Historical demography

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Introduction

Historical demography is the study of demographic behavior and processes in past times. Initially it focused on the estimation and interpretation of trends and patterns in demographic rates in the pre-modern era as a means of better understanding contemporary phenomena, but more recent studies have exploited unique characteristics of historical demographic data to address questions of general scientific interest. Methodologically, historical demography is distinguished by the creative use of sources such as family genealogies, parish records, household registers, and other materials that were originally generated for reasons other than the study of population and demography. While early studies used data from these sources primarily to produce counts of demographic events to use in the estimation of birth, death and other rates, more recent efforts have organized these sources into large and complex databases of individual and household information and used them to study demographic processes across the life course or across generations.

Historical demography has been reinvigorated by the recent availability of new data and new methods. The field has moved well beyond its initial emphasis on reconstructing trends and patterns in aggregate indices of demographic behavior and household organization in past times, and focuses increasingly on measuring and explaining differentials in demographic outcomes, and illuminating relationships between social, economic, and demographic processes. Research has moved beyond an original almost exclusive focus on fertility, mortality, and household organization to consider migration, social mobility, and other social, economic, and demographic outcomes. In conjunction with this broadening, historical demography has become more closely intertwined with other disciplines, most notably anthropology, geography, sociology and economics. Growing availability of life course and intergenerational data from historical sources has fueled research on topics of contemporary interest because contemporary data of comparable detail and depth remains rare.

This chapter introduces historical demography, emphasizing recent developments and emerging areas of interest. The first part introduces issues and debates in historical demography, beginning with the ones that were central when the field emerged in the middle half of the twentieth century, and then moving to more recent ones that have developed in connection with the availability of new data and new methods. The second part of the chapter introduces sources of individual- level data used in historical demographic research. These include parish registers, censuses, genealogies, population registers, and vital registration records. The chapter concludes with an assessment of current trends in the field.

Space limitations necessitate restrictions on the scope of the chapter. First, because the chapter emphasizes topics that have traditionally been at the core of historical demography, in particular the measurement and explanation of fertility, mortality, population dynamics, and household organization in the past, important topics such as stratification and migration that are the subject of growing numbers of historical studies will not be covered. Second, because the chapter is

intended as a general introduction to the origins, research agenda, and future prospects of the entire field of historical demography, there is no room for a special emphasis on research on the historical demography of China. The large literature in Chinese on population history will not be covered on the assumption that the reader will have direct access to it.

Issues and Debates

Historical demography emerged as a field in the middle of the twentieth century in response to recognition by demographers examining contemporary trends in fertility of a need for estimates of rates in past times that could provide historical context for their results. New data and methods were recognized as necessary because vital statistics were only available for most European countries from the middle or late nineteenth century onward. Little was known about trends and patterns in demographic rates and other indices before the middle of the twentieth century, except in certain countries that began to compile vital statistics somewhat earlier. While efforts to generalize about demographic behavior and population dynamics in historical populations date back at least to Malthus, such efforts were typically isolated, and not thought of as part of a unified intellectual enterprise.

A French demographer, Louis Henry, is widely regarded as the founder of the field. To produce estimates of demographic rates and indices before the middle of the twentieth century, he developed procedures for reconstituting families through linkage of parish records of baptism, marriage, and burial (Rosental 2003). These data and methods are discussed in detail later in the chapter. Henry paid particular attention to assessment of data quality and reliability of estimates. While Henry was not the first to study historical demography, he was one of the most influential, and often regarded as a founder of the field, because he set the direction that the field followed for years. Henry's own work was primarily on France, but variants of the methods he developed have been used ever since to generate estimates of demographic rates based on families reconstituted from baptism, marriage, and burial records parish registers.

Efforts followed to reconstruct patterns and trends in demographic rates in other societies before the middle of the nineteenth century. These studies used a variety of data and methods. In France, additional family reconstitutions from parish registers yielded time series for the country as a whole (Blayo 1975abc). For England, Wrigley and Schofield (1981) applied demographic projection and analysis to time series of baptisms, marriages, and burials constructed from data from a large number of parishes to study the population history of England from the sixteenth to the nineteenth centuries. A follow-up study, Wrigley et al. (1997), revisited the topic using data from family reconstitutions. Many studies for other societies used other sources. For Sweden, time series of demographic rates were available directly from 1750 in published government vital statistics (Gerhard von Hoftsen and Lundström, 1976). For China and Japan, trends and patterns in demographic rates have been estimated from sources such as lineage genealogies and household registers (Hanley and Wolf, 1985; Harrell 1995; Hayami 2001; Lee and Campbell 1997).

From these and many other empirical studies, the broad outlines of levels and patterns of demographic rates before the mid-nineteenth century are fairly clear (Livi-Bacci 2007). Death and birth rates were high everywhere. Life expectancies were generally in the thirties. Total fertility rates, the average number of births a woman would have if she survived to age 45, were mostly between 5 and 7. In most places and at most times, the combination of total fertility rates and life expectancy were such that an average woman had approximately two children who survived to adulthood, barely enough to replace herself and her husband. Population grew slowly at most, and sometimes stagnated or declined. While there is little evidence of systematic differences between Europe and Asia in overall levels of fertility and mortality, there is considerable evidence of substantial variation within these and other regions, reflecting the importance of local conditions. For example, almost everywhere, life expectancies in cities were lower than in rural areas because high population density facilitated the spread of disease.

The broad outlines of the demographic transition that began in Europe in the nineteenth century are also clear. The demographic transition consists of the shift from the high mortality and fertility rates characteristic of all populations before the nineteenth century to much higher life expectancies and much lower total fertility rates (Davis 1945; Lee 2003; Notestein 1945). Because mortality decline typically preceded fertility decline, many societies experienced a transitory period of rapid population growth in the decades when fertility rates were still higher than the replacement level associated with higher life expectancy. As a result, the population of Europe and the English-speaking countries rose rapidly in the last half of the nineteenth century and the beginning of the twentieth, and the population of the rest of the world rose rapidly from the middle of the twentieth century onward.

Mortality in Europe, North America, and some other countries began to decline in a substantial and sustained fashion in the late nineteenth century (Schofield, Reher and Bideau eds. 1991). This spectacular decline in the late nineteenth century and early twentieth century was preceded in the eighteenth century by a reduction in crisis mortality (Flinn 1974). Debate continues about the relative importance of nutrition, living standards, housing, sanitation, changes in personal behavior, public health measures and other factors in accounting for the declines that began in the last half of the nineteenth century. Mortality declines in the developing world mostly began in the middle of the twentieth century and proceeded rapidly because in addition to the factors that played a role in the earlier mortality declines in Europe and North America, new and relatively inexpensive technologies such as pesticides, vaccines, and antibiotics were widely available (Preston 1980, 1985).

In the nineteenth century, fertility rates in Europe, North America, and Australia and New Zealand began to decline. Rates first began to fall in France in the early nineteenth century. Declines began elsewhere in Europe and in the English-speaking countries in the middle of the century. As will be discussed later, debate continues about the precise time when fertility began to decline in specific populations and subpopulations, and whether couples deliberately spaced births or otherwise limited fertility before the decline began. There is controversy as well about

the timing of the decline in the United States. While the decline was once thought to have started early, at the same time as France's, a recent study suggests that it began at the same time as the ones in the other English-speaking countries, in the middle of the nineteenth century (Hacker 2003). In most of the rest of the world, fertility rates began to fall in the middle of the twentieth century. Declines were fastest in East and Southeast Asia, and somewhat slower in Latin America and South Asia. In Africa, fertility rates remain high in many countries. Where rates have declined, they have done so only recently, and by only a small amount.

Historical demography has moved beyond description and explanation of levels, patterns, and trends in demographic rates to focus on underlying processes, and relationships to social, economic, and other phenomena. Longstanding areas of interest include the determinants of population growth before the Industrial Revolution; the relationship between household and family organization and demographic behavior; the causes of the worldwide decline in fertility that began in Europe in the middle of the nineteenth century; the causes of the mortality decline that may have begun in parts of Europe before the nineteenth century, accelerated in the late nineteenth century, and eventually became worldwide. Reflecting growing integration of historical demography with other social science disciplines, and the availability of new methods and data, recent areas of growing interest include marriage partner choice, social mobility, and the influence of community, household, and individual characteristics early in life on health, mortality, and other demographic outcomes later in life.

Determinants of Population Growth in Past Times

There is broad consensus that world population grew very slowly before the middle of the nineteenth century, and often stagnated or declined (Coale 1974, Durand 1977). This long-term stability has yet to be explained satisfactorily. While it is obvious that growth rates close to but slightly above zero reflected combinations of birth and death rates that allowed population to just barely replace itself, the deeper question remains of why birth and death rates appeared to balance each other over the very long term. The central question is whether or not the tendency of growth rates to remain close to zero over the very long term before the middle of the nineteenth century reflected homeostasis, in which population size was guided systematically toward an equilibrium by various feedback mechanism, or was simply a coincidence (Lee 1987).

Malthusian theory remains the most influential account of population dynamics in the preindustrial era. This theory is essentially one of homeostasis. According to Malthus, feedback mechanisms he referred to as the positive and preventive checks balanced population with available resources. The positive check worked through the death rate, and the preventive check worked through the birth rate. When population grew faster than the production of food and other necessities, living standards declined and the one or both checks operated. In England and some other northwest European societies, the preventive check predominated because declining living standards associated with rising population pressure led young people to delay or forego marriage. This in turn led to a reduction in the birth rate. Elsewhere, the positive check

predominated. Outside of northwest Europe, the mortality-based positive check predominated because early and universal marriage precluded the age at marriage and therefore the birth rate from responding to changes in living standards. Because the birth rate was fixed at a high level by early and universal marriage, and what Malthus assumed was high fertility within marriage, the only way for population growth rates to adjust downward was for the death rate to increase.

A series of studies have tested Malthusian theories about the dynamics of population growth before the middle of the nineteenth century. These have typically examined time series of economic indicators, demographic rates, and population size for evidence of homeostasis in preindustrial populations. Empirical studies of trends in marriage, birth rates, death rates, and population growth in England yielded some support for his characterization of population dynamics there (Wrigley and Schofield 1981). Other studies directly assesses the role of homeostatic processes by application of econometric techniques to long time series of demographic and economic data (Lee 1985, 1987). Other studies have examined the role of climatic change in accounting for long-term trends in population growth (Galloway 1986).

Another series of studies searches for clues about the role of Malthusian checks by measuring the immediate response of demographic rates, especially birth and death rates, to short-term economic fluctuations. The assumption in such studies is that findings on demographic responses to short-term economic fluctuations can be extrapolated into insights about relationships the longer-term response of demographic rates to secular changes in the balance between population and resources. Early studies focused on aggregate responses at the level of the country or region (Weir, 1984; Galloway 1988). More recent studies have used individual-level data to compare the demographic responses to short-term economic stress of different social and economic groups (Bengtsson 1993; Bengtsson, Campbell, and Lee et al. 2004).

In East Asia, recent studies suggest the possibility of a more important role for the fertility-based preventive check than Malthus and his successors realized. Malthus originally suggested that outside of Europe, there was no opportunity for a preventive check to operate because marriage was early and universal and fertility within marriage was high. Recent analysis of data from China suggests that marital fertility there was lower than in the West, and more importantly, may have been subject to deliberate control. This raises the possibility that a preventive check based on deliberate adjustments in fertility by married couples may have regulated population growth there (Lee and Wang 1999; Wang, Lee, and Campbell 1995; Zhao 1997a). Some continue to argue that the mortality-based positive check dominated in China and that married couples did not regulate their fertility (Wolf 2001), and debate continues (Campbell, Wang and Lee 2002; Zhao 2002).

The most prominent alternative to Malthus' account of preindustrial population dynamics is Boserup (1976). Boserup differed from Malthus in the role accorded to technology. In Malthus' conception, technological progress was exogenous. Techniques for the production of food and other necessities developed largely as a result of innovations by individuals, not in response to

the needs of the economy. Increases in population did not trigger innovation, but rather led to reduced standards of living, and eventually lower population growth rates. Boserup, by contrast, argued that production technologies varied systematically according to the needs of the population. In particular, when population density grew, production technologies shifted to take advantage of the relative abundance of labor. While there have been attempts to extend upon Boserup's theory or reconcile it with Malthusian theory (Lee 1986), there have not been as many efforts at empirical assessment as there have been for Malthus' theory.

Much of the interest in testing Malthusian and other theories about population dynamics before the industrial revolution arises from the implications of these theories for ongoing debates among economic historians about the determinants of differences between and within Europe and Asia in processes of economic growth and levels of standard of living. Malthus' distinction between England and the rest of the world based on the importance of the preventive check in England and the importance of the positive check elsewhere inspired numerous efforts to account for the Industrial Revolution and other examples of English exceptionalism in terms of its unique demographic regime (Mcafarlane 1978, 1987). Similarly Malthus' singling out of China as a society characterized by the predominance of the positive check has led its apparent economic backwardness in the 19th century and early 20th century to be explained in terms of its demographic regime (Lee and Wang 1999, 19-21). Any finding that pre-industrial population dynamics were characterized by Boserupian or other non-Malthusian processes, or that the preventive check was common outside England and Northwest Europe would require substantial revision of these accounts.

Fertility Decline

One of the central preoccupations of historical demography has been describing and explaining the fertility decline that started in France in the early nineteenth century and started in other European and English-speaking countries later in the nineteenth century. The broad outlines of the decline in continental Europe are well-known as a result of studies of trends and patterns in fertility rates in the eighteenth and nineteenth centuries. The largest and most influential study was the Princeton Fertility Project, which collected and analyzed annual aggregate fertility indices at the level of the province or *department* for much of continental Europe in the late nineteenth century and early twentieth century (Coale and Watkins, eds. 1986). For many continental European countries, other studies using microdata have illuminated trends in the eighteenth and early nineteenth century, before the period covered by the vital statistics data analyzed in the Princeton Fertility Project. For example, Knodel (2002) examined fertility trends and patterns in a sample of German villages in the eighteenth and nineteenth centuries.

Other studies have examined the nineteenth century fertility decline in the English-speaking countries outside of continental Europe. For example, Teitelbaum (1984) provides an exhaustive study of fertility trends in England, Scotland, and Wales in the last half of the nineteenth century. For the United States, the complete absence of direct measures of fertility for most of the

nineteenth century inspired a large literature that applied indirect methods to Census and other data to estimate fertility trends. While the consensus based on such studies used to be that the United States was exceptional because like France, its fertility decline began early in the nineteenth century, Hacker's (2003) recent reconstruction of fertility trends in the nineteenth-century using new mortality estimates and newly available Census data suggest that fertility decline actually began in the middle of the nineteenth century, at the same time as the other English-speaking countries.

Debate continues over why the decline began when it did, in the nineteenth century, and why it started where it did, in France. Efforts to explain the fertility decline in Europe and eventually elsewhere actually date back at least to the early accounts of the demographic transition (Davis 1945, 1963; Notestein 1945), but such efforts were constrained by the lack of data on fertility behavior before the middle of the nineteenth century. Family reconstitution studies based on parish registers eventually provided an empirical baseline for studies of fertility decline by identifying common features of age patterns of marital fertility before the middle of the nineteenth century (Henry 1961). The Princeton Fertility Project tested existing explanations of fertility decline by examining the relationships of aggregate fertility indices it collected to other demographic, social, and economic indicators in the late nineteenth and early twentieth century (Coale and Watkins eds., 1986). The results appeared inconsistent with many of what seemed to be obvious explanations for fertility decline, including declines in infant mortality that reduced the number of births needed to be assured that at least one or two children would survive to adulthood, and social and economic changes that increased the costs of raising children or reduced the benefits associated with having children.

The most influential account of the decline in the West is that it reflected ideational change that occurred as a result of the diffusion of novel attitudes, preferences, and knowledge related to fertility (Coale and Watkins, 1986). In this account, the fertility decline is typically conceptualized as a transition from a 'natural fertility' regime (Henry 1961) in which couples had no goals for number of children and their fertility behavior was independent of the number of children they already had to a 'controlled fertility' regime in which couple targeted a family size and practiced stopping behavior when they had reached their goal. Coale (1973) suggested that the transition from natural to controlled fertility occurred only when three preconditions were met: fertility was within the 'calculus of conscious choice' for couples, couples wanted fewer children, and techniques for fertility limitations were available. In the West before the middle of the nineteenth century, the first two preconditions were not satisfied: there is little evidence that couples thought they could exercise control over their family size, or had preferences for specific numbers of children (Knodel and van de Walle 1979; van de Walle 1992). Age patterns of marital fertility in historical European populations fail to reveal any evidence of control related to the number of children (Coale and Trussel 1974). The preconditions were finally met and fertility fell when novel attitudes, preferences, and knowledge diffused through Europe and the West in the late nineteenth century. As a result, couples came to believe that they could exercise

control over their family size, developed preferences for numbers of children, and learned about techniques for achieving those goals. The evidence for this is that when marital fertility in Europe declined, it did so at the same time for speakers of the same language in living in different countries, and at different times for residents of the same country who spoke different languages (Coale and Watkins, 1986).

The most common critique of this account is that it neglects the possibility that couples controlled their fertility before the decline, but that such control was not based on the number of children they already had. In this view, fertility decline may have reflected increased prevalence of existing forms of control, changed preferences for numbers of children, or a shift by couples spacing births to stopping them, not a transition from completely uncontrolled fertility to controlled fertility (Carlsson 1966). Examinations of fertility in individual-level historical data for Western populations suggest that before the decline, at least some couples already pursued strategies for number and composition of surviving births by exercising control over birth spacing (Anderton and Bean 1985, David and Mroz 1989). More recent studies with individual-level data that better account for influences on fertility outcomes of physiological or other differences between women in the chances of conceiving provide especially strong evidence of a role for deliberate birth spacing in populations before the decline (Van Bavel 2004; Van Bavel and Kok 2004). Couples may have also controlled spacing in response to short-term changes in economic or other conditions, even if they had no longer-term goals for family size (Bengtsson and Dribe 2006).

A related controversy continues over whether couples in China exercised control over their fertility before the decline in birth rates that took place in the middle of the twentieth century. Some results of recent studies suggest that couples in historical China controlled their fertility to achieve goals for the number or sex composition of their children, or to respond to economic conditions (Lee and Wang 1999; Wang, Lee, and Campbell 1995; Zhao 1997a). Lee and Wang (1999) have claimed that this tradition of exercising control over reproduction facilitated rapid fertility decline in China in the twentieth century because fertility control was already in the 'calculus of conscious choice' and couples only had to change their preferences for number of children. These claims are controversial. One line of argument is that low marital fertility in historical Chinese populations did not reflect deliberate efforts to limit fertility, but was the unintended byproduct of other factors that affected fertility like poor nutrition (Chuang, Engelen and Wolf, 2006; Wolf 2001; Wolf and Engelen 2008) or low coital frequency and prolonged breastfeeding (Lavely 2007). While the controversy is hardly settled (Engelen 2006), new data and improved methods offer hope.

Mortality Decline

Another central concern in historical demography has been describing and explaining the mortality decline that began in Europe in the nineteenth century. Again, the broad outlines of the decline in Europe are well-known (Schofield and Reher, 1991). Beginning in the late

seventeenth century, crisis mortality in England and some other parts of Europe declined as epidemics and famines became less common, leading to modest increases in life expectancy. Certain epidemic diseases such as plague that periodically occasioned massive increases in mortality disappeared completely. Controversy continues over the reasons for the decline in mortality crises. The integration of grain markets, public health measures such as the imposition of the *cordon sanitaire* in Eastern Europe, and the rise of nation states and the associated bureaucracies may all have contributed (Kunitz 1983). Since time series of mortality rates in the seventeenth and eighteenth centuries are available or have been estimated for only parts of Europe, most notably England, France, and Scandinavia, whether and how crisis mortality declined in other parts of Europe remains unclear. It is also unclear whether the reductions in crisis mortality were accompanied by general and sustained declines in the underlying level of mortality apparent in non-crisis years.

Eventually, in the middle and latter part of the nineteenth century, death rates in Europe and the English-speaking countries fell in a spectacular and sustained fashion. In the middle of the nineteenth century, life expectancies in these countries were in the high thirties or in some cases the low forties. By the beginning of the twentieth century, they ranged from the high forties to the low fifties. By 1930, many of these countries had life expectancies in the low sixties, and the remainder had life expectancies in the fifties (Livi-Bacci 2007, 106). Much of the increase in life expectancy during this period was accounted for by reductions in death rates in infancy, childhood and early adolescence, and reductions in deaths due to infectious diseases (Preston 1976). As infectious diseases accounted for a steadily smaller share of deaths, chronic diseases accounted for a steadily larger share. The change in the composition of causes of death that accommodated mortality reduction has been labeled 'the epidemiological transition.' (Omran 1971).

A variety of factors played a role in the decline in the last half of the nineteenth-century, and their relative importance varied by time and place. Initially, one of the most influential explanations of the was that it was due largely to improvements in living standards, especially nutrition, associated with the Industrial Revolution and other economic changes (McKeown 1976). Subsequent studies have shown that while improvements in living standards probably played some role (Fogel 1994), other factors were also of crucial importance. Improvements in water supply and sewage reduced urban mortality by reducing the incidence of waterborne infectious diseases (Cutler and Miller, 2005; Preston and van de Walle, 1978). Improvements in care provided by parents to infants and children, most notably changes in feeding practices and hygiene, contributed to reductions in death rates at those ages at the beginning of the 20th century (Ewbank and Preston 1990; Preston and Haines 1991). These changes in care practices followed educational campaigns that increased acceptance of the germ theory of disease causation in made the public more receptive to efforts by authorities to change personal hygiene behaviors. Other changes such as improvements in housing and associated reductions in crowding, improvements in personal hygiene, better regulation of the milk supply, and other

large-scale public health measures have also all been suggested to have played roles (Razzell 1974; Szreter 1988).

Family and Household Organization

Another key area of inquiry in historical demography has been household and family organization in past times and their relationships to demographic behavior. The emphasis has been on marriage and household formation. Early comparative work suggested that marriage patterns differed dramatically across a line drawn between Trieste and St. Petersburg, with areas west of the line characterized by late marriage and some non-marriage, and areas east of the line characterized by early and universal marriage (Hajnal 1965). According to Hajnal, distinctive and flexible patterns of household formation in Western Europe that included a period of service outside the household before marriage were the basis for the operation of the preventive check there because they allowed for marriage, and therefore reproduction, to respond to economic conditions (Hajnal 1982). Hajnal's hypothesis remains influential, and it continues to inspire extensions and related empirical work (Engelen and Wolf 2005).

Detailed studies of specific areas or regions in Europe have challenged received wisdom about household organization in past times. For northwest Europe, especially England, it now appears that going well back into history, households were predominantly nuclear. They tended to consist of a married couple and their unmarried children, along with unrelated servants, hired hands, or boarders (Laslett and Wall 1972). This contradicts what was once a widespread assumption that in the past, households were large and complex, often including more than one married couple. There was, of course, diversity within Europe above and beyond the original distinction between East and West made by Hajnal (1965). For example, Laslett (1983) recognized four distinct regions of family organization within Europe, of which only one, the Northwest, was strictly nuclear. Recent work on differences within western Europe suggest substantial differences in family and household systems between northern and southern Europe, with the former characterized by weaker family systems, and the latter characterized by stronger family systems (Reher 1998).

Household forms in Asia differed from Europe, but there was also substantial diversity between and within countries there. Differences from Europe were clearest for the regions of China for which historical household register data are available. In China, households could consist not only of grandparents, parents, and children living together, but married siblings and cousins and their families as well. Thus in Taiwan in the early part of the twentieth century, most individuals experienced time in a three-generation household at some point in their life (Wolf 1985). In northeast China, even larger and more complex households were common, sometimes comprising dozens of related males and their spouses and children (Lee and Campbell 1997). Japan was diverse, with some regions appearing to consist primarily of nuclear households, but the northeast consisting mainly of more complex households, especially stem family households

in which parents, an adult child, and that child's spouse lived together (Hayami and Kurosu 2001).

Simulations have provided insight into what households might have looked like in societies where data are not available by delineating the demographic constraints on numbers and types of surviving kin for individuals. Whatever the ideal household form was in a society, birth and death rates and average ages at reproduction determined how often individuals would have enough surviving kin to achieve that (Wachter, Hammel, and Laslett 1978). For example, when death rates are high, only a portion of the population will have the opportunity to live in a multiple-generation household, even in societies like China where such households were considered ideal (Zhao 1994) Opportunities to live in joint family households were similarly constrained by the chances of having surviving siblings and other relatives (Zhao 2000). An individual's chances of living in a multiple-generation or joint household also depended on their age, so even those who experience life in such households would only do so in certain phases of their life.

Comparative studies of family and household in the past increasingly focus on interactions between social and economic conditions, family and household organization, and demographic and social outcomes. For example, Bengtsson, Campbell, Lee *et al*. (2004) and Tsuya, Wang, Alter, Lee *et al.* (2010) examine how household context modulated individual mortality and fertility responses to economic fluctuations in a variety of European and Asian communities in the 18th and 19th centuries. From patterns of responses, they drew inferences about how families managed responses to economic stress in past times by selectively favoring or discriminating against particular family members according to their age, gender, relationship to household head and other characteristics. Comparisons between 19th century Netherlands and early 20th century Taiwan have also been carried out (Chuang, Engelen, and Wolf, 2006; Engelen and Hsieh, 2007). These studies make use of databases of longitudinal population register data that have recently been constructed and which will be described in detail later. In contrast with the cross-sectional data used in previous studies and household and family in past times these data allow for individuals and families to be followed across time. In particular, they allow for event-history analysis to study how community and family context affect key individual outcomes such as marriage, reproduction, social attainment, migration and mortality.

Studies of the relationship of family and household change in the late 19th and early 20th centuries to the dramatic social and economic changes that took place at the same time increasingly take advantage of newly available time series of cross-sectional data to reconstruct trends over time in the household and family organization and relate these trends to the dramatic economic and social changes that took place at the same time. Many recent studies of family and household change in the United States make use of samples of decennial census data from 1850 to the present made available by the Integrated Public Use Microdata Series (IPUMS) project. For example, Ruggles (2007) used data from IPUMS to reconstruct trends in the living arrangements of the elderly from the middle of the nineteenth century to the present and related

them to social and economic change. Historical census data are available for are becoming available for a variety of other countries through the IPUMS and related projects, most of them like IPUMS associated with the Minnesota Population Center at the University of Minnesota. We can look forward not only to studies of family and household change not only in specific countries, but also to comparative studies of many countries in Europe, the Americas, and elsewhere.

Socioeconomic and Other Differences in Demographic Behavior

The growing availability of individual-level data and the regression-based statistical techniques appropriate for its analysis has led increasing numbers of studies to focus on socio-economic, ethnic, religious and other differences in demographic behavior in the past. Data from population registers has been especially important to this development, and these data will be discussed in detail later in the chapter. Such interest parallels recent trends in contemporary demography, where interest has shifted from aggregate indices such as rates and proportions from census and vital statistics data to individual-level data from surveys and in some cases administrative data to measure the influences of specific community, household, and individual characteristics on the chances of experiencing demographic events and transitions.

Historical demography is poised to make a contribution to the study of the differentials in demographic behavior because sources often have more time depth and detail on kinship than contemporary data. Longitudinal depth allows for the study of processes the unfold across the life course. For example, a number of recent studies have used historical demographic data to examine the influence of conditions early in life on health and other outcomes later in life (Bengtsson and Mineau, 2009; Costa 2003). By contrast, with relatively few exceptions, contemporary studies of demographic differentials rely on panel survey data that is recent and therefore of limited time depth, or retrospective survey data in which information about the past is based on the respondent's recollection and therefore subject to errors and omissions. Detail on kinship allows for the study of the influence of family characteristics on individual outcomes to consider roles not just for parents and other close relatives, but for more distant kin and entire kin networks as well (Bengtsson and Mineau, 2008). By contrast, contemporary data rarely provide detail on relatives of a subject beyond their parents or in some cases their siblings.

Historical demographic studies have already described basic patterns of differentials in demographic behavior in the past. Mortality and fertility have received the most attention. Patterns of socioeconomic differences in mortality were less consistent in the past than the present. There are examples of historical populations in which socioeconomic status and mortality were inversely associated (van Poppel, Jennisen, and Mandemakers, 2009), but there are also populations where there was no consistent relationship (Razzell and Spence, 2006), and others where the relationship was clearly reversed. In historical northeast China, for example, men who held salaried official positions or were otherwise advantaged had higher death rates than other men even after controlling for a variety of other characteristics that influenced

mortality (Campbell and Lee 1996, 2000, 2004; Lee and Campbell 1997). This inconsistency may allow historical demography to make important contributions to the study of the relationship of socioeconomic status to health: as results from different contexts accumulate, it will become possible through comparison to link patterns of differentials to specific features of local economic, ecological, or other context. By contrast, in almost all contemporary developed countries and in many contemporary developing countries, socioeconomic status is inversely associated with mortality.

Socioeconomic status and reproductive success were positively associated before the fertility decline (Skirbekk 2008). In Europe, especially northwest Europe, differences in the probability and timing of marriage played a key role in accounting for the association between socioeconomic status and reproductive advantage. In some parts of Europe, differences in non-marital fertility may also have contributed. In other parts of the world, differences in marital fertility may also have played a role. In China, socioeconomically advantaged males not only married earlier and in higher proportions, but also had higher fertility within marriage (Lee and Campbell 1997; Lee and Wang 1999; Wolf 1995; Wolf and Huang 1980).

During the fertility decline, and most likely just before it, this pattern was reversed. In the early stages of fertility decline, socioeconomically advantaged groups were among the first to limit family size (Haines 1992). In the early years of the fertility decline, socioeconomic differences widened first as limitation became widespread among the advantaged, but remained uncommon among the less well-off. Later, differences narrowed as the less well-off began limiting their fertility. A number of reasons have been suggested for why the economically advantaged were leaders in fertility decline. One is that their social position, in particular their education, meant that they were not only exposed to novel ideas and techniques earlier, but may also have been more receptive to them. From an economic perspective, the socioeconomically advantaged also had the strongest incentive to limit fertility size as education and other investments in children became more common and more costly.

Studies of religious differentials in demographic behavior, especially infant and child mortality, have made a distinct contribution because few of the contemporary datasets used for the study of demographic differentials include the respondent's religion. One of the major findings of this literature is that before the 20th century, Jewish populations in Europe and North American appears to experience relatively low infant and child mortality (Condran and Kramarow 1991; Derosas 2003). Other studies in Europe have documented mortality differences between Protestants and Catholics (Van Poppel, Schellekens, and Liefbroer 2002). Such differences persist even after controlling for socioeconomic status and other possible determinants of infant mortality.

Studies of racial and ethnic differences in demographic behavior in past times, primarily in the United States, have provided context and background for understanding contemporary patterns. Key issues have been the historical roots of contemporary differences in the family organization

of blacks and whites (Morgan et al. 1993; Ruggles 1994) and processes of assimilation by immigrant groups as reflected in patterns of family organization and demographic behavior by ethnicity and nativity status (Gratton, Gutmann, and Slop 2007; Tolnay 2004; Watkins 1994). Such studies rely heavily on historical Census data, thus the recent expansion of the amount of such data available through IPUMS affords opportunities to extend and expand on them.

Differentials in demographic behavior according to family and household context were common in the past, and in many cases echo contemporary patterns. Numerous studies have documented differences in adult mortality according to marital status and differences in infant and child mortality according to the presence or absence of parents (Derosas and Oris, 2002; Bengtsson, Campbell, Lee et al. 2004). As is the case in contemporary populations, the never-married and widowed generally had higher mortality than the currently married. The precise patterns of disadvantage by gender and in the case of widowhood time since bereavement varied. Children in households where one or both parents were absent, either because of death or separation, also tended to experience higher mortality. In Asia, mortality risks differed according to relationship to the household head and other indicators of location within the household hierarchy (Campbell and Lee 1996, 2000, 2004; Tsuya and Kurosu, 2004). The sensitivity of mortality and fertility to economic fluctuations also varied according to household context (Bengtsson et al. 2004; Tsuya et al. 2010).

Data

The most important sources of data for studies in historical demography are parish registers, censuses, genealogies, population registers and vital registration records. This section introduces each of the five major sources of data, discusses their strengths and weaknesses for specific types of analysis, and highlights examples of major datasets. Each has strengths and weaknesses that will be described later. Most are only available for only certain populations and certain time periods. The content, organization, and quality of each of these sources also tends to vary dramatically across time and place. All of these sources originally consist of individual level data that must be transcribed into a database and organized through record linkage before they can be used in analysis.

Initially, most datasets covered only single communities, or small groups of communities. In the absence of sustained funding and technical support, that was all that a lone researcher or small research team could hope to achieve. Constructing datasets was extraordinarily labor intensive, requiring substantial investments of time to transcribe and clean the data, organize it, and create variables to be used in an analysis. The result of this fragmentation was that historical demography was dominated by detailed studies of single locations. Comparison and therefore generalization was difficult. Another problem with these early single-location studies is that because many of them were carried out by individual scholars, or small teams, the associated datasets are now accessible because the investigators did not anticipate that they would be of

interest to others, or did not have the technical and other support needed to prepare them for archiving and release.

Data collection efforts have become steadily more ambitious in terms of scope and detail. Early efforts at construction and analysis of large datasets included influential initiatives like the Princeton Fertility Project's analysis of fertility indices in the late nineteenth century (Coale and Watkins 1986), the Cambridge Group's studies of English population history based on parish register data (Wrigley and Schofield 1991, Wrigley et al. 1997) and studies that constructed and analyzed samples from historical United States censuses (Preston and Haines 1991;Watkins 1994). More recent examples of large scale data collection efforts include the Utah Population Database (UPDB), which combines basic information from genealogies compiled by Utah residents with data from a variety of administrative and other sources and the ongoing reconstruction of the population of Quebec by the Research Program in Historical Demography (PRDH) at the University of Montreal. Denmark, Sweden, and Norway have constructed databases out of archived administrative data that are being used for historical demographic research.

There are efforts underway to make certain large datasets widely accessible to the research community. At present, one of the most successful efforts to produce public releases of historical demographic data is the Integrated Public Use Microdata Sample (IPUMS) project that was mentioned earlier and will be discussed again below. IPUMS has already made available millions of records from historical United States censuses, and related efforts such as the North Atlantic Population Project and IPUMS International are in the process of making available census records from other countries as well. The Historical Sample of the Netherlands and the Union Army Data Set, described later, are other major historical datasets that have been made widely available. Initiatives are also underway to prepare some existing datasets, and create an infrastructure for researchers to deposit datasets they have created on their own for archival and public release.

The geographic coverage of available data for the study of historical demography is highly uneven. At present, Western Europe and North America are the best represented regions of the world in studies of historical demography. This reflects the availability of sources amenable to the construction of datasets as well as the sustained efforts since the middle of the twentieth century to make use of such sources. Datasets have been constructed and analyzed for locations in Eastern Europe, East Asia, and Latin America but coverage of those regions is much more uneven. In Japan, enough studies have been carried out in different locations to develop a basic understanding of geographic variations in household organization and demographic behavior in past times (Hayami 2001; Hayami and Kurosu 2001). Studies of China are concentrated in northeast China, coastal regions, and Taiwan (Harrell 1995; Lee and Campbell 1997; Wolf and Huang 1980), and studies of the interior remain rare. In Korea, construction and analysis of datasets began only recently, so studies have been carried out for small number of locations

(Park and Lee 2008). There have been very few studies of the historical demography of Southeast Asia, South Asia, and Africa.

Parish Registers

Parish registers have been one of the most important sources for historical demography of Europe since the field emerged in the 20th century. The French demographer Louis Henry originally recognized the potential of parish register data as a source for the study of fertility in places and time periods where vital statistics data were not yet available (Rosental and Mandelbaum 2003). Parish register data in raw form consists of records of baptisms, marriage, and burials recorded in parish churches in nearly all European countries and in many Catholic countries or regions outside of Europe. Because records of baptisms typically included the names of parents and other basic information about them, records of baptism use of children born to the same couple can be linked to each other and to the marriage record of the couple, making it possible in turn to construct fertility histories of couples. When people remained in the same village, records of their baptism, marriage and burial may be linked to produce the life histories. The process of linking records of baptism, marriage, and burial to produce fertility histories and more generally life histories and family histories is referred to as "family reconstitution" (Fleury and Henry, 1956).

From these individual and family histories, it is possible to estimate demographic rates. The most common applications are the estimation of age-specific marital fertility rates from baptism records that have been linked to a mother's marriage records. Infant and child mortality rates may also be estimated from burial records linked back to baptism records. If the population covered by the parish registers is highly sedentary, with little or no in- or out-migration, in principle it should also be possible to estimate age-specific mortality rates and other measures. Rates estimated from family reconstitution data have been the basis for hundred of studies of fertility and other demographic behavior in historical Europe over the decades, for example, Wrigley et al. (1997).

The most important limitation of parish registers is that if the individuals they cover are highly mobile, record linkage may only be possible only for a segment of the life course, or for the possibly unrepresentative sedentary individuals who remained in the parish for their entire life. Infant and child mortality rates may be estimated from family reconstitution data by assuming that families with young children are sedentary and that few children baptized in the parish died elsewhere, and adult mortality may be estimated for married individuals by assuming that couples married in the parish are sedentary and unlikely to die elsewhere. Other vital rates, including the mortality rates of unmarried adolescents and adults, and rates of first marriage, may not be reliably estimated except in unusual communities with very sedentary residents. While in principle it might be possible to estimate rates from the records of the subset of individuals who remained in the parish into adulthood, such individuals tended to be

unrepresentative of the population as a whole, because those who remained differed from those who left (Kasakoff and Adams, 1995).

An important, related limitation of analysis with parish register data is that the registers are silent on the characteristics and contexts of individuals in between their baptisms, marriages, and burials. Parish registers do not provide any detail on the timing or even occurrence of entrances into the village or exits from the village that would allow individuals at risk of experience an event to be identified except by assuming that they have been sedentary. For the people who remained in the village long enough for records of their events to be linked, the registers do not provide detail on their household context, socioeconomic status, or other characteristics during the time between events. Thus parish registers by themselves are rarely suitable for detailed studies of differentials in demographic behaviors.

Recent studies have overcome such limitations by linking records of baptisms, burials, and marriages in parish registers to data on households and individuals in other sources. Such linkage to other sources allows for the population at risk of experiencing events of interest to be identified, and allows for event-history analysis to measure patterns of differentials in demographic behavior. For example, a population database constructed for a selection of parishes in the Swedish region of Scania, the Scanian Demographic Database, links information on the timing of baptisms, marriages and burials from parish registers to information on households and individuals from annual catechetical exam registers used by the clergy to identify parishioners eligible to be tested, and to information on landholding and socioeconomic status from local tax records (Bengtsson 2004; Bengtsson and Dribe 2006). Similarly, studies for a variety of parishes in Italy have made use of datasets constructed by linking parish register data on the timing of events in parish registers to information on households and individuals in annual *status animarum* compiled by local priests (Manfredini and Breschi 2008).

Censuses

Census data has been a mainstay for studies of the historical demography of Europe and North America covering the last half of the nineteenth century and first half of the twentieth. Early studies of patterns and trends in household organization and demographic behavior relied on published tabulations. The first studies based on datasets created from original census manuscripts were small in scale and focused on specific cities or locations because transcription, cleaning, and analysis was so time-consuming. The current era of analysis of large, statistically representative random samples of historical census data began with the creation of datasets from the 1900 and 1910 United States censuses (Watkins ed. 1994; Preston and Haines 1991). Subsequently, the IPUMS project transformed these and other samples to use a consistent coding scheme, created new samples from other years, and made the resulting data publicly available. Related efforts currently underway have already led to or will result in the release of historical and contemporary samples from other countries. As a result, the number of studies using individual- and household-level data from censuses has exploded.

The strength of census data is that it provides a snapshot of the living arrangements, occupation, and other demographic and socioeconomic characteristics of individuals at specific points in time. Successive censuses, accordingly, offer a time lapse view of social, household, and demographic change in a population. As a result, many if not most of the recent studies using publicly available individual- and household-level census data for the United States reconstruct national trends from the nineteenth century to the present by combining data from multiple years, for example, Ruggles(2007) and Tolnay (2004). Other studies have taken advantage of the volume of census data now publicly available to examine trends in the household structure, socioeconomic composition, and other characteristics of specific racial and ethnic groups in the United States and specific regions. Census data have also been important in studying migration patterns within the United States, including major movements like the migration of African-Americans from the south to the north after World War II. While important studies using census data have been carried out for other countries using published tabulations or limited-access samples, it is likely that public release of samples in other countries will like the IPUMS lead to much larger numbers of studies.

When a census includes a question about the timing of an event, or about status at some point in the past, it is possible to move beyond description of population composition at specific points in time to estimation of demographic rates. For example, United States censuses from1850 to 1880 allow for estimates of age-specific marriage rates because they include a question about whether the subject married within the last year. In 1900 and 1910, the censuses included a question about the duration of the current marital status. The 1940 census as well as some more recent censuses allow for estimation of migration rates because they include a question about residence five years previous. In other cases, census data allow for application of indirect techniques to estimate demographic rates. The 1900 and 1910 censuses, for example, including questions about the number of children born and the number of children surviving, allowing for indirect estimation of infant and child mortality rates (Preston and Haines 1991).

Until recently, creation of longitudinal data on individuals through linkage of their records in different censuses was impractical. Locating an individual in an adjacent census required a manual search not only of the records for their current address, but if they were not found, the rest of the country. Accordingly, linkage was only practical for the possibly unrepresentative individuals who stayed in one place between one census and the next, or whose names and information used for matching were unusual enough that records with the same name and other information in different locations in successive censuses could be assumed to refer to the same person. In spite of such difficulties, through heroic efforts some datasets were created for individuals linked between 1850 and 1860 United States censuses (Ferrie 1996) and between the 1880 and 1900 censuses (Guest 1987).

A new era of longitudinal data on individuals constructed by linkage of census records to each other or to other sources is now dawning. The recent construction of a dataset comprising the entire 1880 United States census has made possible automated searches for records in that year

of individuals who appear in samples from censuses in other years. This has led to the creation and release of new longitudinal datasets of individuals linked between the 1880 and other censuses (Ruggles 2002).

Genealogies

Genealogies have been a mainstay for the study of the historical demography of China because parish registers and censuses like the ones used in studies of the historical demography of Europe and North America are not available for China before the twentieth century. Researchers have used them to reconstruct patterns and trends in mortality and fertility rates in historical China (Harrell 1995; Liu 1978, 1985; Wang et al. 1995; Zhao 1997b). Families compiled genealogies for ritual purposes and to document their family history. While the most basic lineage genealogies might consist only of the names of male ancestors, more elaborate genealogies included details useful for demographic analysis such as years of birth and death. The largest genealogies span centuries, from the Ming (1368-1644) to the present, offering more time depth than any of the sources available for Europe or North America. While some genealogies used in analysis were gathered directly from the families that held them, in some cases they were available in libraries, archives, or bookstores because families had published or otherwise widely disseminated their genealogies. Genealogies similar in format and content to Chinese genealogies are also available in Korea and are likely to become an important source for historical demography there (Park and Lee 2008). In some cases, they record more information than typically available in Chinese genealogies, including details on daughters.

Chinese lineage genealogies nevertheless have important limitations as sources for demographic analysis. First, genealogies mostly recorded only males, and rarely included records of daughters or wives. When they did, the information often was cursory, and rarely adequate for demographic analysis of women. Second, genealogies typically omitted sons who died in infancy and early childhood. The studies referred to above have typically accounted for such underreporting by adjusting fertility estimates according to an assumption about the level of infant and child mortality. Third, genealogies do not allow for analysis of household organization because they do not any detail on residence. Finally, recent results from simulations and from comparison of records of families recorded in genealogies to records of the same families in household registers have identified more subtle forms of bias. Demographically successful lineages are overrepresented among lineages that survive to the present day and for which current genealogies exist (Zhao 2001). Even though genealogies have commonly been assumed to underestimate fertility because of omission of children who died young, they may actually overestimate fertility because they are also more likely to admit men who survived to adulthood and married but had few or no children (Campbell and Lee 2002).

Population Registers

Population registers have recently emerged as a major source for the study of the historical demography of Europe and Asia. Early studies using population registers focused on single communities or small numbers of communities because transcription, cleaning, and analysis was so labor and resource intensive. Examples include Alter's (1988) study of the fertility in Verviers, Belgium, Lee and Campbell's (1997) study of Daoyi village in northeast China, and Wolf's studies of Taiwan (Wolf, 1995; Wolf and Huang, 1980). Recently, the number of communities for which datasets have been constructed from population registers and related sources has increased dramatically, inspiring large-scale international collaborations to compare patterns of family organization and demographic behavior between and within Europe and Asia (Bengtsson, Campbell, Lee et al. 2004; Chuang, Engelen, and Wolf, 2006; Engelen and Hsieh, 2007; Tsuya et al. 2010).

Population registers combine features of parish registers and censuses. Like parish registers, they provide detail on the timing of key demographic events such as birth, death, and marriage. They typically specify the dates on which individuals entered and exited the community, or allow the dates to be inferred. Like censuses, they provide detail on the characteristics of families, often on a continuous basis. Importantly, most specify household of residence for individuals, along with relationship to household head. They typically allow for direct computation of demographic rates because they not only specify the timing of demographic events, but also the population at risk of experiencing such events. For this reason, they also allow for discrete- or continuous-time event-history analysis, depending on their format.

Population registers exist in a wide variety of formats because even though most surviving registers date from roughly the same period, the eighteenth and nineteenth centuries, they were established independently of each other and for diverse reasons. For example, the northeast Chinese registers analyzed in Lee and Campbell (1997) were used to keep track of hereditary tenants on state-owned land who because of their status had special privileges and obligations. Many of the Japanese registers were originally established to help prevent the spread of Christianity by ensuring that village registers were all associated with temples, but were sustained because they turned out to be useful for so many other purposes (Hayami 2001; Tsuya and Kurosu 2004). As mentioned previously, the catechetical exam records that are the core of the Scanian population database were used by priests to identify parishioners who were eligible for their catechetical exams.

In some locations, surviving registers resemble censuses in that they recorded the population at regular intervals, but differ in that they allow for linkage of individuals from one register to the next, and record vital events. Such registers are amenable to discrete-time event-history analysis. In China, Japan, and Korea before the twentieth century, registers typically recorded the population annually or every three years (Campbell and Lee 2002; Lee and Campbell 1997; Park and Lee 2008). Datasets constructed for historical Italian communities from annual *status animarum* and other sources have a similar format (Manfredini and Breschi 2008ab). They

usually listed households and individuals in roughly the same order at each update, allowing for longitudinal record linkage.

Elsewhere, registers provide a continuous record of the status of the population, and are amenable to continuous-time event-history analysis. Locations include Taiwan when it was a Japanese colony in the first half of the twentieth century (Wolf and Huang 1980; Wolf 1995), Belgium (Alter 1988) and other countries in continental Europe, and Venice, Italy (Derosas 2003). In the registers from these places, entries for individuals were updated when they were born, married, changed residence, or died. The datasets constructed for Scanian parishes in Sweden by linkage of parish registers, catechetical exam records, and other records also record the population, including household context, on a continuous basis (Bengtsson 2004; Bengtsson and Dribe 2006). The Dutch population registers that have been made available in the Historical Sample of the Netherlands by themselves do not record household context, but may be linked to other sources that do (Mandemakers 2000). The Union Army Dataset, which follows Union Army troops who fought in the American Civil War from the time of their enlistment to their deaths and was constructed by linkage of military service records, veterans' benefits records, census data, and other sources, has many of the characteristics of population register data (Costa 2003).

Population registers and other sources of longitudinal data on individuals such as linked census records are likely to become the mainstay of historical demography because of their suitability for the study of questions of contemporary interest and their amenability to analysis by regression-based techniques commonly used for contemporary data. In terms of content and format, they resemble or can be made to resemble longitudinal panel surveys like the National Longitudinal Study of Youth, the Health and Retirement Study that are now the primary source for the study of demography in contemporary populations. Historical population registers and longitudinal data on individuals from linked census records have some advantages over contemporary panel surveys by virtue of their time depth. Use of panel survey data to study of processes that unfold across the life course is constrained by the fact that information about individuals before the initiation of the survey is almost always retrospective. In the case of information about childhood collected from elderly respondents, it may be incomplete or biased. Longitudinal data on individuals from registers and linked censuses, by contrasts, may cover the entire life course prospectively, facilitating the study of the influence of experiences early in life on outcomes later in life.

Conclusion

Historical demography is undergoing a renaissance because of the growing availability of new datasets. The public release of statistically-representative random samples from historical census data for the United States through IPUMS has led to an explosion of studies of long-term trends in family and household organization, population composition, and related topics. These data have also contributed to the studies of specific regions, race and ethnic groups, and time periods.

As similar historical census data for other countries is released through the North Atlantic Population Project, IPUMS International, and related projects, we can anticipate an explosion of studies of these countries, as well as a new era of international comparisons in historical demography.

Datasets based on population registers have contributed to this revival. Publicly available datasets such as the Historical Sample of the Netherlands and the Union Army Data Set and recently constructed datasets that have not yet been released have fueled a boom in studies not only of demographic differentials in historical populations, but of aging and related life course processes. This contributing to a reorientation of historical demography away from classic topics like population dynamics in preindustrial populations toward topics of contemporary relevance like the influence of community, family, and individual characteristics early in life on health outcomes later in life (Bengtsson and Mineau 2009, Costa 2003). The availability of samples of longitudinally-linked census records from IPUMS and other sources is likely to accelerate these trends. While historical demographers continue their efforts to explain demographic processes before the twentieth century and relate them to ongoing debates in economic, political, and social history, in parallel they are also contributing to the contemporary literature on life course processes, aging, and related topics.

Studies of China have much to contribute to the development of the field historical demography. As noted earlier, Europe and North America are overrepresented in existing datasets and studies. The experience of these two regions has accordingly had a disproportionate influence on the development of theories about demographic processes in past times. While some recent studies of China have attracted the attention of the field because they challenge or confirm assumptions about the country made by Malthus and other influential theorists (Lee and Wang 1999; Wolf 1995), or because they have been part of major international comparisons (Bengtsson, Campbell, Lee et al. 2004; Chuang, Engelen, and Wolf, 2006; Engelen and Hsieh, 2007; Tsuya et al. 2010), much of the potential for study of the historical demography of China to contribute to larger debates about population in past times remains unrealized. The situation is almost certain to improve, however, as the number of researchers working on China increases, and as more sources come to light.

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