	28.0
Scotland 1881	De facto	954,585	41,442	65.4	53.3	25.2	14.0	5.0	100.5	50.5	28.7	25.4	27.4
Sweden 1900	De facto	726,911	50,812	41.8	39.7	10.5	35.6	8.3	99.2	42.1	36.3	27.5	29.6
United States 1880	De jure	502,819	14,937	71.6	64.2	31.3	43.0	3.5	86.1	39.1	42.7	23.2	26.9
United States 1900	De jure	760,081	27,193	68.7	61.3	27.8	34.6	4.1	74.6	39.1	39.2	23.7	27.5
East Asia													
Cambodia 1998	De facto	1,021,208	30,807	88.4	63.6	41.6	61.8	3.5	76.0	50.8	35.2	22.5	24.2
China 1982	De facto	824,332	35,237	75.0	70.2	52.0	64.5	4.9	48.9	46.6	31.2	22.3	25.0
China 1990	De jure	751,233	34,687	75.1	70.9	54.8	61.8	5.5	46.5	43.6	35.8	22.1	23.8
Malaysia 1980	De facto	182,601	6,327	77.1	69.9	49.9	27.1	3.8	77.5	43.3	37.2	23.9	26.9
Malaysia 1991	De facto	347,892	11,549	78.8	72.7	49.6	21.5	3.8	74.1	45.8	39.6	24.6	28.0
Malaysia 2000	De facto	435,300	14,482	78.5	73.2	45.5	15.0	3.9	68.2	43.9	43.4	24.9	28.5
Philippines 1990	De facto	1,040,996	29,571	82.4	64.9	38.1	35.5	3.4	85.3	40.4	45.7	23.7	26.1
Philippines 1995	De jure	1,006,525	28,944	81.8	67.6	36.7	36.5	3.5	82.2	40.6	45.1	24.1	26.6
Philippines 2000	De jure	982,341	31,703	80.1	65.1	35.5	32.8	3.8	74.9	40.8	44.0	23.9	26.5
Vietnam 1989	De facto	982,683	36,729	80.8	77.4	54.8	57.2	4.8	77.4	51.0	36.2	23.2	24.1
Latin America													
Argentina 1970	De facto	466,892	28,198	64.8	51.1	24.8	15.3	7.0	60.7	45.2	35.3	23.0	26.3
Argentina 1980	De facto	793,384	47,450	60.5	47.1	25.0	12.4	8.1	67.1	46.4	36.6	22.8	25.4
Argentina 1991	De facto	747,089	53,849	53.7	42.4	20.4	4.1	8.8	63.2	47.6	37.1	23.2	25.8
Brazil 1960	De jure	979,390	23,678	76.5	66.3	34.0	52.4	2.8	99.1	42.0	41.6	22.4	26.0
Brazil 1991	De jure	845,935	33,842	69.4	61.4	31.3	22.8	4.8	59.3	43.8	43.6	22.8	25.8
Brazil 2000	De jure	763,878	35,848	67.9	59.4	29.5	16.3	5.8	47.9	44.3	42.4	23.0	26.4
Chile 1970	De jure	890,481	40,195	74.3	53.4	31.4	22.5	5.1	79.4	46.3	32.8	23.3	25.6
Chile 1982	De facto	803,309	40,674	71.7	56.4	34.0	18.3	5.8	55.7	45.9	35.3	23.6	25.7
Chile 1992	De facto	713,170	40,181	69.7	55.7	33.8	16.5	6.6	53.5	46.3	35.5	23.4	25.7
Chile 2002	De facto	622,826	41,804	65.1	52.9	29.3	11.8	8.1	40.3	44.8	37.1	24.3	27.5

APPENDIX TABLE (continued)

	Enumeration rule	Sample size		Percent of elderly residing with			Agricultural employment[b]	Percent elderly[c]	Marital fertility ratio[d]	Unmarried elderly women[e]	Married elderly couples[f]	Marriage age	
		Total	Elderly[a]	Any kin	Descendants	Three generations						Female[g]	Male[h]
Latin America (continued)													
Colombia 1973	De jure	1,138,740	32,369	80.7	65.0	40.0	32.9	3.1	87.1	46.2	32.9	22.3	26.1
Colombia 1993	De facto	831,417	33,166	80.4	65.7	38.6	21.3	4.5	53.3	43.9	36.8	22.6	26.0
Colombia 2005	De facto	781,302	45,580	74.6	62.6	35.9	9.7	6.2	50.2	43.8	36.8	23.0	26.4
Costa Rica 1984	De jure	241,220	9,075	75.1	62.3	34.8	31.5	4.5	68.0	40.5	40.1	22.1	25.2
Costa Rica 2000	De jure	381,500	17,826	68.6	58.8	29.3	19.4	5.6	51.1	40.8	39.8	22.1	26.0
Ecuador 1974	De jure	648,678	20,313	76.2	64.8	41.3	45.7	3.8	99.3	43.0	37.2	21.3	24.9
Ecuador 1982	De facto	806,834	27,489	74.1	62.9	38.4	31.4	4.0	86.1	40.5	39.8	21.4	24.8
Ecuador 1990	De facto	791,475	29,082	72.8	61.9	36.0	29.8	4.4	68.1	40.1	41.5	22.0	25.0
Ecuador 2001	De facto	685,893	39,033	75.7	48.5	26.5	25.6	6.6	53.3	40.5	33.8	21.3	24.6
Mexico 1990	De jure	984,186	34,794	70.8	61.5	32.4	21.3	4.2	65.2	40.7	43.8	22.4	24.6
Mexico 2000	De jure	874,765	38,020	73.3	64.4	35.9	16.3	5.0	56.5	41.1	42.6	22.8	25.0
Panama 1970	De jure	150,473	5,042	71.6	60.8	38.3	43.0	3.7	92.1	43.6	30.8	20.7	24.9
Panama 1980	De facto	195,577	7,574	72.6	60.0	37.3	25.7	4.3	68.9	41.1	34.3	21.5	25.0
Panama 1990	De facto	232,737	10,758	71.5	59.8	37.7	27.9	5.3	58.9	39.4	35.9	22.0	25.4
Panama 2000	De facto	284,081	14,545	70.9	60.6	37.2	21.4	6.0	57.0	40.8	35.3	22.0	25.8
Venezuela 1981	De facto	891,167	28,381	79.4	60.4	38.0	11.9	3.5	77.7	47.0	30.6	21.2	24.9
Venezuela 1990	De jure	768,474	28,576	80.6	61.4	37.4	13.0	4.0	65.3	46.9	31.7	22.1	25.2
Venezuela 2001	De jure	714,924	30,759	80.3	67.7	40.3	9.9	4.9	50.8	45.6	33.7	22.8	26.1
Sub-Saharan Africa													
Ghana 2000	De jure	951,789	47,452	89.3	53.9	32.6	42.7	5.3	59.9	44.2	25.4	22.5	27.1
Rwanda 2002	De facto	843,392	21,171	76.4	73.3	50.3	58.4	2.9	102.0	49.1	37.8	23.9	26.5
South Africa 1996	De jure	728,659	31,703	72.9	59.7	42.5	5.4	4.8	45.2	54.1	31.0	27.3	30.0
South Africa 2001	De facto	752,400	34,270	76.2	67.6	52.0	5.5	5.0	44.4	56.8	29.7	28.1	30.9
Middle East													
Iraq 1997	De facto	1,464,194	42,151	93.8	83.3	57.5	13.9	3.4	116.9	46.6	44.5	23.9	27.1
Israel 1972	De jure	315,608	18,758	38.9	34.3	14.7	14.5	7.1	77.5	39.3	47.6	22.7	25.4
Israel 1983	De jure	403,474	28,800	23.6	21.0	6.6	4.7	8.9	67.6	40.6	46.8	24.3	26.3
Israel 1995	De jure	556,365	43,583	26.3	24.2	10.2	2.3	9.9	65.3	44.5	42.5	24.3	27.3
Palestine 1997	De facto	259,191	7,408	81.4	73.6	42.3	8.1	3.4	121.1	45.2	47.0	21.0	25.3

Eastern/SE Europe													
Belarus 1999	De jure	513,435	56,239	32.6	28.7	12.7	4.2	13.5	30.5	56.1	34.7	22.8	25.2
Greece 1971	De facto	678,174	62,959	67.9	59.3	34.9	27.7	11.2	57.2	44.1	43.3	23.5	28.0
Greece 1981	De facto	627,465	65,339	54.7	47.3	25.8	20.9	13.1	50.7	41.8	46.7	22.6	27.4
Greece 1991	De facto	594,050	66,991	48.5	41.1	18.6	15.0	14.2	39.4	41.8	47.2	24.7	29.4
Greece 2001	De facto	559,522	73,726	43.8	37.9	12.9	10.5	17.2	37.8	39.0	50.3	26.7	31.1
Hungary 1980	De facto	507,059	56,441	43.6	33.9	15.6	5.9	13.5	41.4	49.2	37.7	20.9	24.7
Hungary 1990	De facto	472,421	52,181	37.4	29.0	11.9	4.4	13.2	36.3	52.6	34.7	22.3	25.8
Romania 1992	De jure	614,610	54,993	39.2	35.1	19.9	15.6	11.1	41.8	45.5	42.9	21.9	25.4
Romania 2002	De jure	584,530	65,349	42.0	36.0	19.4	18.3	14.2	31.7	45.4	43.0	23.8	27.2
Western Europe													
Austria 1981	De facto	533,314	67,767	28.8	25.1	12.1	6.5	15.2	38.2	55.7	32.9	23.0	26.5
Austria 1991	De jure	503,568	61,894	28.2	24.8	10.7	4.6	14.9	36.6	55.3	33.7	25.0	27.9
Austria 2001	De jure	470,944	58,282	25.5	22.7	8.1	3.1	15.5	37.8	50.7	37.3	26.4	29.4
France 1982	De jure	543,018	58,231	24.5	19.2	6.3	6.9	13.3	41.0	50.1	36.5	22.6	24.6
France 1990	De jure	496,444	55,193	20.2	16.6	4.3	4.8	14.0	41.3	48.1	39.5	24.3	26.4
Portugal 1981	De jure	492,289	44,939	47.5	27.0	11.9	15.2	11.4	50.5	45.4	41.6	22.2	24.6
Portugal 1991	De jure	459,228	49,334	42.8	34.5	16.8	12.2	13.8	37.1	43.9	44.1	23.9	26.7
Portugal 2001	De jure	399,784	50,103	38.1	31.9	13.5	5.7	16.5	36.4	42.2	45.9	25.6	28.3
Spain 1991	De facto	652,096	68,296	52.9	41.7	17.1	12.1	13.5	39.0	44.3	43.6	25.9	28.2
Twentieth-century United States													
1910	De jure	923,153	34,211	68.5	60.4	26.0	29.7	4.3	68.2	39.9	38.4	23.1	26.9
1920	De jure	1,050,634	42,753	65.1	56.5	23.5	25.9	4.7	62.3	38.9	37.8	22.5	26.0
1930	De jure	1,216,337	56,156	61.4	51.8	21.8	22.0	5.4	52.5	39.4	37.1	22.4	25.6
1940	De jure	1,351,732	77,093	57.3	47.3	19.0	17.6	6.8	43.6	40.6	36.3	22.7	25.5
1950	De jure	1,922,198	88,747	48.4	38.4	15.2	12.1	8.1	54.9	41.9	36.4	20.7	23.7
1960	De jure	1,799,888	133,402	39.9	29.2	11.1	7.4	8.9	68.4	43.2	38.8	20.3	23.3
1970	De jure	2,030,386	167,467	30.5	22.0	7.6	4.6	10.0	49.5	46.4	37.3	21.4	23.5
1980	De jure	2,267,320	206,354	24.6	18.1	6.1	3.6	11.2	40.0	47.9	38.6	23.3	25.2
1990	De jure	2,479,020	251,993	22.7	17.7	6.1	3.4	12.8	43.4	47.7	38.5	25.3	27.5
2000	De jure	2,808,457	279,250	23.1	19.5	7.2	2.9	12.6	45.3	46.8	37.6	26.1	27.9
2007	De jure	2,994,662	351,104	24.1	20.3	7.8	3.0	12.5	48.1	45.1	38.1	27.4	29.1

NOTE: Iraq 1997 excludes three states in the Kurdish region; Malaysia 1980 excludes the Borneo states of Sabah and Sarawak.
[a] Number of married couples in which at least one partner is aged 65 or older and unmarried individuals aged 65 or older.
[b] Percent of men aged 18–64 employed in agriculture.
[c] Percent of persons aged 65 or older. This is not the same as number of observations of elderly divided by total sample size, since elderly couples are counted as a single observation.
[d] Age-standardized number of own-children under age five per 100 married women aged 15–49.
[e] Percent of individuals and couples age 65 or older who are unmarried women.
[f] Percent of individuals and couples age 65 or older who are married couples.
[g] Singulate mean age at marriage for women.
[h] Singulate mean age at marriage for men.

Notes

Figures in this article are available in color in the electronic edition of the journal.

I am grateful for the comments and suggestions of George Alter, Catherine Fitch, Joshua Goldstein, Brian Gratton, Alice Kasakoff, Miriam L. King, Hans Jørgen Marker, Mary Louise Nagata, Jan Oldervoll, and Gunnar Thorvaldsen. Several of these colleagues remain unconvinced by my argument, but they all helped me tighten and refine the analysis. Data collection was supported by several grants, most importantly National Institute of Child Health and Human Development grants HD43392, HD044154, HD052110, and HD047283, and National Science Foundation grants SES-0433654, SES-0111707, and SBR-9908380.

1 It is beyond the scope of this article to summarize the large literature on living arrangements of the aged in developing and developed countries. For recent discussions of these literatures see Bongaarts and Zimmer (2002); Knodel and Ofstedal (2002); Palloni (2001); Ruggles and Heggeness (2008); United Nations (2005). There is also a significant historical literature on living arrangements of the aged; notable contributions include Haber and Gratton (1994); Hareven (1994, 1996); Kertzer (1995); Wall (1989, 1995); Ruggles (1996, 2007).

2 Twelve census samples do not provide sufficient information on household relationships to consistently identify the presence of own-children, children-in-law, and grandchildren of the elderly. This problem eliminated all samples for Egypt, Kenya, and Uganda and older samples from Argentina, Costa Rica, France, and the United States. In some cases, the census samples are not organized into households, making it impossible to identify family interrelationships (all recent samples of Canada, Great Britain, and the Netherlands, many Latin American censuses from the 1960s, and Spain in 1981). In several other cases—Norway in 1865, Hungary in 1970, and Mexico in 1970—the relationship variable had excessive missing data; I excluded samples with over 4 percent missing relationship information. Finally, two additional censuses did not allow consistent identification of agricultural employment (Kenya 1999 and Rwanda 1991). In all, I examined 128 samples and excluded 44 owing to data limitations.

3 Another potentially important incompatibility is that 13 of the censuses do not include residents of large collective units, such as institutions. In most of the affected countries, however, few elderly resided in such units, and multivariate analysis revealed no significant difference in measures of family composition between the censuses with and without collective households. For a comprehensive discussion of comparability issues, including the official census definitions of household in each census, see Ruggles and Heggeness (2008).

4 Age 65 has the advantage, compared with younger thresholds often used for developing countries, that the overwhelming majority of children of the population aged 65 or older are adults, and therefore usually have some choice about where to live. The major liability of the age 65 threshold is that sample surveys often include too few cases for analysis, but that is not a problem with the census microdata samples. Some investigators (e.g., Cowgill and Holmes 1972; Holmes and Holmes 1995; Cattell 1989) have argued that social definitions of old age vary from country to country, but in practice there is no realistic alternative to using a fixed age threshold for the analysis of living arrangements of the aged. In particular, it is inappropriate to measure old age relative to expected years of life remaining. Paradoxically, in populations with early death, the elderly tend to have characteristics that in low-mortality populations are associated with younger age groups. For example, populations with low life expectancy tend to have comparatively high proportions of persons over 65 still in the workforce and with minor children still at home. Accordingly, there is little empirical justification for imposing an earlier threshold for old age in populations that have an earlier age at death.

5 As noted above, measures such as Laslett's extended and multiple family households are greatly affected by prevailing levels of fertility and mortality. Accordingly, these measures are unsuitable for comparing populations that differ greatly with respect to de-

mographic characteristics. Measurement from the perspective of the elderly minimizes the impact of demographic variation; see Ruggles (1987, 1994, 2003).

6 Moreover, some analysts have argued that the net effects of US fertility decline on long-term change in coresidence were negligible (Kramarow 1995; Ruggles 1994, 1996).

7 An earlier version of this analysis also incorporated the singulate mean age at first marriage for each sex following the method described by Hajnal (1953, 1965). Marriage age is a key determinant of the timing of fertility and affects the availability of married children and grandchildren for coresidence. Several colleagues, including George Alter and Brian Gratton, have argued that the European pattern of late marriage is an inextricable facet of the Northwest European family system. Therefore, they maintain, controlling for marriage age leads to underestimated predicted coresidence. To address this concern, I excluded marriage age from the analysis. By omitting marriage age, however, the current model does not fully control for the demographic constraints on coresidence posed by late marriage and long generations. Accordingly, I expect that the predicted coresidence for Norway, Sweden, and Britain in Figures 4 through 6 is now somewhat *over*estimated.

8 As noted above, married couples in this analysis are treated as single observations, so these statistics are not directly comparable to the percentage of all elderly persons in each category.

9 The models would not be well suited to this purpose in any case. The collection of available data is not a random sample of countries. Moreover, the available observations are not independent of one another; there are usually multiple observations from the same country or the same region, so spatial autocorrelation may occur.

10 Taken as a group, the nineteenth-century samples from Northwest Europe and North America had a marginally lower percentage of three-generation families than predicted ($p<.05$), as measured by adding an indicator variable identifying those censuses to the regression. The same indicator variable had no discernible effect on the models of residence with kin or descendants.

11 Age at marriage was exceptionally late in nineteenth-century Norway and Sweden. Among the twentieth-century developing countries included in this analysis, only South Africa had marriage age as late as the nineteenth-century Scandinavian countries. Scotland and Canada also had very late marriage. Nineteenth-century England and the United States had more moderate marriage ages, but marriage still occurred later than the average for developing countries in the second half of the twentieth century. The percentage never marrying was high in nineteenth-century Norway, Sweden, and Scotland. In those countries, between 17.1 and 18.9 percent of women aged 45–54 had never married, and between 10.2 and 12.5 percent of men had never married. In Canada, England and Wales, and the United States in the nineteenth century, however, the percentage never marrying was not unusually high compared with recent developing countries.

12 On headship pattern in the United States, see Ruggles (2007). The table below documents headship patterns for intergenerational coresidence in the other nineteenth-century Northwest European and North American countries.

13 Reher (1998) argues that the weak-family system of Northwest Europe was still readily detectable at the end of the twentieth century, and this is inconsistent with a theory that the weak-family system disappeared in the nineteenth century.

TABLE TO ENDNOTE 12 Percent of elderly persons heading their household among persons aged 65+ residing with a child aged 18+

	Canada	Norway		Sweden	England and Wales	Scotland
	1901	1875	1900	1900	1881	1881
Percent	62.9	58.3	78.5	78.5	72.5	77.6
N	7,991	13,550	26,643	22,362	17,672	21,839

SOURCE: NAPP 2006.

References

Anderson, Michael. 1971. *Family Structure in Nineteenth Century Lancashire*. Cambridge: Cambridge University press.

Berkner, Lutz. 1972. "The stem family and the developmental cycle of the peasant household: An eighteenth century Austrian example," *American Historical Review* 77: 398–418.

———. 1975. "The use and misuse of census data in the historical study of family structure," *Journal of Interdisciplinary History* 5: 721–738.

Bongaarts, J. 2001. "Household size and composition in the developing world in the 1990s," *Population Studies* 55: 263–279.

Bongaarts, John and Zachary Zimmer. 2002. "Living arrangements of the elderly in the developing world: An analysis of DHS household surveys," *Journal of Gerontology: Social Sciences* 57: S145–S157.

Brown, J. Douglas. 1969. *The Genesis of Social Security in America*. Princeton: Industrial Relations Section, Princeton University.

Burch, Thomas K. 1967. "The size and structure of families: A comparative analysis of census data," *American Sociological Review* 32: 347–363.

Burgess, Ernest W. 1916. *The Function of Socialization in Social Evolution*. Chicago: University of Chicago Press.

———. 1960. "Family structure and relationships," in Ernest W. Burgess (ed.), *Aging in Western Societies*. Chicago: University of Chicago Press, pp. 271–298.

Cain, Mead and Geoffrey McNicoll. 1988. "Population growth and agrarian outcomes," in Ronald D. Lee et al. (eds.), *Population, Food and Rural Development.* Oxford: Clarendon Press, pp. 101–117.

Cattell, Maria G. 1989. "Being comparative: Methodological issues in cross-cultural gerontology," *Journal of Cross-Cultural Gerontology* 4: 75–81.

Chattopadhyay, Arpita and Robert Marsh. 1999. "Changes in living arrangement and familial support for the elderly in Taiwan: 1963–1991," Journal *of Comparative Family Studies* 30: 523–537.

Clague, Ewan. 1961. "Factors contributing to the passage of the Social Security Act," lecture delivered at Social Security Administration Headquarters, Baltimore, 20 July. Available at «http://www.ssa.gov/history/officials.html», accessed 18 January 2007.

Cowgill, Donald O. 1974. "The aging of populations and societies," *Annals of the American Academy of Political and Social Science* 415: 1–18.

Cowgill, Donald O. and Lowell D. Holmes. 1972. *Aging and Modernization*. New York: Appleton-Century-Crofts.

Demos, John. 1965. "Notes on life in Plymouth Colony," *William and Mary Quarterly* 22: 264–286.

De Vos, Susan and Yean-Ju Lee. 1993. "Change in extended family living among elderly people in South Korea, 1970–1980," *Economic Development and Cultural Change* 41: 377–393.

Durkheim, Émile. 1888. "Introduction à la sociologie de la famille," *Annales de la faculté du lettres du Bordeaux* 10: 257–282. Translated in Mark Traugott, *Émile Durkheim on Institutional Analysis*. Chicago: University of Chicago Press, pp. 205–228.

Eliot, Thomas A. 1961. "The legal background of the Social Security Act," Speech delivered at Social Security Administration Headquarters, Baltimore, 3 February. Available at «http://www.ssa.gov/history/officials.html», accessed 18 January 2007.

Elman, Cheryl and Peter Uhlenberg. 1995. "Co-residence in the early twentieth century: Elderly women in the United States and their children," *Population Studies* 49: 501–517.

Goode, William J. 1963. *World Revolution and Family Patterns*. Glencoe: Free Press.

Goody, Jack. 1996. "Comparing family systems in Europe and Asia: Are there different sets of rules?," *Population and Development Review* 22: 1–20.

Greven, Philip J., Jr. 1966. "Family structure in seventeenth-century Andover, Massachusetts," *William and Mary Quarterly* 23: 234–256.

Haber, Carole and Brian Gratton. 1994. *Old Age and the Search for Security: An American Social History*. Bloomington: Indiana University Press.

Hajnal, John. 1953. "Age at marriage and proportions marrying," *Population Studies* 7: 111–136.

———. 1965. "European marriage patterns in perspective," in D. V. Glass and D. E. C. Eversley (eds.), *Population in History*. Chicago: Aldine, pp. 101–138.

———. 1982. "Two kinds of preindustrial household formation system," *Population and Development Review* 8: 449–494.

Hammel, E. A. 1995. "The elderly in the bosom of the family: La famille souche and hardship reincorporation," in David I. Kertzer and Peter Laslett (eds.), *Aging in the Past: Demography, Society and Old Age*. Berkeley: University of California Press, pp. 107–127.

Hareven, Tamara K. 1994. "Aging and generational relations: A historical and life course perspective," *Annual Review of Sociology* 20: 437–461.

———. 1996. "Introduction: Aging and generational relations over the life course," in Tamara K. Hareven (ed.), *Aging and Generational Relations over the Life Course: A Historical and Cross-Cultural Perspective*. Berlin: de Gruyter, pp. 1–12.

Hartman, Mary° S. 2004. *The Household and the Making of History: A Subversive View of the Western Past.* New York: Cambridge University Press.

Helvering v Davis, 301 U.S. 619 1937.

Hermalin, Albert I., Mary Beth Ofstedal, and Ming-Cheng Chang. 1992. "Types of supports for the aged and their providers in Taiwan," in Tamara K. Hareven (ed.), *Aging and Generational Relations: Life-Course and Cross-Cultural Perspectives*. New York: Aldine de Gruyter, pp. 179–215.

Hirosima, K. 1997. "Projection of living arrangements of the elderly in Japan: 1990–2010," *Genus* 53: 79–111.

Holmes, Ellen R. and Lowell D. Holmes. 1995. *Other Cultures, Elder Years*. Thousand Oaks: Sage.

Kertzer, David I. 1995. "Toward a historical demography of aging," in David I. Kertzer and Peter Laslett (eds.), *Aging in the Past: Demography, Society and Old Age*. Berkeley: University of California Press, pp. 363–385.

Knodel, John and Nibhon Debavalya. 1997. "Living arrangements and support among the elderly in South-East Asia: An introduction," *Asia-Pacific Population Journal* 12: 5–16.

Knodel, John, Jed Friedman, Truong Si Anh, and Bui The Cuong. 2000. "Intergenerational exchanges in Vietnam: Family size, sex composition, and the location of children," *Population Studies* 54: 89–104.

Knodel, John and Mary Beth Ofstedal. 2002. "Patterns and determinants of living arrangements," in Albert I. Hermalin (ed.), *The Well-Being of the Elderly in Asia: A Four-Country Comparative Study*. Ann Arbor: University of Michigan Press, pp. 143–184.

Kobrin, Frances E. 1976. "The fall in household size and the rise of the primary individual in the United States," *Demography* 13: 127–138.

Kramarow, Ellen A. 1995. "The elderly who live alone in the United States: Historical perspectives on household change," *Demography* 32: 335–352.

Lamanna, Mary Ann. 2002. *Emile Durkheim on the Family*. Thousand Oaks: Sage.

Laslett, Peter. 1965. *The World We Have Lost*. London: Methuen.

———. 1972. "Introduction: The history of the family," in Peter Laslett and Richard Wall (eds.), *Household and Family in Past Time*. Cambridge: Cambridge University Press, pp. 1–89.

———. 1983 "Family and household as work group and kin group: Areas of traditional Europe compared," in: R. Wall and J. Robin (eds.), *Family Forms in Historic Europe*. Cambridge: Cambridge University Press, pp. 513–563.

Laslett, Peter and John Harrison. 1963. "Clayworth and Cogenhoe," in H. E. Bell and R. L. Ollard (eds.), *Historical Essays 1600–1730: Presented to Davis Ogg*. London.

Le Play, Frédéric. 1884. *L'organisation de la famille selon le vrai modèle signalé par l'histoire de toutes les races et de tous les temps.* Third edition. Tours: A. Mame.

Levy, Marion. 1965. "Aspects of the analysis of family structure," in Ansley J. Coale, Lloyd

J. Fallers, Marion J. Levy, Jr., David M. Schneider, and Silvan S. Tomkins, *Aspects of the Analysis of Family Structure*. Princeton: Princeton University Press, pp. 1–63.

Logan, John R. and Fuqin Bian. 1998. "Family values and coresidence with married children in China," *Social Forces* 77: 1253–1282.

Macfarlane, Alan. 1978. *The Origins of English Individualism: The Family, Property and Social Transition*. New York: Cambridge University Press

———. 1986. *Marriage and Love in England: Modes of Reproduction 1300–1840*. Oxford: Blackwell

———. 1987. *The Culture of Capitalism*. Oxford: Blackwell

Martin, Linda G. 1990. "Changing intergenerational family relations in East Asia," *Annals of the American Academy of Political and Social Science* 510: 102–114.

Minnesota Population Center. 2007. Integrated Public Use Microdata Series—International: Version 3.0. Minneapolis: University of Minnesota.

North Atlantic Population Project. 2006. NAPP: Complete Count Microdata. NAPP Version 1.0 [computer files]. Minneapolis, MN: Minnesota Population Center [distributor].

Nimkoff, Meyer F. 1962. "Changing family relationships of older people in the United States during the last fifty years," in Clark Tibbitts and Wilma Donahue (eds.), *Social and Psychological Aspects of Aging*. New York: Columbia University Press, pp. 405–414.

Ogburn, William E. 1933. "The family and its functions," in *Recent Social Trends in the United States: Report of the President's Research Committee on Social Trends*. New York: McGraw Hill, pp. 661–708.

Palloni, Alberto. 2001. "Living arrangements of older persons," in *Ageing and Living Arrangements of Older Persons: Critical Issues and Policy Responses, Population Bulletin of the United Nations*, Special Issue 42/43: 54–110. New York: United Nations.

Parsons, Talcott. 1944. " The social structure of the family," in Ruth N. Anshen (ed.), *The Family: Its Function and Destiny*. New York : Harper, pp. 173–201.

Reher, David Sven. 1998. "Family ties in Western Europe: Persistent contrasts," *Population and Development Review* 24: 203–234.

Ruggles, Steven. 1987. *Prolonged Connections: The Rise of the Extended Family in Nineteenth Century England and America.* Madison: University of Wisconsin Press.

———. 1994. "The transformation of American family structure," *American Historical Review* 99: 103–128.

———. 1996. "Living arrangements of the elderly in America, 1880–1980," in Tamara K. Hareven (ed.), *Aging and Generational Relations Over the Life Course: A Historical and Cross-Cultural Perspective*. Berlin: de Gruyter, pp. 254–271.

———. 2003. "Multigenerational families in nineteenth-century America," *Continuity and Change* 18: 139–165.

———. 2007. "The decline of intergenerational coresidence in the United States, 1850 to 2000," *American Sociological Review* 72: 962–989.

Ruggles, Steven and Misty Heggeness. 2008. "Intergenerational coresidence in developing countries," *Population and Development Review* 34: 253–281.

Ruggles, Steven, Matthew Sobek, Trent Alexander, Catherine A. Fitch, Ronald Goeken, Patricia Kelly Hall, Miriam King, and Chad Ronnander. 2008. Integrated Public Use Microdata Series: Version 3.0 [Machine-readable database]. Minneapolis: Minnesota Population Center [producer and distributor].

Siegel, Jacob S., David Swanson, and Henry S. Shryock. 2004. *The Methods and Materials of Demography: Condensed Edition*. Bingley, UK: Emerald Group Publishing.

Silver, Catherine B. (ed.). 1982. *Frédéric Le Play on Family, Work, and Social Change*. Chicago: University of Chicago.

Smith, Daniel Scott. 1979. "Life course, norms, and the family system of older Americans in 1900," *Journal of Family History* 4: 285–298.

———. 1986. "Accounting for change in the families of the elderly in the United States, 1900–present," in David Van Tassel and Peter N. Stearns (eds.), *Old Age in a Bureaucratic Society: The Elderly, the Experts, and the State in American History*. Westport: Greenwood.

Soldo, Beth J. 1981. "The living arrangements of the elderly in the near future," in S. B. Kiesler, J. N. Morgan, and V. K. Oppenheimer (eds.), *Aging: Social Change*. New York: Academic Press, pp. 491–512.

Thornton, Arland. 2005. *Reading History Sideways: The Fallacy and Enduring Impact of the Developmental Paradigm on Family Life*. Chicago: University of Chicago Press.

United Nations. 2005. *Living Arrangements of Older Persons around the World*. New York: United Nations.

Wall, Richard. 1989. "Leaving home and living alone: An historical perspective," *Population Studies* 43: 369–389.

———. 1995. "Elderly persons and members of their households in England and Wales from preindustrial times to the present," in David I. Kertzer and Peter Laslett (eds.), *Aging in the Past*. Berkeley: University of California Press, pp. 81–106.

Wister, A. V. and Thomas K. Burch. 1983. "Fertility and household status of older women in Canada, 1921," *Canadian Studies in Population* 10: 1–13.

World Bank. 2007. "World Development Indicators Online." Available at «http: //devdata. worldbank.org/dataonline/», accessed 22 August 2007.