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Abstracts

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Family Demography, Social Theory, and Investment in Social Capital

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Young J. Kim

Many demographers trained in sociology frame their work with ideas from economics, if only implicitly. While economic concepts are of great value, the field of demography, especially family demography, can benefit from the introduction of sociological theory and, conversely, sociological theory can be enhanced and refined by the work of social demographers.

The subject of this essay is “social capital,” a concept that originated in sociology and is being widely incorporated into much current social science. The social capital concept is an extension of social exchange theory. This theoretical perspective is in common use by family demographers (Edwards 1969; Schoen and Weinick 1993; Scanzoni 1972; Scanzoni et al. 1989; South 1991). It shares with neoclassical economics (Becker 1973, 1974, 1981; Willis and Haaga 1996) and materialist anthropology (Greenhalgh 1995; Kertzer and Fricke 1997) the premise that demographic phenomena are the outgrowth of human behavior that is purposive, future-oriented, and reflective, although externally constrained.

According to social exchange theory, exchange takes place in a variety of institutional contexts, including, but not limited to, the markets that economists usually envision (Cook 1991). In addition, a premise of social exchange theory is that exchange occurs between individuals who are known to each other, as well as between the anonymous traders of economic exchange (Ben-Porath 1980). Moreover, social exchange theorists assume the rules that govern exchange include, but are not limited to, the
rational calculation of costs and benefits that structure economic exchange (Curtis 1986; Meeker 1971). These premises allow social exchange theorists, more easily than economists, to incorporate into their models motivations for exchange beyond its intrinsic benefits.

This is a particular advantage for family demographers, since exchanges between sexual partners, siblings, parents, children, and housemates, which constitute the subject of family demography, cannot readily be put into a conventional framework of utilitarian motivations. To explain them, researchers often resort to vague assertions about norms or preferences, without any explicit reference to the processes that bring about norms and preferences. The result is that we lack a full account of why systematic ethnic, social class, and gender differences in these norms or preferences occur, how they emerge, or how they change over time.

To date, family demographers who have employed the social capital concept have not placed it within the larger framework of social exchange theory. Substantively, they have focused almost exclusively on the consequences of having or not having adequate amounts of social capital. To fully exploit the concept's potential for framing demographic research on the family, researchers must turn their attention to the question of how social capital comes into being. In this essay, we advance and defend two major contentions. First, in the context of social exchange theory, investing in social capital emerges as a major motivation for human behavior. Second, the formation of sexual partnerships, the birth and rearing of children, and both intragenerational and intergenerational transfers constitute major forms of investment in social capital in virtually all societies.

The currency of social capital

The use of the term “social capital” to refer to “the resources that emerge from one’s social ties” (Portes and Landolt 1996: 26) is exceedingly popular. This popularity reflects the fact that many sociologists have been impressed with the conceptual clarity of microeconomic models of human behavior, but see the need to incorporate an actor’s position in the social structure as an important influence on choice processes (Cook 1991; Granovetter 1985).

Unfortunately, scholarship that uses the social capital concept suffers from fuzziness and inconsistency. A critical aspect of this problem is a conceptual confusion about whether social capital is an attribute of an individual or a group. Portes (1998) points out that to regard social capital as an attribute of a group can easily lead to circular reasoning. We argue that it also directs analytic attention away from the core question of how and why individuals acquire social capital. The result is a dearth of attention to fundamental questions about the process of investment in social capital.
Recent empirical studies that use the term social capital almost always contain a citation to a widely read article by James Coleman (1988) that was later revised and presented in his book Foundations of Social Theory (1990). Coleman, in turn, cites Bourdieu (1980) and Loury (1977) as originators of the term and also credits Granovetter (1973, 1974, 1985) and Lin (Lin 1982, 1988; Lin, Ensel, and Vaughn 1981) for formative work that advanced his ideas. Unfortunately, Coleman’s conceptualization was flawed, and many of the problems with studies that use the social capital concept derive from an over-reliance on Coleman’s work. In order to demonstrate this point, we need to consider the Loury/Coleman formulation in detail.

The Loury/Coleman conception of social capital

Definition of a capital resource

The use of the term capital by Glenn Loury (an economist) and Coleman is a deliberate attempt to call attention to those aspects of social relationships that are analogous to physical and human capital, as these terms are used by economists. Paul Samuelson (1976), in his classic elementary economics text, states that capital is an input to economic production, which is distinguished from other inputs (e.g., land or labor) by the fact that a capital input is itself an output of a prior productive process. A social capital resource, as well, is the product of prior human action: it accumulates or decreases “when the relations among persons change” (Coleman 1990: 304). For example, when a couple has a baby several changes in the relations among persons occur because all members of each of the new parent’s families expand the number of relationships they have to include the infant.

The second inference from Samuelson’s definition of capital is that social capital consists of relationships that are themselves actually or potentially productive: social capital facilitates the achievement of certain ends. To continue with the earlier example, the new father and mother may find that their siblings are far more likely to make regular visits—even from long distances—when the visits are enhanced by the prospect of getting to know a new niece or nephew. The result may be closer relationships between the new parents and their siblings. If the new parents live close to their own parents, their siblings and their parents will see more of each other than they would have otherwise. Thus, the new relationship with the baby may strengthen the family ties among all those related to the baby.

For Loury and Coleman the advantage of recasting analyses of social life in these terms lay in the access it gave scholars to a highly developed conceptual apparatus regarding capital resources. The value of this apparatus for illuminating the questions posed by family demographers is illustrated in the next section.
Properties of capital resources

Alienability. Economists distinguish between resources that may be exchanged with another person and those that may not. This ability to exchange is referred to as alienability. Like human capital, but unlike most forms of physical capital, social capital is inalienable—that is, it cannot be exchanged with or given to another person. Suppose, for example, that members of a particular group have advantages in the labor market because they have a large stock of family ties that can be used to obtain jobs (Granovetter 1974). The inalienability of social capital implies that any programmatic efforts to redress this situation must focus on either the development of equivalent ties for members of other groups (e.g., mentoring programs) or limiting the use of family ties in hiring by employers (e.g., affirmative action programs). It is not possible for a government to redress the situation by redistributing family ties—the programmatic model of progressive taxation does not work.

Depreciation. Human and physical capital depreciate if they are not maintained; this applies to social capital as well. Consider two cousins who in childhood lived on the same street and continue in adulthood to live nearby. Suppose further that the first of these cousins served in the armed forces and subsequently joined a veterans’ social club. The second cousin will probably become acquainted with some members of the social club by virtue of being invited to informal gatherings at the first cousin’s house. Through these face-to-face interactions, the second cousin may make many friends, meet potential sexual partners, and make business contacts. If one of the two cousins moves hundreds of miles away on becoming an adult, however, the effort required to maintain the relationship will increase; if both parties are not willing to increase their effort, the value of the relationship as a capital resource for meeting new people will depreciate.

Fungibility. Fungibility is the ability of a resource to be used in a variety of ways. Coleman writes: “Like physical capital and human capital, social capital is not completely fungible, but is fungible with respect to specific activities” (1990: 302). A quintessential example of nonfungible social capital is the strong family ties for children of people involved in organized crime. If these children want to enter organized crime themselves, this capital is of very high value; it may be indispensable. It may not be useful to facilitate entry into other careers, however.

Having a child, by contrast, is fungible social capital. Grandparents may provide parents with many types of help—a downpayment on a house, the loan of a car, companionship—much of which would not be available to childless adult children or would be available to a lesser degree. Although the grandparents may perceive this help as primarily intended for the grandchildren, the middle generation benefits as well. Showing off a new baby
is a good ice-breaker for people who wish to introduce themselves to their neighbors and may lead to the formation of friendships and networks of mutual aid. Gerson (1985), in her account of women’s choices about work and motherhood, uncovers two specific ways becoming a mother can serve as social capital. Women who are experiencing blocked opportunities in the paid labor force may see having a child as an escape route to a more satisfying life. Also, women who are ambivalent about motherhood often have a baby in order to preserve a sexual partnership with a man who wants to be a father.

Problems with the Loury/Coleman formulation

Economists distinguish the acquisition of capital resources from the acquisition of other things; the former is referred to as investment, the latter as consumption. Capital resources are often durable and are subject to fluctuations in value over time. One implication is that, in order to realize the best return on one’s investment, one must sometimes be willing to wait until the value increases. If investing in the capital in question is “expensive” enough, this will necessitate the deferral of current consumption or the loss of opportunities to invest in other things. For example, many people defer their own career development in order to financially support a spouse while the latter attends professional school. Willingness to do this is predicated on a belief that over the long term, the spouse will make reciprocal sacrifices to ensure a better life for both. If the spouse, after being supported, terminates the marriage, however, the person who deferred his or her own career development may be worse off for the investment in the relationship.

Becker (1964, 1981) revolutionized economic theories of income inequality, assortative mating, the timing of marriage, and much else by reconceptualizing formal education, job tenure, and the development of domestic skills as investment in human capital. Given that Becker’s concept of human capital was accompanied by intense scholarly attention to the process by which individuals invest in human capital, it is curious that, with certain notable exceptions (e.g., Davis 1997; Hofferth, Boisjoly, and Duncan 1998; Schoen et al. 1997), little scholarship using the concept of social capital has been focused on how it is brought into being. Instead, the bulk of research using the social capital concept is focused on the consequences of possessing or not possessing adequate amounts of social capital (Astone and McLanahan 1991; Lee and Brinton 1996; Massey and Espinosa 1997; Parcel and Menaghan 1993; Portes and Zhou 1996; Roche et al. 1999; Sanders and Nee 1996; Teachman, Paasch, and Carver 1996). Surely if the consequences of having social capital are as important for individuals and society as recent research suggests, then people must be aware of this and
must be seeking to invest in acquiring an optimal amount of social capital. Why, then, are more scholars not trying to understand this investment process?

This lack of analytic attention to investment in social capital is due, at least in part, to the fact that Coleman, upon whom so many analysts depend for guidance in using the concept, was not particularly interested in this aspect of it. Indeed, he believed that modern societies are characterized by inadequate investment in social capital, to the detriment of dependents, especially children. Coleman spelled this out in his presidential address to the American Sociological Association (Coleman 1993). Moreover, Coleman's writings on social capital specifically discourage doing research about how people invest in familial social capital. Coleman was convinced that recent changes in the nature of sexual partnership, parenting, and female labor force participation in industrialized societies signal the diminishing salience of the family and other “primordial” institutions as important features of social organization. Thus, not only did the scholar who inspired most recent research on social capital deemphasize the idea of investment therein, but he did so explicitly on the basis of his belief that family behavior, in particular, was of rapidly declining significance for individuals.

We disagree with Coleman's assessment of the declining importance of the family in industrialized societies, and we argue that family formation is among the most important types of investment in social capital made in all societies. On this basis we contend that sociologists and other social scientists interested in social capital would do well to attend to the substantive findings of family demographers. Although there have clearly been pronounced changes in family patterns, there is little evidence that the family is withering away along the lines Coleman suggested. For example, Cherlin (1992: 124–140) documents the high importance American women place on marriage, and Reher (1998) notes the persistence of strong family ties in countries with very low fertility.

The Loury/Coleman formulation is useful to family demographers because it provides a theoretically compelling and highly general mechanism whereby social structure influences individual behavior and through which individuals seek to negotiate, and in so doing transform, the social structure that confronts them. As such, it has compelling advantages for those who study how the actions of individuals are affected by the institutional characteristics of the family in the society they live in, and how their actions feed back to cause institutional change (Mason 1991).

Many of the scholars who investigated the relationship between social structure and individual agency before Coleman were interested in questions regarding what might be called the problem of “social order,” or the explanation of group-level phenomena (Huber 1991). For example, they studied power and dependence in social networks, and the structural con-
ditions under which norms emerge (Turner 1993). No matter how much it has to offer, a literature organized around those concerns was unlikely to attract the attention of scholars—such as demographers—who are interested in the social structural determinants of outcomes for individuals. And therein lies the reason why so many scholars, especially those concerned with individual outcomes, have been attracted to the concept of social capital as articulated by Coleman and Loury.

In what follows, we make five propositions about the social capital concept that go beyond the Loury/Coleman framework. In so doing we draw on the work of the pioneers of social exchange theory, from which the concept of social capital arose and which contains ideas helpful in developing models of investment in social capital. We follow our set of propositions with an illustration of their applications to family demography.

1. Social capital is a multidimensional attribute of an individual.

Social capital is a general concept. Examples of how social relationships can constitute resources range from the facilitation of commerce among Hasidic diamond merchants in New York (Ben-Porath 1980) to the structural underpinnings of revolutionary activity in South Korea (Coleman 1990). Nevertheless, the application that has received the most emphasis is the social capital available to children and adolescents and how it affects the development of their human capital (Astone and McLanahan 1991; Lee and Brinton 1996; Parcel and Menaghan 1993; Roche et al. 1999; Teachman, Paasch, and Carver 1996; Weinick and Astone 1996). Loury (1977) points out that inner-city children lack resources in the form of social ties within their neighborhoods. Coleman (1988, 1990, 1993) describes recent changes in families and schools as reducing the resources children derive from the relationships traditionally supplied by these institutions.

As Teachman and his colleagues (Teachman, Paasch, and Carver 1996) demonstrate, however, Coleman's specification of the social capital available to children is flawed. He measures children's social capital by indicators of group membership, specifically whether or not the children are from a non-intact family or attend Catholic school, asserting without evidence that membership in these groups provides more social capital than their alternatives. The ideas behind these assertions are plausible, but should properly be introduced as empirical questions, rather than assumptions (for an excellent model of how to do this, see Lee and Brinton 1996). More importantly, a set of circumstances or an institution that may promote a productive set of relationships for a given child must not be mistaken for that set of relationships itself, or for the resources it generates for the child.

The use of group membership as an indicator of social capital does not simply reflect the difficulty of measuring the potential and actual value of the resources that inhere in relationships. Given a clear conceptualization,
measurement is ultimately a technical problem that, however thorny, can usually be solved with well-designed primary data collection. Rather, this measurement strategy illustrates a conceptual confusion in the formulation of Coleman and others (e.g., Runyan et al. 1998). Coleman writes of social capital in two ways: first, as an attribute of a person—a capacity for action that an individual possesses by virtue of being able or potentially able to productively use relationships toward some end; second, as an attribute of a social structure (Coleman 1990: 315).

In empirical work that has followed Coleman's, especially that of political scientists, social capital is often discussed as an attribute of one particular kind of large group: nations or national subdivisions. For example, Putnam (1993a) attributes the relative economic success of Northern Italy compared to Southern Italy to the North's higher levels of social capital. Elsewhere he describes a decline in social capital in the United States (Putnam 1993b, 1995). Following Putnam, Kawachi and his colleagues (Kawachi et al. 1997) assess the level of social capital within each of the fifty American states. They then evaluate both the dependence of state social capital on levels of state income inequality, and the effect of a state's social capital on state mortality rates.

Conceptualization of social capital as an attribute of a group, rather than an individual, leads to three related problems, in addition to having the high potential for tautology described by Portes (1998). All three of these problems interfere with understanding investment in social capital.

First, this perspective leads to the analytic neglect of resources that accrue to individuals from relationships outside the context of formal or informal social organization. This is a mistake in light of the fact that most people a) form some relationships outside the context of groups; and b) maintain relationships with people whom they originally met within a group after the group has dissolved or they have withdrawn from it. Friendship ties are the clearest example. A person may become close to someone who rides the same bus or train to work everyday. A pair of college roommates or army buddies may remain in contact decades after schooling or military service has ended. Through these friendship ties, a person may come to know many others—friends of friends. Moreover, Blau (1967) points out that the complexity of modern society causes people to be affiliated with a multiplicity of groups. Given this, the fungible nature of some social capital allows people to use resources that they acquire as a result of their membership in one group for ends that occur within the context of another. In a circumstance like this, the properties of the group in which the social capital is used have little to do with the conditions within which it was originally developed.

Second, even when the relationships that provide social capital do arise within the context of a specified group, the use of a simple indicator of group membership as a measure of that capital rests on two shaky as-
The first assumption is that the resources a person acquires through his or her relationships within a group are, in fact, available to the group as a whole. This is not always true. For example, a person may run for office and be active in the parents' association of a child's school because doing so can lead to a nomination to run for a position on the school board, which in turn may be a stepping stone to a political career. The social capital such a person acquires, in the form of becoming known and admired by local voters likely to care about school board elections, is not a resource for anyone but the person in question, despite its dependence on the context of the parents' association for its acquisition.

The second assumption is that most group-level resources are public goods (Coleman 1990: 317), to which all members have equal access. Social exchange theorists do not make this assumption about group-level resources. On the contrary, sociologists of all theoretical orientations have traditionally been concerned with social stratification of all kinds (Grusky 1994) and with the social structural determinants of power and dependency within groups (Cook and Emerson 1978). Both power/dependency processes and structural inequality affect how resources that accrue to a group as a whole are distributed to individual members. Thus, group-level resources produced by social interaction within a group may constitute less social capital for some members than for others. For example, Anderson (1978) shows that although all the African American men who hang out at a particular liquor store derive some sense of belonging from doing so, there are strictly observed status hierarchies within the group. These status distinctions determine the distribution of the material and emotional support that constitutes the social capital provided by group membership. Moreover, to obtain even the minimal level of support that low-ranking members of the group receive, these members must supply deference and regard for high-ranking members. The latter are forms of social capital available only to group members with high status.

Third, much recent research posits that the social processes that produce social capital do not vary across time and space. Consider, for example, the procedure of Kawachi and his colleagues, who, as we alluded to above, posit that the fifty American states vary in terms of how much social capital their residents have. They define social capital in a given state as “the features of social organization, such as civic participation, norms of reciprocity, and trust in others, that facilitate cooperation for mutual benefit” (Kawachi et al. 1997: 1491). Implicit in this definition is the idea that the “features of social organization” that promote the development of resources for individuals are well understood and can be validly measured. Also implicit in the definition is the idea that social capital manifests itself in a universal form that can be measured the same way for Massachusetts and Idaho. We doubt that this is true.
Consider also Putnam’s remarks: “[B]ecause of television, and two-career families, and divorce, and Wal-Mart, and a number of other factors, people no longer feel comfortable going to the PTA [Parent-Teacher Association meetings]. The channels through which people a generation ago connected with their communities aren’t serving the purposes that they used to. I think America is suffering from a social capital deficit” (Putnam quoted in Zengerle 1997: 21). The problem with Putnam’s statement is the assumption that because PTA membership has declined, so has investment in social capital. Before we can make this leap, we must have the answers to two questions, answers that, in turn, require a conceptualization of social capital as an individual-level phenomenon. The first question is whether or not PTA membership results in members acquiring social capital. Assuming that the answer to this question is yes, the second question is: Does the decline in PTA membership produce a decline in individuals’ levels of social capital overall, or just a decline in social capital from that source? This second question is critical, since the answer determines whether “investment in social capital” actually decreases, as Putnam asserts, or simply changes form. A strong tradition in sociology is devoted to examining how the social structure of a group affects individual behavior in ways that lead, in turn, to structural change (Blau 1967; Mason 1991). A change in aggregate-level patterns of human relationships within a group may not signal a decline in members’ levels of social capital, but rather a change over time in the means through which social capital is acquired. By similar reasoning, a difference in the aggregate-level patterns of human relationships across groups may not signal a difference in members’ levels of social capital but rather a difference in how social capital is acquired in the different groups.

2. The dimensions of social capital are the number of relationships a person has; the strength of those relationships; and the nature and amount of resources available as a result of those relationships.

In The Human Group, George Homans writes:

Kinship sentiment [among the Tikopia] leads to activities expressive of sentiment and to increased interaction among kinsmen. A surplus, so to speak, of interaction and activity is produced. If it is used by the family and the larger group for doing work that could not otherwise be done or could not be done so well, then kinship sentiments, interactions, and activities are kept up. . . . (Homans 1950: 265)

This surplus has both of the characteristics that define a capital resource: it is produced and it is a potential input to further production. If we regard it as the raw material for social capital, then we can regard Homans’s defini-
tion of the building blocks of social capital as activity, interaction, and sentiment. Activity has its commonsense meaning of the “things people do,” work, talk, play, and so on. Interaction is a concomitant of activity. It takes place, however, “apart from the particular activities” in which individuals interact. Sentiments are internal affective states: emotions, feelings, and the like. Homans describes in detail how activities, interactions, sentiments, and their interrelationships create new resources. By increasing the social capital of its members, a group is able to prosper and persist.

What Homans thought social capital consisted of is important because he originated the term. In the concluding chapter of Social Behavior: Its Elementary Forms, he observes that, for most of history, humanity existed within the types of small groups, characterized by face-to-face interaction, that he spent his life studying. He is speculating, in this chapter, on how more-complicated social forms arise:

Now suppose . . . a society has created a capital of some sort. By capital I mean anything that allows it to postpone actions leading to some immediate reward in order to undertake others whose rewards, though potentially greater, are both uncertain and deferred. The capital may take the form of unusually well-disciplined soldiers; it may take the form of a surplus of food or money; most important of all it may take the form of a moral code, especially a code supporting trust and confidence between men: a true belief that they will not always let you down in favor of short-term gains. (Homans 1961: 386)

Homans clearly intended in this discussion to extend the economic idea of physical capital (Homans’s work predates the concept of human capital). He writes: “[T]here are other entrepreneurs than economic ones, nor are the economic ones always the most important. Given the capital, every society tries institutional innovations. If they turn out to pay off—and a great deal of capital may be spent before they do—they persist” (Homans 1961: 389). He illustrates these general statements with a specific example, and it is here that he names what he is speaking of as social capital. In this passage concerning a hypothetical workers’ strike, he states: “if [they] . . . had enough of what I have called social capital, material and nonmaterial, to keep the strike up, they would have forced the company to accept a union” (Homans 1961: 395).

Although Mark Granovetter (1973, 1974, 1985) never used the term social capital, his work is centrally concerned with how people use their social relationships for instrumental ends. Granovetter introduces the concept of “strength” to characterize relationships between people, which he calls “ties.” He defines strength of ties as an index of “the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie” (Granovetter 1973: 1361). While Grano-
vetter’s views on the elements of human relationships are conceptually dis-
tinct from those of Homans, it is notable that he indexes the same three
dimensions that Homans called attention to, with emotional intensity and
intimacy corresponding to sentiments; the amount of time corresponding
to interaction; and the reciprocal services corresponding to activities.
Granovetter does not explicitly place himself within the tradition of social
exchange theory; nevertheless, his definition emphasizes the exchange di-
mension of human relationships.

Like Samuelson, Pierre Bourdieu (1986: 241) defines capital as a re-
source, which is both produced and potentially productive. Unlike Samuel-
son, Bourdieu explicitly incorporates into his definition the Marxist idea
that the raw material that produces a capital resource is always, at its ulti-
mate origin, human labor. Although the idea that “capital can take a vari-
ety of different forms” (Bourdieu and Wacquant 1992: 119) is critical to
Bourdieu’s scholarly enterprise, he does state that “capital presents itself un-
der three fundamental species . . . , namely, economic capital, cultural capital,
and social capital” (Bourdieu and Wacquant 1992: 119; emphasis in the
original). He defines social capital as “the sum of the resources, actual or
virtual, that accrue to an individual or group by virtue of possessing a du-
rable network of more or less institutionalized relationships of mutual ac-
quaintance and recognition” (Bourdieu and Wacquant 1992: 119).

Bourdieu (1980) places less emphasis than Homans or Granovetter
on the constituent elements of the relationships that generate social capi-
tal. He calls attention, rather, to two other points. The first is the number
of relationships that an individual has. Bourdieu emphasizes, however, that
simply having a large number of relationships is insufficient: a measure of
an individual’s social capital must include some indicator of the resources
available through those relationships.

In sum, the work of Homans, Granovetter, and Bourdieu delineates
three conceptual dimensions of social capital: 1) the quantity of an indi-
vidual’s social relationships; 2) the quality of those relationships, which
includes the dimensions of interaction, shared activities, and affect; and 3)
the value of the resources that partners in the relationship can potentially
make available to an individual.

3. Group membership and interaction influence the development of
social capital for individuals.

The definition of social capital as an attribute of an individual does
not mean social structure is irrelevant. Social capital is an individual at-
ttribute that describes relationships, the building blocks of social structure.
Theorists differ, however, in how they conceive of the relationship between
social capital—or the aspects of social relationships captured by the con-
cept of social capital—and the larger social structure.
Homans and the individualists

After defining social capital as an engine of institutional innovation, Homans (1961) argues that the replacement and continual deployment of social capital in a society is what maintains both the existence of particular institutions and the process of institutional innovation within the society. In this explanation Homans is concerned with group-level outcomes, but stresses the individual-level basis of these outcomes, as in the passage:

[I]nstitutions do not keep going just because they are enshrined in norms, and it seems extraordinary that anyone should ever talk as if they did. They keep going because they have pay-offs, ultimately pay-offs for individuals. Nor is a society a perpetual-motion machine, supplying its own fuel. It cannot keep itself going by planting in the young a desire for those goods and only those goods that it happens to be in shape to provide. It must provide goods that men find rewarding not simply because they are sharers in a particular culture but because they are men. (Homans 1961: 390)

This passage demonstrates that Homans expected people to be wary of participating in social interaction and activities when the benefits of that participation extended to others. His theory of distributive justice is based on the idea that people will refuse to participate in activities and interactions that produce resources for the group as a whole when the rewards to themselves of doing so are disproportionately small, compared to the rewards to other members of the group, even when those rewards are still profitable in purely individual terms (Ekeh 1974). In Homans’s view, then, two necessary conditions must be met before individuals will invest in social capital by joining a group: 1) they must find it personally profitable to do so; and 2) they must perceive their rewards to be equitable relative to those accruing to other members of the group.

Lévi-Strauss and the collectivists

Ekeh (1974) refers to research on social exchange that follows from Homans as the “individualist” branch of social exchange theory. He notes that a source of inspiration for Homans in the development of that theory was a polemical reaction (Homans and Schneider 1955) against an alternative conception of social exchange, which Ekeh denotes the “collectivist” branch of social exchange theory. The collectivist tradition follows broadly from the work of Durkheim, but has a contemporary standard bearer in Claude Lévi-Strauss. In this tradition there exists an even better-articulated set of ideas about how groups influence individuals’ investment in social capital.
In contrast to the individualist view, collectivists believe that some individual-level human behavior is oriented toward nonutilitarian ends, rather than exclusively oriented toward the benefits of the individual actor. Lévi-Strauss writes:

\[ \text{The value of exchange is not simply that of the goods exchanged. Exchange \ldots has in itself a social value. It provides the means of binding men together, and of superimposing upon the natural links of kinship the henceforth artificial links—artificial in the sense that they are removed from chance encounters or the promiscuity of family life—of alliance governed by rule. (1969: 480)} \]

Ekeh (1974) points out that, for Lévi-Strauss, the idea that human motivations in exchange were ultimately reducible to utilitarian concerns stems from the faulty premise that social organization emerged from an effort to cope with an actual shortage of essential goods—"economic scarcity." What Lévi-Strauss observes, however, is that much social organization constitutes an effort to remedy "social scarcity." Social scarcity does not result from any objective shortage of the desired good, but rather is induced by a rule that individuals may partake of some, but not all, of the desired goods. The quintessential example is the incest taboo, the ubiquitous rules about who may marry whom in a given group. Lévi-Strauss condemns the logic of those who see the incest taboo as emerging from a primordial assortative mating problem. Arguing at one point explicitly against Frazer (1919), he writes:

\[ \text{We have constantly sought to show that, far from exchange being a form of purchase, purchase must be seen as a form of exchange. Because Frazer was happy to give his primitive man the mentality of the } \text{Homo Œconomicus as conceived of by nineteenth-century philosophers he completely failed to see the solidarity between the preference for cross-cousins and the prohibition of parallel cousins. \ldots But it is precisely from the economic viewpoint that exchange should not be envisaged. Frazer first postulates the existence of economic goods, including women, and he asserts that from the economic viewpoint it makes no difference whether sisters are exchanged between cross-cousins or between parallel cousins. There is no doubt but that it leads to an impasse. By contrast, our first postulate is the awareness of an opposition between two types of woman, or rather between two types of relationship in which a man may stand with a woman. \ldots We have shown how this primitive opposition is used to build up a structure of reciprocity, according to which the group which has received must give, and the group which has given can demand. (Lévi-Strauss 1969: 138)} \]

The idea of social scarcity and the resultant "exigency of the rule as a rule" (Lévi-Strauss 1969: 84) leads to an important premise of collectivist
social exchange theorists, namely that motivations beyond individual utilitarian ones—specifically motivations to maintain a group’s existence, even at substantial individual cost—are operative in social exchange. Moreover, because of these nonutilitarian motivations, collectivist social exchange theorists regard social exchange as fundamentally different from economic exchange.

The different perspectives on human motivation adopted by the individualists and the collectivists have been debated extensively in the social exchange literature (and elsewhere), as the passage we cited from Homans demonstrates (see also Emerson 1976). On the one hand, examples abound of people who abide, at some cost, by the rules and norms of a group to which they belong, not only in accounts of tribal cultures, but in the everyday experience of most people. These facts seem to support Lévi-Strauss’s point of view. On the other hand, altruism toward the group as a whole as a way of accounting for human behavior appears to deny the role of human agency in a way that seems to contradict empirical reality.

Granovetter (1985) describes the dilemma as one of accounting for the embeddedness of human behavior in systems of social relations. He begins by arguing against two ideas. The first, which he attributes to sociologists, is that people’s behavior is contingent principally on internalized social norms, which may be inferred by an observer from the social positions that they occupy. This is the position that Homans attributed to Lévi-Strauss. The second idea is one Granovetter attributes to economists, namely that people’s behavior is contingent principally on self-interest, which individuals calculate without reference to the systems of social relations in which they lead their lives. Granovetter argues that people pursue individual goals, taking into consideration the networks of social relations in which they find themselves. Granovetter asserts that sociologists have emphasized one result of this fact—that people allow their behavior to be constrained by those relations—to the exclusion of another result of this fact—that people sometimes use those relations in order to achieve their ends. In other words, they use the networks of social relations in which they are embedded as a capital resource. His specific example concerns people’s economic behavior:

The embeddedness argument stresses . . . the role of concrete personal relations and structures (or “networks”) of such relations in generating trust and discouraging malfeasance. The widespread preference for transacting with individuals of known reputation implies that few are actually content to rely on either generalized morality or institutional arrangements to guard against trouble. Economists have pointed out that one incentive not to cheat is the cost of damage to one’s reputation; but this is an undersocialized conception of reputation as a generalized commodity, a ratio of cheating to opportunities for doing so. In practice we settle for such generalized information when
nothing better is available, but ordinarily we seek better information. Better than the statement that someone is known to be reliable is information from a trusted informant that he has dealt with that individual and found him so. Even better is information from one's own past dealings with that person. (Granovetter 1985: 490; emphasis in the original)

In other words, the apparently selfless motivations that underlie behavior that promotes the creation, expansion, or maintenance of a group can be conceptualized as investment in social capital.

4. The structural properties of groups influence the development of social capital for group members.

One of Lévi-Strauss’s (1969) contributions to social theory is the observation that groups characterized by generalized exchange—or exchange in which no two partners directly exchange—are more cohesive and solidary than those characterized by restricted exchange—where all social exchange goes on in dyads. Restated in social capital terms, Lévi-Strauss goes beyond the simple observation that social interaction and exchange may produce resources (i.e., social capital) that are available to be used for further ends. He goes on to hypothesize that certain patterns of social interaction—that is, social structures—are particularly likely to engender social capital for individuals within those structures.

Ekeh (1974: 130) suggests a specific mechanism whereby generalized exchange promotes the development of social cohesion that lends itself to restatement in social capital terms and that links the ideas of Lévi-Strauss to those of Homans. In a restricted exchange structure, people are ruled by ideas of “fair exchange,” the observation that led Homans to his principle of distributive justice. Fair exchange dictates that a person make what Ekeh calls “interpersonal” comparisons about the costs and benefits of exchange—that is, comparisons across people. Ekeh argues that people exchanging within a generalized exchange structure are ruled instead by ideas about “profitable exchange,” which dictate that people make what Ekeh calls “intrapersonal” comparisons about the costs and benefits of exchange—that is, within-person comparisons across time (before and after the exchange). This is because under restricted exchange all costs and benefits to all parties are transparent; under generalized exchange people are insulated from the ability to make interpersonal comparisons since they do not directly exchange with any other person. The flaw in Homans’s theory of distributive justice, according to Ekeh, lies in Homans’s belief that it would be operative within all groups. Rather, it will be operative in groups where the structure of exchange that constitutes the group’s activities, interactions, and sentiments is one of restricted exchange. Thus, under restricted exchange, some subset of group members for whom it would be advanta-
geous to invest in social capital for themselves by joining a group will refuse to do so on the grounds of fairness. This results in a loss of social capital not only to themselves, but to all of their potential exchange partners in the group. Under generalized exchange, all those for whom it would be advantageous to invest in social capital will do so.

For example, an academic society such as the Population Association of America may establish a dues schedule under which graduate students pay less in fees than it costs the Association to provide them with services. In order to stay out of deficit, such an organization makes up the difference by charging other members more than what it costs to provide them with services. Members asked to pay higher dues decide whether or not to invest in the social capital that group membership provides to them (typically a great deal in academic associations) solely on the basis of whether it is worth the price charged. One can easily imagine, however, that if some members were asked to personally subsidize a particular student member whom they knew as a condition of their own membership, many would resist and some would refuse, even if they derived great benefit from membership. At the same time, students lacking sponsors might not be able to join, weakening the organization. The two mechanisms—differential dues and personal sponsorship—accomplish the same objective, but the structural conditions of the first mechanism engender more social interaction and group cohesion by virtue of a generalized exchange structure. Szreter (1997) provides another example of this, writing: “[T]he libertarian Brit-

Generalized exchange is not the only characteristic of a group that influences the amount of social capital it generates for its members. Over the last twenty-five years, Richard Emerson and his students have examined investment in social capital and how it is affected by group structure. Emerson (1976) proposes that sociologists substitute the “exchange relation” for the individual as the unit of analysis in the study of social exchange. An exchange relation is defined as a series of transactions between the same individuals (see also Ben-Porath 1980). From that fundamental idea, Emerson defines an exchange connection: “Two exchange relations are connected to the degree that exchange in one relation is contingent upon exchange (or non-exchange) in the other relation” (Cook and Emerson 1978: 725). In the empirical work that followed from these formulations, Emerson and his students have investigated how a given set of
exchange connections structures subsequent exchange and, in so doing, promotes or inhibits the development of particular social forms.

Emerson did not specifically use the term social capital, but what he called an exchange connection is a special case of social capital, namely, the case where the resources generated from a relationship may be used for the production of other relationships. The work that his original conceptions inspired (see Cook 1993a) illuminates and exemplifies how the structural features of a group affect individual members' investments in social capital. For example, Mary Gilmore (1993) tests Lévi-Strauss's proposition that generalized exchange structures produce more resources among the members of a group than restricted exchange structures. In her study, subordinates in a hierarchical structure were more likely to form a coalition against a powerful single actor under conditions where their relationships with each other took the form of generalized exchange than under conditions where their relationships took the form of restricted exchange. Moreover, those in generalized exchange structures were more likely to report feelings of solidarity with others than those in restricted exchange structures.

5. The acquisition and maintenance of social capital are major motivators of human behavior, particularly family behavior.

Motivation is the key to understanding social action. Family behaviors, including marriage and childrearing, remain the classic examples of investment in social capital. Our fifth proposition goes beyond the statement that possession of social capital influences individual outcomes to argue that the desire to possess social capital shapes individual behavior.

Ekeh writes: “For Lévi-Strauss . . . the motive behind social exchange transactions is to build up social networks interlocking the social exchange actors” (Ekeh 1974: 202). That these networks constitute resources for individuals is clear in Lévi-Strauss's exposition: consider, for example, his discussion of how research subjects explain the benefits of the incest taboo. In a passage in which he uses material from Margaret Mead's (1935: 84) study, Lévi-Strauss writes of the responses of informants to the question “Does a man ever sleep with his sister?”:

The ethnographer pressed the point, asking what they would think or say if, through some impossibility, this eventuality managed to occur. Informants had difficulty placing themselves in this situation, for it was scarcely conceivable: “What, you would like to marry your sister! What is the matter with you anyway? Don't you want a brother-in-law? Don't you realize that if you marry another man’s sister and another man marries your sister, you will have at least two brothers-in-law, while if you marry your own sister you will have none? With whom will you hunt, with whom will you garden, whom will you go to visit?” (Lévi-Strauss 1969: 485)
This passage emphasizes that resources which an individual man may use to further his own ends—to hunt successfully, to harvest his crops on time, to have friends—accrue as a result of marrying another man’s sister and granting permission for his own sister to marry still another man. Acquisition of these resources is what motivates the man’s behavior.

Within families, the rational calculation of the individual costs and benefits of a particular exchange (or series of exchanges) is not the dominant rule by which people make choices (Curtis 1986; Meeker 1971). Many types of family behavior are tantamount to the expansion, maintenance, or creation of a family group. For example, when two people marry, actual or potential linkages among their respective relatives are established. In many cultures the quality of these links and the resources they provide are the main considerations in the decision to marry or arrange a marriage for someone else. Many people provide resources to family members of their own or a different generation, in full awareness that reciprocity from the direct beneficiary is unlikely.

In the United States the phrase “starting a family” is usually reserved for having a first child, rather than getting married. This usage connotes that fertility is regarded by Americans as a critical behavior in the creation of families. Yet this idea is rarely invoked in conventional fertility theories. As a result such theories cannot explain why fertility does not fall to zero in industrialized societies, where children are very expensive and provide few direct benefits to parents (e.g., Friedman, Hechter, and Kanazawa 1994). Children can be socially instrumental even when they are not economically instrumental, as we noted above. Furthermore, an empirical analysis of fertility intentions in the United States found that the social capital value of children was a prime motivation for childbearing (Schoen et al. 1997).

In a critique of theories of fertility decline, Anthony Carter advances two concepts of agency, “one active and one passive.” These concepts have dominated attempts to account for fertility change. . . . The passive concept of agency sees people as adhering to conventions or following rules. Human conduct is thus narrowly channeled by norms and institutions. The active concept of agency sees people as deliberately choosing the level of their fertility through some form of abstract rationality. Though the balance between these two forms of agency has shifted, social science accounts of fertility change remain caught between the two poles they define. (Carter 1995: 55)

We propose investment in social capital as a third dimension of agency. This dimension affirms the centrality of human choice and agency in social theory (which was so important to Homans) while simultaneously explaining why people contribute so much of themselves and their resources to
accomplish group-level goals (which Lévi-Strauss documented in such detail), especially in domains of life like the family.

Our fifth proposition lends itself to the formulation of theories that are widely applicable and that are capable of generating culturally and historically specific hypotheses about how families will change. The effects of, for example, the transformation of the economy from an agriculture base to an industry base may imply many kinds of changes in the daily organization of people’s family lives. How family behavior will adjust itself to these changes will depend on the changing value of family ties in the light of the new economic structure, as well as on the previous social capital value of different types of family ties. Industrialization transforms family life, in different ways in different places (Greenhalgh 1985; Tsuya and Mason 1995), but the social capital concept can provide an overarching framework for analyzing the process.

Some illustrations

Among the Kpelle of Liberia, as described by Caroline Bledsoe, little meaningful distinction is made between investment in material and social capital: “Because wealth, status and security lie in people, many political processes and relationships pertain directly to attracting and holding on to followers” (1980: 53). The Kpelle are a particularly useful example to illustrate our first proposition because Bledsoe makes it clear that social ties are considered an individual investment and that their value accrues to the individual who possesses them. Both men and women enact a wide range of investment strategies, men primarily through wives and children, and women through children, lovers, and fictive kin arrangements, in order to attract patrons and to create dependents. For example,

A woman . . . persuaded her lover to build her a house and then took in local girls as wards and boarders. By lending the girls out to important men in exchange for gifts and political recognition, she ultimately amassed enough wealth and power to become a paramount chief. (Bledsoe 1980: 131)

Bledsoe’s research on the Kpelle indicates that the quantity and quality of one’s social ties and the amount of resources available from them vary, making them an illustration of our second, as well as our first, proposition. She shows that, in addition to the number of ties, their quality (kin and, in a pinch, fictive kin are more reliable investments than non-kin) and the wealth involved are also relevant. For a Kpelle woman, a wealthy patron or lover who can offer access to jobs and housing in the city, money for school fees, or both, is more valuable than an otherwise equally attractive
individual who lacks these resources; a relationship in which one is superordinate is usually more valuable than one in which one is subordinate.

More generally, people vary in how many family ties they have (e.g., some people are unmarried; other people have many children), in how strong the ties between themselves and family members are (e.g., some parents desert their children; other people marry their cousins), and in the nature of the resources their family members control (e.g., some people are related to persons of wealth and influence, others are not). Thus, the amount of social capital individuals derive from family ties varies across individuals, and varies within individuals by different types of family ties and time.

Within a given culture, there are usually systematic differences by gender and age in the mutual obligations of people in a family relationship. For example, in the contemporary United States the elderly who have spouses, daughters, and living siblings tend to remain out of institutions longer than those who do not, while having a son makes no difference in the rate at which people are institutionalized (Freedman 1996). These results imply that in the United States the filial care needed to keep the frail elderly out of institutional settings is provided principally by daughters, not sons. By contrast, in much of Asia, the duty of caring for elderly parents falls to sons (sometimes a son of a specific birth order), not daughters. The higher amounts of social capital available from sons than daughters result in strong son preference in much of Asia. This son preference, in turn, has consequences for fertility levels (Chowdury and Bairagi 1990), infant and child mortality levels (Das Gupta 1987; Kishor 1993; Muhuri and Preston 1991), and the demographic, political, and social structure of society (Johnson 1996; Li 1995; Park and Cho 1995).

Similarly, the amount of social capital inherent in the parent–child relationship also reflects the age and resources of the parent. Using both ethnographic and survey data, Cherlin and Furstenberg (1986) describe the typical relationship between American grandparents and their grandchildren as “intimacy at a distance.” Yet these same scholars and others (Weinick and Astone 1996) observe that when their grandchildren’s well-being is compromised by stress within their nuclear families the grandparents often behave like the “national guard” and enter their grandchildren’s lives in a more involved way until the crisis passes. Clearly, however, the ability of the grandparents to take up the slack for parents in times of crisis is affected by their age, level of frailty, and available resources.

Our third proposition, that groups facilitate the development of social capital for individuals, is of particular help for the study of marriage. The conceptual models used by family demographers trained in economics and sociology have similar elements: people are seen as participating in family life (e.g., marrying or having children) in order to derive benefits, and with-
drawing from family life (divorcing, remaining childless, abandoning one’s children) when the costs of these benefits exceed their value (Becker 1981; Nye 1978, 1980). These models have proven to be less than satisfactory both theoretically and empirically, as the following examples illustrate.

With respect to marriage, many apparently unsatisfactory unions remain intact, whether unsatisfactory is defined as a marriage characterized by asymmetrical exchange (MacDonald 1981) or a marriage in which at least one spouse reports dissatisfaction (Lewis and Spanier 1979). Women’s economic independence has only a weak and inconsistent effect on the probability of getting married, but, as Oppenheimer (1994) points out, theories that stress the efficiency of role specialization are uninformative as to why women who are able to support themselves continue to want to be married. Although the costs of marital disruption to women have declined in recent cohorts (Smock 1993), they remain too large to be wholly compatible with theories of divorce that focus on women’s economic independence. The fact that remarriage is the most reliable way to alleviate the economic distress that accompanies divorce for most women underscores this point (Duncan and Hoffman 1985).

One problem with conventional models of marriage used by family demographers is that they generally view marriage as strictly a dyadic exchange. A better conceptualization is that marriage is a relationship that occurs within a larger system of social exchange. This point of view directs attention to the embeddedness of each member of the couple in systems of social relations other than the marriage itself and hence to the utility of being married for achieving ends that may be external to the day-to-day exchanges of the marriage itself.

For example, analysts can incorporate into their models the idea that asymmetric exchange constitutes investment in social capital on the part of the partner who, from a dyadic perspective, is getting short-changed. The social capital that inheres in marriage can be tangible, such as job connections provided by in-laws or health insurance provided by a spouse’s employer. It can also be intangible as in emotional bonds to children, in-laws, or a group of mutual friends that might be strained or even severed by dissolution, or the health benefits that researchers consistently find associated with marriage (Lillard and Panis 1996; Lillard and Waite 1995).

Our fourth proposition (which states that different groups produce different levels of social capital for group members) directs attention to systematic differences in the family as an institutional form, as one important cause of differences in the nature of social capital derived from family ties. To illustrate the utility of this proposition for family demography let us begin with the specific example of generalized exchange that was our inspiration. Lévi-Strauss hypothesized that, when the family as an institution is characterized by generalized, rather than restricted patterns of social exchange, investment in family ties will be greater. Jean Peterson (1990,
1993) provides strong evidence for this in her description of family exchange in the highland Philippines. In one study (Peterson 1990) she calls attention to systematic variation, by birth order and gender, in the roles that siblings typically assume in familial exchanges; she shows that this gender and birth-order specialization necessitates a structure of generalized exchange (Peterson 1993). For example, a couple heading a farm family will, in part by borrowing from their siblings, scrape together the money to educate an older daughter. This daughter in turn will pay for her nephew’s and her younger brother’s schooling. Years later, the nephew leaves the farm to get a job in the city, and his wife fosters his aunt’s children, so they can attend a good school in the city as well. The brother remains on the family farm and he and his wife take chief responsibility for the care of the farm couple, who are now frail and elderly. Peterson writes:

The interaction of siblings in specialized and complementary roles, therefore, promotes family solidarity and both intergenerational and intra-generational cohesion. The sibling exchange described here is relatively intense, with the majority of siblings acknowledging receipt of concrete aid from their brothers and sisters... I would propose two conditions necessary for this degree of solidarity. These are large family size and the necessity of family self-reliance to ensure family welfare—that is, a lack of other institutions that adequately meet family needs. These conditions are characteristic of most families in less developed countries. (Peterson 1990: 449)

In this passage, Peterson shows how the generalized exchange structure of the family enhances the social capital value of family ties and thus provides a motivation for high fertility. One type of social capital that children provide to their parents is old-age support. This form of social capital as a motivation for fertility is a mainstay of family demography (Nugent 1985), but Peterson’s formulation goes well beyond this. For the families she studied, the social capital value of large sibling sets containing both sisters and brothers was high and fungible. In her model, a large sibling group provided social capital not only for the parents who are having the children, but also for the extended family and for the children themselves. In short, in Benguet Province, good parents provide their child with siblings, because in so doing they indirectly make available to that child resources they cannot directly provide themselves.

Another example of how structural features of the family affect the social capital of individuals is found in the widely cited article by Tim Dyson and Mick Moore (1983), in which they hypothesize that in India, endogamous marriage leads to later age at marriage, lower fertility, and lower levels of excess female mortality in infancy and childhood. Restated in social capital terms, Dyson and Moore demonstrate that women in South
India have more nonmarital social capital than women in North India, whose access to resources is almost completely determined by marital social capital. They hypothesize that the combination of these similarities among Indian women (almost total dependence on resources from social capital, as opposed to other sources) and differences among women (the amount of social capital that inheres in nonmarital relationships) are the basis of both similarities and differences in their family-building behavior.

Peterson and Dyson and Moore developed their fruitful ideas without using the concept of social capital. Emily Agree and her colleagues (Agree et al. 1998) have extended Peterson’s work on generalized exchange to the rest of the Philippines and to Taiwan. Dyson and Moore inspired a new generation of studies (e.g., Das Gupta 1987; Muhuri and Preston 1991; Malhotra, Vanneman, and Kishor 1995; Morgan and Niraula 1995) that have greatly advanced our understanding of South Asian family demography. Yet, the work of these scholars is seldom cited by demographers studying the family outside Asia. Because one of the goals of social science is to reach scientific generalizations about the interaction between social institutions and demographic behavior (Smith 1989; Mason 1991), the concept of social capital highlights the similarities in the bases of family behavior across divergent cultural contexts, levels of development, and periods of history (Coleman 1990: 305). Recasting Dyson and Moore’s or Peterson’s hypotheses in social capital terms enables researchers to more easily apply their thinking to family-building behavior in different contexts.

For example, Peterson makes the same observation as Oppenheimer (1994), that the process of industrialization changes the nature of the resources people want from their family ties. Specifically, both scholars argue that, in developing economies, role specialization among family members is the key to avoiding correlated risk. In industrialized economies, by contrast, substitutability across family members in family roles is more advantageous. Oppenheimer, who discusses marriage, points out that while economic development undoubtedly changes the attributes of a desirable spouse (from one that is complementary to one that is substitutable), it does not necessarily reduce the value of having a spouse per se. In other words, the social capital value of being married may remain the same, while the characteristics of a spouse that can provide social capital shift. This in turn transforms the pattern of marriage in society, which influences the institutional structure of the family in an ongoing process of social change.

Finally, our fifth proposition (that investment in social capital is a major motivation for much human behavior) facilitates the incorporation of normative and affective considerations into models of family-building behavior, while neither abandoning the materialist premise of purposive behavior nor inaccurately assuming that people value the pleasures of love or the satisfactions of childrearing in monetary terms. Instead, our proposition demonstrates the power of the social capital concept to reconcile the
individualist and collectivist views on the motivations for social exchange. Social capital is sometimes subjective and intangible, but it can be an essential resource, even in societies that, unlike the Kpelle, do distinguish between investing in material and social capital.

Consider, for example, young persons belonging to ethnic minorities in the United States, many of whom come from poor families that have adopted a structure of generalized exchange as a strategy for coping with ethnic prejudice and economic insecurity (Angel and Tienda 1982; Burton 1990; Stack 1974; Tienda and Angel 1982). If such young people become educated and take up professional jobs, they may suddenly be inundated by demands for assistance from close, extended, and fictive kin. They may sometimes think that by diluting their own resources across so many family members, those resources are, at the very least, being used inefficiently, if not unjustly. A strictly individual, utilitarian calculation of costs and benefits, under this circumstance, may dictate that these young people renege on obligations to kin. In so doing, however, a young person may lose crucial social capital. Lingering ethnic prejudice and residential segregation by ethnicity keep minority professionals at a substantial social distance from the people with whom they work, limiting the development of alternative forms of social capital. Cultural differences in manners and customs exacerbate the difficulty, as does widespread suspicion by many Americans that minorities are in a favorable employment situation as a result of affirmative action policies. A young person in this situation might prefer the financial drain of kin ties to the loneliness and isolation that could result without them.

Despite its stress on the material basis of norms and preferences, our fifth proposition does not simply lead us to a model of how social structure emerges from individual utilitarian motivations. It also directs us to consider questions of social interaction and of the structural conditions under which people's capacity for devotion, compassion, altruism, and collegiality emerge and thrive. Furthermore, in doing so, our proposition points to a powerful mechanism for individual feedback into the social structure and thus a vehicle for social change (Mason 1991).

For example, Monica Das Gupta writes of the Punjab:

For every individual, brothers and sons are more valuable than sisters and daughters. This does not mean that sisters and daughters may not be loved as much as brothers and sons. However, a girl values her brother more than her sister because the former will do much for her throughout life, while the latter will effectively disappear after marriage. Similarly, a woman values her sons more than her daughters because the former will be her major source of support. Indeed, a woman's position in her husband's home is not consolidated unless she produces at least one son. (1987: 92; emphasis in the original)
Our fifth proposition suggests that researchers consider the question of which structural features of the family as an institution constrain people's ability to manifest their love for, say, sisters and daughters, and which do not. Moreover, the proposition calls attention to the fact that, when social institutions systematically restrict the resources of particular individuals, this will, by our second proposition, restrict the social capital that derives from a relationship with those individuals. To the extent that people are dependent on social capital for resources, this structural inequality will affect the formation, quality, and dissolution of relationships with those people whose resources are structurally limited. In this way, the concept of social capital can help in the development of conceptual models of how family structure and family behavior help reproduce and maintain systems of social inequality (Curtis 1986).

Conclusion

In this essay, we reintegrated the concept of social capital with classical social exchange theory from which it originated. In that context, social capital can be a valuable concept for family demography because it illuminates why individuals manifest particular family-building behavior, why such behavior exhibits systematic variation across populations, and why such behavior within populations changes over time. The social capital concept directs attention to the benefits of family life for individuals, above and beyond the day-to-day dyadic exchanges that are its content. In so doing, it can show how family bonds transform and endure under conditions of rapid social change or material deprivation. Such a focus encompasses both the structural characteristics of the family as an institution and the intangible rewards of human relationships, without resorting to the misuse of norms or preferences as an analytic deus ex machina.

The work of family demographers can make an important contribution to the understanding of change in the components of social capital and in its deployment over time. Not only does the possession of social capital influence individual outcomes, but the desire to possess social capital shapes individual participation in the familial and nonfamilial institutions that constitute society.

Notes

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This is in sharp contrast to Bourdieu, who explicitly disavows any such attempt (Bourdieu and Wacquant 1992: 118).

In fact, research done after publication of Coleman’s article and chapter has demonstrated that there is, on average, a higher level of social capital available to children who live with both birth/adoptive parents (Astone and McLanahan 1991) and who attend Catholic schools (Teachman, Paasch, and Carver 1996).

Homans misconstrued Lévi-Strauss’s position somewhat. To argue, as Lévi-Strauss did, that the motivations for behavior are symbolic as well as utilitarian is not necessarily to imply that symbolically motivated behavior is thoughtless or unreflective. See for example Weber’s (1978) discussion of irrational action and Zweckrational behavior.

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During the last 300 years world population has increased roughly tenfold. In 1700 world population was less than 700 million. Today on the eve of the twenty-first century, it stands close to 6 billion. While population growth rates have begun to decline throughout much of the world in recent times, population is expected almost to double again to some 11 billion, before stabilizing by the late twenty-second century.1

Malthusian models

Ever since this acceleration in population growth began in the eighteenth century, population has been a central focus of social theory. The classic economists—Adam Smith, David Ricardo, and Robert Malthus, in particular—were all preoccupied with the relationship between population and social welfare. Their writings have greatly influenced later thinking on the processes and consequences of demographic change. Despite the triumphs of modern economic growth, the Malthusian concern that population growth imposes constraints on material progress and social wellbeing has persisted into the late twentieth century.

So has the Malthusian postulate that checks to population growth require cultural constructs and social formation peculiar to Western society. In his famous essays on population,2 Malthus identified two kinds of checks.

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1 These numbers are derived from data from the United Nations Population Division, Department of Economic and Social Information and Policy Analysis. See also Biraben (1979), Coale (1975), Durand (1977), and McEvedy and Jones (1978).

2 Malthus published the first edition of An Essay on the Principle of Population anonymously in 1798 and a substantially revised second edition in 1803. This second edition was followed by subsequent revised editions in 1806, 1807, 1817, and 1826. In 1986, an eight-volume complete edition of The Works of Thomas Robert Malthus, edited by E. A. Wrigley and David Souden, was published. We cite this edition here.
Either population growth was controlled by restricting nuptiality, which Malthus termed the preventive check and identified with the "modern" European world; or population grew uncontrollably until increasing poverty led to rises in mortality, which Malthus termed the positive check and identified with the nonmodern European and non-European world. For Malthus, delayed marriage was the preferred check on population growth. In contrast with the positive check, which operated through vice or misery, the preventive check operated through "moral restraint," which was an individual decision to forgo marriage until one could support a family. This postponement not only encouraged individual savings and discouraged poverty; by restricting population growth, it kept the price of labor high and assured general prosperity.

Malthus, in other words, was one of the first social theorists to compare the affluence of modern Western society to non-Western and nonmodern Western societies and to link the gap between them to specific patterns of demographic behavior. His conclusion, that modern affluence was partly a product of differential population growth, has had a powerful influence not only on Western social theorists, but even on present-day Chinese policymakers. For Malthus, what we today term family planning required a uniquely Western ability to calculate consciously the costs and benefits of having children, and to decide deliberately to delay or abstain from marriage. Prosperity, in other words, was a product of Western individualism and Western rationality.

Indeed, we now believe that the rise of such conscious individual decisionmaking resulting in small families is connected to the increase in literacy, the emergence and diffusion of Western individualism, and the growing penetration of market economies. Such scholars as John Hajnal (1965, 1982) and Alan Macfarlane (1978, 1986, 1987) have suggested that the

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3 The metageography is from Malthus, who included a long and detailed survey of both worlds in the first two "books" of the second and subsequent editions of his essay and concluded, "In comparing the state of society which has been considered in this second book [on modern European society] with that which formed the subject of the first [on non-European and nonmodern European societies], I think it appears that in modern Europe the positive checks to population prevail less, and the preventive checks more than in past times, and in the more uncivilized parts of the world" (Malthus 1826/1986: 315).

4 "The period of delayed gratification would be passed in saving the earnings which were above the wants of a single man, and in acquiring habits of sobriety, industry and economy, which would enable him in a few years to enter into the matrimonial contract without fear of its consequences. The operation of the preventive check in this way, by constantly keeping the population within the limits of the food, though constantly following its increase, would give a real value to the rise of wages and the sums saved by labourers before marriage . . ." (Malthus 1826/1986: 475).

5 Here and elsewhere we follow the stylized lead of the neo-Malthusians and use East to refer to China and West to refer to Western Europe, especially England (Schofield 1989: 284–285). According to Malthus's own definitions, "modern" Europe comprised Norway, Sweden, Russia, the middle parts of Europe, Switzerland, France, England, Scotland, and Ireland, while non-Europe and nonmodern Europe included Tierra del Fuego, the American Indians, the Islands of the South Sea, the ancient inhabitants of the North of Europe, modern pastoral nations, Africa, Siberia, the Turkish dominions and Persia, Hindustan and Tibet, China and Japan, and the ancient Greek and Roman world.

6 Goody (1996) discusses in detail the claim of the superiority of the West over the East and devotes a long chapter, almost one-fifth of the book, to the Malthusan and neo-Malthusan contributions in particular.
European origins of the demographic transition, the European roots of individualism, and even the European development of nineteenth-century capitalism are all intertwined and embedded in a European family and demographic culture that encouraged such revolutionary social and economic changes. By identifying and linking demographic systems both more explicitly and more systematically to social, economic, and cultural systems than Malthus did himself, they and other contemporary social theorists have elevated the level of Malthusian discourse and have amplified the theoretical implications of Malthusian formulations (Goody 1996).

In such a conception, non-Western patriarchy, social formation, and economic processes are all subsumed in a universal binary “other” that by its very nature is antimodern. China, in particular, is singled out as the personification of this other—partly as a consequence of its size, partly as a consequence of its better-documented history. Malthus specifically identified China as the prime example of a society dominated by the positive check and virtually devoid of any preventive check.7 Similarly Hajnal (1982) and Roger Schofield (1989) have proposed that if the Western European family system stood at one extreme of the social spectrum, China, together with India, occupied the other.8

This conflation and sweeping generalization originate at least partially from a paucity of empirical knowledge about Chinese society and population, not just two centuries ago, but even today. As recently as two decades ago, there were virtually no demographic students of China and little available data. China was at once the largest and the least known of any historical or contemporary human population.9 As a result, while research on European population history has confirmed Malthus’s observations of European, particularly English demographic behavior,10 the absence of similar studies of Chinese population history has facilitated the perpetuation of the binary opposition elaborated by Malthus. Superficial eighteenth-century commentaries have consequently become time-honored truths; Malthusian hypotheses have become accepted theories.11

All this, however, is beginning to change. New data and new methods have reconstructed the population history of virtually all the 1.7 bil-
lion Chinese alive since 1950 and 0.5 million of the 3 billion Chinese alive in the eighteenth, nineteenth, and early twentieth centuries. Although such research is only beginning to uncover regional variations in Chinese demographic behavior, the broad contrasts with European demographic behavior and its Malthusian conceptualization are already apparent.\textsuperscript{12}

As a result, we can now better appreciate the significance of China’s historical and contemporary population. The third largest country in the world in terms of area, China is the largest in terms of population.\textsuperscript{13} The country’s nearly 1.3 billion people account for roughly one-fifth of the world’s population. This proportion was even larger in the past.\textsuperscript{14} Figure 1 compares

\textbf{FIGURE 1} Population of China and the world, A.D. 1-2000

\begin{figure}
\centering
\includegraphics[width=\textwidth]{population_chart.png}
\caption{Population of China and the world, A.D. 1-2000}
\end{figure}

\textit{W} = world \hspace{1cm} \textit{C} = China


\textsuperscript{12} See Lavely and Wong (1998) and Zhao (1997b) for two other attempts at such comparison with Chinese data, and Das Gupta (1995) for a comparison of the European and Indian experience.

\textsuperscript{13} China will eventually lose its title of being the most populous country on earth. Current projection predicts India to replace China before the mid-twenty-first century. According to the United Nations Population Division, while Chinese population is projected to plateau more or less by 2030 at 1.5 to 1.6 billion, Indian population is projected to continue to grow to almost 1.7 billion by 2150.

\textsuperscript{14} For much of human history world population has been remarkably sparse. While we currently trace our hominid origins back millions of years, we also believe that as recently as 5000 B.C. there were no more than 5 million people, concentrated largely in Asia and Africa. These numbers grew slowly. A demographic regime of high mortality and low fertility restricted global population growth to below 2 per ten thousand a year. While the rate of population growth increased with the rise and spread of settled agriculture during the fifth millennium B.C. and of literate civilization during the first millennium B.C., it required a millennium for population to double. In A.D. 1, world population was still only 150 to 200 million. As late as 1700, 300 years after the Renaissance and 200 years after the Age of Discovery, world population was no more than 600 to 700 million (Biraben 1979, Coale 1975, Durand 1977, and McEvedy and Jones 1978).
Chinese and world population numbers from A.D. 1 to 2000, virtually the entirety of human history for which we have recorded demographic data or reasonable population estimates. For long stretches during the last two millennia, including the last three centuries, one of every three to four human beings has been Chinese.

In this essay and in a forthcoming book (Lee and Wang 1999), we summarize our current understanding of Chinese demographic behavior and confront the classic Malthusian model that has predominated in economic and demographic theory for the last 200 years. In so doing, we construct a stylized model of a Chinese demographic system to contrast with the ideal model first proposed by Malthus and elaborated by others. We suggest that the Chinese demographic system not only provides an alternative demographic model to the Malthusian model of preventive and positive checks; the supposed universality of the Malthusian “opposition” needs qualification, as does the currently prevailing understanding of Chinese society and economy during the last three centuries.

Specifically, we identify four distinctive aspects of Chinese demographic behavior—mortality, nuptiality, fertility, and fictive kinship and adoption—that persist today, that differ from Western patterns, and that temper the Malthusian understanding of comparative demographic behavior in general and of China in particular.

Chinese realities

For Malthus and many contemporary historians (Elvin 1973, Huang 1990), China, one of the richest of human societies, was also one of the poorest. Despite the advantages of natural geography, native industry, and a patriarchal state that raised agricultural production and agricultural productivity to prodigious levels, Chinese living standards were characterized by low wages and poor nutrition. The prevalence of universal and

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15 By “system” we mean the defining characteristics of Chinese demographic behavior during the last 300 years, in contrast to the “European demographic system” identified by Flinn (1981).

16 Thus Malthus, quoting a Jesuit writer, emphasizes the paradox that “the richest and most flourishing empire of the world is notwithstanding, in one sense, the poorest and the most miserable of all!” (1826/1986: 130).

17 Malthus describes “the excellence of the natural soil, and its advantageous position in the warmest parts of the temperate zone, a situation the most favourable to the productions of the earth” (1826/1986: 126).

18 Malthus cites Duhalde, Staunton, and others “who agree in describing the persevering industry of the Chinese, in manuring, cultivating and watering their lands, and their success in producing a prodigious quantity of human subsistence. The effect of such a system of agriculture on population must be obvious” (1826/1986: 128).

19 Malthus refers to “the very great encouragement that from the beginning of the monarchy has been given to agriculture, which has directed the labours of the people to the production of the greatest quantity of human subsistence” (1826/1986: 126).

20 “[T]he price of labour is generally found to bear as small a proportion everywhere to the rate demanded for provisions as the common people can suffer. . . . [T]hey are reduced to the use of vegetable food, with a very rare and scanty relish of any animal substance” (1826/1986: 130).
early marriage,\textsuperscript{21} in particular, reduced most people to a level of subsistence, forcing the poor to live in a state of abject poverty.\textsuperscript{22} This trend was further exacerbated by a custom of partible inheritance that doomed even the rich, leveling wealth after a few generations.\textsuperscript{23} Extreme misery encouraged the common practice of infanticide,\textsuperscript{24} which in turn further encouraged marriage.\textsuperscript{25} Malthus concluded that Chinese population processes were overwhelmingly dominated by the positive, rather than the preventive check.\textsuperscript{26} Indeed he wrote that famines “are perhaps the most powerful of all the positive checks to the Chinese population” (1826/1986: 135). Population processes inexorably doomed China to poverty and worse.\textsuperscript{27}

Aspects of the Chinese demographic system

Mortality. Recent Chinese evidence suggests that Malthus’s understanding of mortality, especially infanticide, needs qualification.\textsuperscript{28} In China, the distinctive influence of mortality on population was not through famines or epidemics, but through individual proactive interventions. Famines of course occurred. So apparently did epidemics.\textsuperscript{29} But these crises appear to

\begin{itemize}
  \item Malthus cites “the extraordinary encouragements that have been given to marriage, which have caused the immense produce of the country to be divided into very small shares, and have consequently rendered China more populous, in proportion to its means of subsistence, than perhaps any other country in the world” (1826/1986: 128).
  \item “The effect of the encouragements to marriage on the poor is to keep the reward of labour as low as possible, and consequently to press them down to the most abject state of poverty” (1826/1986: 130).
  \item “The effect of these encouragements to marriage among the rich, is to subdivide property, which has in itself a strong tendency to promote population. . . . Property in land has been divided into very moderate parcels, by the successive distribution of the possessions of every father equally among his sons. . . . These causes constantly tend to level wealth; and few succeed to such an accumulation of it, as to render them independent of any efforts of their own for its increase. It is a common remark among the Chinese, that fortunes seldom continue considerable in the same family beyond the third generation” (1826/1986: 129–130).
  \item Thus Malthus, quoting Duhalde, observes how, “notwithstanding the great sobriety and industry of the inhabitants of China, the prodigious number of them occasions a great deal of misery. There are some so poor that, being unable to supply their children with common necessaries, they expose them in the streets” (1826/1986: 130). He then concludes, “Respecting the number of infants which are actually exposed, it is difficult to form the slightest guess; but, if we believe the Chinese writers themselves, the practice must be very common” (1826/1986: 134).
  \item Malthus apparently thought that infanticide functioned both as a positive check and as an incentive for marriage. “[T]his permission given to parents thus to expose their offspring tends undoubtedly to facilitate marriage, and encourage population. Contemplating this extreme resource beforehand, less fear is entertained of entering into the married state” (1826/1986: 129).
  \item The only preventive check Malthus recognized in China was the practice of celibacy by Buddhist monks (1826/1986: 132). As a result, he thought that the preventive check did predominate in at least one contemporary Chinese province—Tibet (1826/1986: 122–123). Of course, for Malthus Tibet was clearly part of South Asia, not East Asia.
  \item “[I]n the times of famine which are here but too frequent, millions of people should perish with hunger . . . ” (1826/1986: 131). Similarly Malthus states (p. 132), “All writers agree in mentioning the frequency of the deaths in China.” And he quotes a Jesuit writing to a member of the Royal Academy of Sciences, that “Another thing that you can scarcely believe is, that deaths should be so frequent in China.” Malthus paraphrases the conclusion of the Jesuit’s letter: “[I]f famine did not, from time to time, thin the immense number of inhabitants which China contains, it would be impossible for her to live in peace” (1826/1986: 135–136).
  \item According to Malthus, infanticide was foremost among the vices checking population growth and was typical of many non-Western and nonmodern Western societies, including the classic Greek and Roman world as well as South America, the Pacific Islands, Australasia, South Asia, and East Asia, particularly China (1826/1986: 25–26, 31, 50, 54, 56, 120–122, 130–131, 134–135, 140–141, 146–147, 151–152).
  \item The historical record of epidemics in China is sparse. This is partly related to the nature of sources. It may also reflect the genuine scarcity of epidemics. See Benedict (1996) and Dunstan (1975) for two studies of specific epidemics.
\end{itemize}
have had less severe mortality consequences than they did elsewhere. Successive historic Chinese states developed a variety of institutions to compensate for poor harvests, including an empire-wide system of granaries that annually redistributed up to 5 percent of the national grain supply during the eighteenth and nineteenth centuries (Will and Wong, with Lee 1991). Mortality, partly as a result, remained remarkably stable throughout the eighteenth and up to the early twentieth century. Table 1 summarizes male life expectancy at various ages from all populations in China for which we have reliable data or estimates from the seventeenth century to today. For some 300 years prior to the mid-twentieth century, male life expectancy at birth remained somewhere between the high 20s and the low 30s.30

These large-scale collective enterprises were supplemented by a culture of mortality control through individual agency, which has existed for

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millennia. The pattern of mortality that emerged as a result of these efforts was highly differentiated by age, class, sex, and residential group. On the one hand, educated or wealthy Chinese families with access to knowledge of preventive techniques and the means to make use of them could prolong the life of favored family members by paying particular attention to personal hygiene and diet. On the other hand, Chinese could take life by resorting to infanticide. Such an active influence over mortality meant that survivorship was also determined as much by endogenous decisionmaking as by exogenous fortune. Chinese mortality patterns were consequently shaped not just by biology but also by choice.

Most prominent and prevalent among these choices was a primordial prejudice against daughters. Son preference dates back to the origins of ancestral worship in the second and third millennia B.C. and was reinforced by a patrilineal and patrilocal familial system, supported by the imperial and especially late imperial state, which systematically discriminated against daughters (Bray 1997). Only sons could sacrifice to the family spirits; only sons could carry the family name; only sons could generally inherit the family patrimony (Bernhardt 1995). Patrilocal marriage customs required daughters to marry out, and hypergamous marriage patterns required upper-class families to provide a dowry to accompany them. Daughters, therefore, were not only considered inferior culturally, they were also perceived by most families as a net economic and emotional loss.

Chinese parents, as a result, practiced infanticide to regulate the number and sex of their children. Recent historical studies suggest that female infanticide in eighteenth-century China was prevalent in many, if by no means all, Chinese populations and averaged perhaps some 10 percent of female births nationally. Even boys were vulnerable to such practices. While infanticide declined spectacularly in China during the early twentieth century, sex ratios continue to be biased toward males—implying the continued practice of female infanticide and neglect, though at almost an

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According to Ho (1975), "Oracle texts reveal that Shang kings frequently asked about the sex of infants yet to be born. . . . The word good was used to denote a boy and the phrase not good to denote a girl" (p. 323).

Thus the common saying that "a married daughter is like water spilled on the ground"—one you cannot retrieve.

The earliest reference to female infanticide is a well-known passage from a third-century B.C. Chinese classical text, the Han Feizi: “Moreover, parents’ attitude to children is such that when they bear a son they congratulate each other, but when they bear a daughter, they kill her. Both come from the parents’ love, but they congratulate each other only when it is a boy and kill if it is a girl because they are considering their later convenience and calculating their long-term interests” (p. 319). See Chen (1989) and Liu Jingzhen (1994a and 1994b and 1995a and 1995b) for detailed studies of infanticide in China during the last millennium B.C. and the first millennium A.D. Lee (1981) and Waltner (1995), while less detailed, discuss infanticide in more recent times.

This figure was higher in specific populations and specific years. Lee, Wang, and Campbell (1994) identify female infanticide rates among the Qing imperial lineage, for example, as high as 40 percent in the very late eighteenth century. To date, the only documented Chinese populations that clearly did not practice infanticide are from the twentieth century, in particular from Taiwan. See Lee (1981) and Li (forthcoming) for summaries of the qualitative evidence. Unfortunately, since many populations did not record female children, quantitative evidence is confined to a historical population of approximately 125,000.
order of magnitude lower than in the past. As a result of this practice, the average number of female children surviving to adulthood was particularly low compared to female survivorship in the West (Lee and Campbell 1997: 62, 67).

Chinese mortality patterns were thus highly differentiated by sex. Figures 2 and 3 compare infant and child mortality, respectively, in three European populations and the one Chinese historical population for which we have good estimates. The contrast is striking. While European males and females died more or less in equal numbers during the first year of life, Chinese females died in far larger numbers than Chinese males. While these differences varied by time and place, they were largest among neonates, among which females had a death rate as much as four times that of males (Lee, Wang, and Campbell 1994). At the same time, while a highly sex-specific pattern continued among Chinese children aged one to four years, by the second half of the eighteenth century the direction of the differential was reversed, with only about half as many female as male deaths. Evidently those Chinese families who decided to use infanticide to limit the numbers of their children, especially daughters, also used newly

35 According to Coale and Banister (1994), excess female deaths declined from 15 percent to 5 percent between 1935 and 1950, and almost disappeared in the 1960s. Beginning in the mid-1980s, however, the ratio of males to females at birth rose from 108 in 1984 to 116 in 1991 (Gu and Roy 1995: 24).
available methods of pediatric care to preserve the health of their remaining children, again especially their daughters. Nevertheless, because of the masculinity of the sex ratio at birth and the higher rate of female infant mortality, more male than female children in China survived to adulthood.

Nuptiality. Excess female infant mortality, combined with a significant gap between males and females in the customary age at marriage, produced the second distinctive feature of the Chinese demographic system: an unbalanced marriage market according to sex. Females married universally and early. Males married later, if at all. A shortage of marriageable females prevented a significant proportion of Chinese males from ever marrying, a situation further aggravated in the past by the practice of polygyny and the discouragement of female remarriage. Figure 4 contrasts the proportion of never-married males by age in several European populations around 1800 with a Chinese provincial population at that time for which comparable estimates are available. While Chinese men married earlier than their counterparts in Europe, by age 30 nearly one-quarter of Chinese men were still unmarried. By age 45, in both China and the West, between 10 and 15 percent of men were still bachelors and the Chinese proportion was slightly higher than in Sweden, Denmark, or Norway. Male marriage clearly did not fit the Malthusian model of universal Chinese marriage. In fact, Chinese males had no greater probability of ever marrying than Western males. But while Western men may have avoided marriage...
because of moral restraint, Chinese men were not able to marry because of the consequences of Malthusian "vice."  

Indeed, bachelorhood seems to be a universal Chinese phenomenon regardless of time and place. Table 2 compares estimates of the percentage of never-married men by age 30 and 40 in selected historical and contemporary Chinese populations. From the sixteenth through the late nineteenth century a significant proportion—up to as many as 20 percent of all 30-year-old men—were still unmarried. The Qing imperial nobility was an exception, but even they had a bachelorhood rate as high as 7 percent at age 40. This phenomenon of late male marriage and frequent celibacy continues today. According to the 1 percent sample survey conducted in China in 1995, at age 30, when virtually all women are already married, close to 8 percent of men are still single. Even by age 40, according to this survey, about 5 percent of Chinese men have never been married (State Statistical Bureau 1997: 412).

36 Telford (1992a) was the first to observe the similarity in the probability of Chinese and Western European male marriage. But while bachelorhood in China was due primarily to what demographers call a "marriage squeeze," that is, the unavailability of females, bachelorhood in Europe was due to marriage avoidance.

37 Genealogical records notoriously underrecord bachelors, as they have no surviving progeny and are therefore far less likely to be remembered centuries later at the time of data compilation.
Whereas male marriage in China has always been restricted, female marriage has always been universal. This stands in stark contrast to Western Europe, where female, like male, marriage occurred late if at all. Figure 5 contrasts the proportion of never-married females by age group around 1800 in the same populations shown in Figure 4. By age 20 to 24 the vast majority of Chinese women were already married while a large majority of European women were still single. By age 30 to 34, virtually no Chinese women remained single. In contrast, about 30 percent of Western women the same age were still spinsters. Overall, while the proportion of currently married women aged 15 to 50 in Western Europe was less than 60 percent in the late nineteenth century (Coale and Treadway 1986), 90 percent of all similarly aged Chinese women were currently married. Even in the twentieth century when marriage grew increasingly common in Europe, at least 5 to 10 percent of all women are still unmarried by age 45. In China the corresponding proportion of spinsters is virtually zero.

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38 Unfortunately, Western demographic records before the late nineteenth century rarely record the proportion of ever-married women by age. We generalize here on the basis of the best historical data, which are from Scandinavia, and thank Tommy Bengtsson, Andrew Hinde, Jan Oldervoll, Gunnar Thovaldsen, and Hanna Willert for their help in obtaining this information. See also Blayo and Henry (1967) on France.

Fertility. Such persistently high nuptiality, however, did not inflate Chinese fertility because of the low level of fertility within marriage. While Western married women in the absence of contraception had a total marital fertility rate (TMFR)—the number of children a married woman would bear in her lifetime if she experienced at each age the marital fertility rates of a given year—on average of 7.5 to 9 children, Chinese married women had a TMFR of 6 children or less. In Figure 6 we compare age-specific marital fertility rates for six East Asian and six Western European historical populations. The contrast is striking. European marital fertility was much higher than Asian, especially in the younger age groups, and it declined more slowly.

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**FIGURE 5 Percent of never-married females, by age, China and selected European countries, around 1800**

SOURCES: See Figure 4.

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40 We provide a detailed discussion of China’s low marital fertility regime and the rationale and mechanisms that perpetuated such behavior, in Chapter 6 of Lee and Wang (1999). Zhao (1997c) traces this low marital fertility regime through the middle of the twentieth century.

41 Wilson (1984: 228) presents total marital fertility rates for a dozen seventeenth- and eighteenth-century European populations; they range from 6.6 to 10.8 with a mean of 8.5 and a mode of over 8. Flinn (1981: 31) calculates national TMFRs by aggregating 86 historical European populations. While his aggregation is problematic because of different sample sizes and population definitions, he concludes that TMFR around 1750 was 7.6 in England, 8.1 in Germany, 8.3 in Scandinavia, 8.9 in Belgium, and 9 in France. Most recently, Wrigley et al. (1997: 355, 450) completed a large-scale reconstitution of couples from 26 parishes from 1600 to 1824 and concluded that the TMFR was 7.4.

42 In addition, unmarried women in the West could also have a substantial number of births, further increasing Western fertility. In China they generally did not. The rate of out-of-wedlock births in almost all the available historical and contemporary Chinese populations is virtually zero. The only notable exception is the island province of Taiwan under Japanese occupation, which had a rate of out-of-wedlock births in the early twentieth century of less than 5 percent. By contrast, the proportions of out-of-wedlock births in Austria, Sweden, Denmark, Germany, Hungary, and Portugal were higher during this period and were considerably higher in the eighteenth and nineteenth centuries (Barrett 1980, Flinn 1981).
As a result, not only is the magnitude of East Asian marital fertility lower than European marital fertility, but the shape of the curve is different, with a much more gradual slope and less curvature. This low marital fertility is one of the most distinctive features of the Chinese demographic system. Contrary to the perception of Malthus and his contemporaries that Chinese fertility was relatively high, overall fertility was probably not much higher than European fertility. China’s significantly lower marital fertility nearly counterbalanced the effects of earlier and universal marriage among Chinese women.

Recent progress in Chinese historical demography traces this moderate marital fertility regime back over seven centuries. Total marital fertility rates have been calculated as far back as the thirteenth century on the basis of retrospective Chinese genealogies.43 More reliable estimates become

43 These estimates were pioneered by Liu Ts’uí-jung (1978, 1981, 1985, 1992, 1995a, 1995b), who over the past two decades has analyzed some 50 genealogies, covering more than 260,000 individuals in 12 provinces of China. These data, nevertheless, are highly incomplete. Although the records in these genealogies date back as far as the twelfth century, vital information dates back only to the fifteenth and the sixteenth century. Moreover, since much of the information appears to have been retrospectively assembled in the late nineteenth and early twentieth century, many people may well be missing. Generally the principle is that the earlier the date, the greater the probability of underrecording. In addition, these genealogies generally represent elite populations, but since the proportions of the elite vary considerably by lineage, this bias is uneven. See Telford (1990).
available beginning in the seventeenth century based on the archives of the Qing imperial nobility, and beginning in the eighteenth century based on household registers. Table 3 summarizes all the available historical studies from the earliest time period for which fertility can be estimated relatively reliably. On average, a man married by age 20 rarely had more than 6 children if he remained in a married state to age 50. These fertility numbers are substantially lower than the average number of births computed for historical European populations, where the corresponding estimates are 7.5 to 9 children for monogamous men.

Moreover, when the modern fertility transition has occurred—the transition from “high” to “low” fertility—the speed of decline was far faster in China than was the case in the West. Although fertility in both China and the West has fallen to or below the replacement level of 2.1 children per woman, the Chinese fertility decline took less than a quarter-century, while the Western fertility decline took a half-century or longer. Chinese marital fertility, in other words, was not only significantly lower than Western marital fertility, it also declined faster, if later.

Fictive kinship and adoption. Finally, in spite of the strong Chinese preoccupation with perpetuation of lineage and adherence to a social welfare system that relied on family and lineage, Chinese parents ironically had to resort frequently to fictive kinship and adoption to replace biological descendants, a byproduct of low fertility and low survivorship. As a consequence, the Chinese also developed a variety of marriage and adoption arrangements to overcome the limitations of biology and miscalculations in decisionmaking. In addition to the 10 percent or more of persons who were allied by kinship ties through uxorilocal or other nonstandard forms of marriage, Chinese families also adopted 1 to 5 percent or more of children ever born. Table 4 summarizes the proportion of such adoptions. Although the rates vary by location, period, and population, they indicate that at least one of every 100 Chinese children in the past were given up for adoption, which is almost an order of magnitude larger than for any early modern Western population.

44 See Wolf and Huang (1980) for a detailed description of adoption in rural Taiwan during the early twentieth century and Wang and Lee (1998) for a description of adoption among the Qing nobility in the eighteenth and nineteenth centuries.
45 These arrangements are described in detail by Arthur Wolf and his colleagues (Chuang and Wolf 1995, Wolf and Huang 1980).
46 Chinese rates were higher in part because adoption was illegal in many early modern Western countries and because there are no available statistics on early modern Western fosterage rates. Today, however, adoption rates in the West can rival those in China. In the United States in 1986, for example, the ratio of reported adoptions, 104,088, to registered live births, 3.8 million, was over 2.5 percent (National Committee for Adoption 1989), a consequence partly of divorce. By contrast, according to the Swedish Census Bureau, in Sweden between 1988 and 1997 the annual ratio of residence permits issued for adopted children to live births ranged between 0.5 and 1 percent (Official Statistics of Sweden 1997a and 1997b). We thank Åke Nilsson for his help in obtaining this information.
## Table 3: Estimates of total marital fertility rates (TMFR) and total fertility rates (TFR) in China, selected time periods and populations

<table>
<thead>
<tr>
<th>Time period</th>
<th>Location</th>
<th>Fertility level (see notes)</th>
<th>TMFR</th>
<th>TFR</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1296–1864</td>
<td>Hunan</td>
<td></td>
<td>6.0</td>
<td></td>
<td>2,670</td>
</tr>
<tr>
<td>1462–1864</td>
<td>Anhui</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sources and Notes:
- Hunan, Anhui 1296–1864 and Jiangsu 1517–1877 are from Liu (1995b). Liu suggests that the actual TMFR was slightly higher because not all women in the denominator for the youngest age groups would have been married. The discrepancy is unlikely to have been large, since age-specific fertility rates below age 20 were very low.

- Anhui 1520–1661 is from Telford (1992b). Sample size refers to wives and concubines married to 10,512 males. Telford found a mean of 2.77 recorded male births per married woman, which implies a TMFR of 5.4 assuming a male-to-female sex ratio at birth of 105. He suggests that the actual TMFR should be higher because of underregistration of male births. Telford (1995) presents an estimated TMFR of 8.2 by excluding some registers with very low recorded fertility and inflating the remaining male births by 50 percent. He provides no explanation or justification for this procedure.

- Beijing 1700–1890 is calculated from Wang, Lee, and Campbell (1995). The TMFR was calculated by adjusting age-specific fertility rates by estimated proportions married in each age group. This is probably an overestimate of the true TMFR because males were included in the denominator in the original calculation only if they had at least one child in their lifetime. Men who married but never had children accordingly contributed no person-years of risk. Moreover, the proportions of males married used in the adjustment were estimated on the basis of whether males had children by specific ages, and accordingly underestimate the actual proportions of males married.

- Liaoning 1774–1873 is from Lee and Campbell (1997). The fertility calculation is based on population registers containing 12,466 individual records and over 3,000 marriages. The number given here, the TMFR, is higher than the TFR (given that not all people are married at all ages). The TMFR reflects a mortality or underregistration adjustment of 33 percent.

- 22 provinces are from Barclay et al. (1976). The TMFR was calculated from age-specific marital fertility rates of women aged 15–49. The survey on which the calculation is based covered some 200,000 Chinese farmers from over 46,000 households in 191 locales. We give the sample size of 50,000 assuming that each household contained slightly more than one woman of reproductive age.

Such adoptions serve many purposes. Adoption is not just for the purposes of charity or attainment of parenthood. Chinese parents also adopt children to provide family labor or old-age support, to secure a spouse to marry their biological children, to increase family size, and to maintain ritual and religious continuity. Consequently, they adopt children of all ages, from infancy well through adulthood, and on rare occasions even into old age. We can distinguish as many forms of adoption as there were forms of marriage. Parents could adopt daughters as well as daughters-in-law, sons as well as sons-in-law. So could widows, widowers, never-married men, even eunuchs and, by proxy, the dead. The entitlement to children, and most importantly to a patrilineal male descendant, was so important that it even overrode the limitations of human biology.

48 In our analysis of adoption among the Qing imperial nobility, of the 1,204 sons adopted, about 30 percent were adopted before age 1, 50 percent above age 5, 20 percent above age 20, and 5 percent above age 30. The oldest adoptee was in his 60s (Wang and Lee 1998). Similarly, if not as extreme, in the Taiwanese peasant populations studied by Wolf and Huang (1980), about half of all male adoptions occurred when the boy was 1 year old or older, and 15 percent occurred beyond age 5 (calculated from Table 15.4, p. 212).
The Chinese demographic system, in other words, was characterized by a multiplicity of choices that balanced marital passion and parental love with arranged marriage, the decision to kill or give away biological children, and the adoption of others’ children. In contrast to the Malthusian paradigm, human agency in China was not restricted to nuptiality. Moreover, it was exercised largely at the collective rather than the individual level.\textsuperscript{49} Chinese individuals constantly adjusted their demographic behavior according to collective circumstances so as to maximize collective utility. Such demographic adjustments allowed them to prosper in spite of China’s population size and population growth. Chinese demographic success, therefore, was based on collective control, rather than individual restraint. Such control operates in China at a variety of scales of social organization. In our book (Lee and Wang 1999) we distinguish between the two extreme and probably most effective levels: the Chinese family at the base of society, and the Chinese state at the top.\textsuperscript{50}

The Chinese demographic transition

These distinctive characteristics of the Chinese demographic system and the collective nature of Chinese demographic processes also characterize the Chinese demographic transition. We can therefore not only identify a distinctive Chinese demographic system in the past, but also trace its salient legacy to the present.

Historically, a set of demographic mechanisms, primarily low female survivorship and low marital fertility, enabled China to maintain low population growth at the aggregate level until modern times: a long-term annual average growth rate of less than 5 per ten thousand. These adjustments perpetuated a homeostatic demographic regime in China for almost two millennia. In the first century A.D. there were some 75 million Chinese. By 1750, in spite of a frontier expansion that more than doubled Chinese territory, China’s population had grown only threefold.

Beginning in the eighteenth century this changed. Broadly speaking, we can distinguish two periods of population growth in China’s modern history. First, between 1750 and 1950 the population increased by some 150 percent from 225 million to 555 million, an annual rate just short of 5 per thousand. These adjustments perpetuated a homeostatic demographic regime in China for almost two millennia. In the first century A.D. there were some 75 million Chinese. By 1750, in spite of a frontier expansion that more than doubled Chinese territory, China’s population had grown only threefold.

Beginning in the eighteenth century this changed. Broadly speaking, we can distinguish two periods of population growth in China’s modern history. First, between 1750 and 1950 the population increased by some 150 percent from 225 million to 555 million, an annual rate just short of 5 per thousand. Then between 1950 and 1999 the population more than doubled from 555 million to 1.27 billion, an annual rate of almost 1.7 per hundred. The average annual rate of population growth, in other words, grew in each period by an order of magnitude, from the ten-thousands during much

\textsuperscript{49} The collective nature of Chinese demographic processes in the past is most often discussed in terms of familial control over marriage and adoption (Wolf and Huang 1980; Yang 1959); but see also discussions of familial and even community control over fertility and infanticide in Fei (1947/1998) and Feng (1986).

\textsuperscript{50} Intermediate organizations such as lineages and enterprises were generally less important than either of these two extremes. In south and especially southeast China, however, lineages could be quite important. Zheng (1992) is probably the most authoritative text on Chinese lineages during the late imperial period.
of the last two millennia to the one-thousands during much of the last three
centuries, to the one-hundreds during much of the last 50 years.

This dramatic rise in population has, in turn, awakened China’s con-
temporary Malthusian concerns. While some Chinese observers voiced simi-
lar concerns starting as early as the beginning of the nineteenth century,51
these misgivings were largely dismissed, especially in view of Chinese per-
ceptions of sustained economic growth.52  It was not until the 1960s that
the government encouraged family planning in urban China;53 and it was
not until the late 1970s that a forceful government population control policy
was formulated and enforced nationwide. The primary motivation under
Mao Zedong and his immediate successor, Hua Guofeng, was the unex-
pectedly massive population growth China had experienced from 555 mil-
lion in 1950 to almost one billion by the late 1970s and the prospect of
future doublings in the absence of a strict family planning policy. This en-
couragement of birth planning was reinforced under Deng Xiaoping by an
overriding desire to raise per capita living standards as rapidly as possible
to levels commensurate with those of world powers.

Current Chinese goals to limit population size to 1.2 or 1.3 billion by
the year 2000 are derived from an explicit policy target to quadruple Chi-
nese 1979 living standards to US$800 per capita by 2000.54  The result was
the creation and implementation of one of the most draconian family plan-
ning policies in world history.55  While this program has been highly suc-
cessful in lowering fertility, it has also justified various extreme measures
of birth planning by the need to raise China’s economic development and
living standards. The escalation of such pressing Malthusian concerns has
made population control one of the two most important formal state poli-
cies, the other being economic reform. Whereas previously families ad-
justed their own demographic behavior to economic realities in spite of
pronatalist government policies, the current government enforces family
planning in spite of individual family resistance.56

51 In a brief essay, Hong Liangji (1746–1809) made an observation similar to Malthus’s formulation of
the positive check, without, however, any mention of the preventive check and without Malthus’s exhaus-
tive documentation or extensive argumentation (Ho 1959: 271–272). More recently, Ma Yinchu (1882–1982),
the former president of Peking University, made a strong plea for population control in 1958. Mao, however,
criticized Ma as neo-Malthusian, and dismissed him from his post. He was rehabilitated only in the late 1970s.
52 In a typical response, Bao Shichen (1775–1855) refuted Hong Liangji: “The land of China is suffi-
cient to support the people of the country. More people mean more labor; and labor is the basis of wealth, not
the cause of poverty” (Anwu sizhong, 26.2b).
53 See Chen and Kols (1982) and Lavely and Freedman (1990) on the early development of the Chi-
nese government’s family planning program.
54 Given this income target, Chinese “think tanks” produced a variety of optimization studies based on
the economic growth rates of the 1970s. A population of 1.2 billion in the year 2000 was the compromise
consensus. Some extreme estimates even claimed that China’s optimum population was 600 to 700 million
(Song, Tuan, and Yu 1985).
55 Again, having arrived at a 1.2 billion target population for the year 2000, these same think tanks
calculated that each couple could have no more than two children. They therefore formulated the policy of
one child per couple, based on the assumption that this was a target and not an immediately attainable goal
(Song, Tuan, and Yu 1985).
56 Aird (1990) and Banister (1987) document this resistance in some detail.
China’s leaders, in other words, launched the largest family planning program in the twentieth century on the foundation of little more than nineteenth-century social theory. Government policy seems to have virtually embraced the original Malthusian paradigm, without acknowledgment and without full consideration of its consequences.\textsuperscript{57} China’s poverty is believed to be largely the product of Chinese overpopulation. While this explanation is certainly convenient, it has been accepted in the absence of almost any serious social scientific research. In spite of the subsequent development of population studies in China and the great increase in our understanding of Chinese population processes, Malthusian or neo-Malthusian theory and what Chinese officials call Marxist population theory continue to provide nearly the sole justification and motivation for China’s unprecedented family planning program.\textsuperscript{58}

In fact, however, Chinese urban fertility had begun to decline before the imposition of the current family planning program. In Shanghai, China’s largest metropolis and a forerunner in adoption of birth control, fertility started to decline no later than 1955 (Guo 1996). Figure 7 contrasts the earlier decline in the total fertility rate in Shanghai with the later decline nationwide. In spite of the massive interruption and rebound from the famine associated with the Great Leap Forward, total fertility in Shanghai fell from above 5 in 1955, to 3 in 1959, and reached the replacement level of 2.1 as early as 1967. This decline was accomplished through a combination of early reliance on abortion and a subsequent transition to modern contraceptive use. The Shanghai municipality established an official family planning program in 1964 and reported contraceptive saturation among eligible couples within a few years.

Nationwide, China’s fertility transition accelerated greatly after 1970, following the official \textit{wan} (later marriage) -\textit{xi} (longer spacing) -\textit{shao} (fewer births) family planning program. By the late 1970s, 80 percent of Chinese women had used contraception by age 35 (Wang forthcoming). Close to one-third of urban women and one-fifth of rural women had had at least one induced abortion. China had become a society with one of the highest rates of contraceptive use in the world.\textsuperscript{59} The national fertility level consequently declined precipitously, from 5.7 in 1970 to 2.8 in 1979, a record

\textsuperscript{57} The predominant concerns of Chinese policymakers in the late 1970s were the relationships between “hands” (production) and “mouths” (consumption), and the constraints exerted by rapid population growth on capital investment, employment, and resources. This concern is exemplified by Song Jian and his colleagues, whose work had an important influence on China’s formation of the one-child policy. Song’s call for a tighter population control policy was based explicitly not only on food supply, but also on the limits of energy and other natural resources, and on environmental constraints (Song and Yu 1985).

\textsuperscript{58} Because of Marx’s criticisms of Malthus, official Chinese rhetoric, based on a few sentences in Engels’s oeuvre, advocated a “Marxist” population theory of “two kinds of production,” a phrase that referred to the close links between material production and human reproduction.

\textsuperscript{59} Indeed the contrast with other societies that also rely heavily on induced abortion is striking. In 1990 contraceptive use in Russia among married women was 15 percent; in China it was over 90 percent (Wang forthcoming).
speed of decline unmatched by any other large population in human history. While this decline was particularly swift among urban Chinese, whose total fertility fell close to replacement level, it was also quite sharp among rural populations in those regions with a long tradition of birth control.60

In spite of their success in fertility control, the Chinese leadership accelerated the pace of their policy goals in 1979 to reach replacement fertility, 2.1, as rapidly as possible under the slogan of one child per couple. This slogan became the basis for a mass mobilization campaign on the same scale as land reform in the 1950s and economic reform in the 1980s. Because of their strong desire to raise China's living standard to levels comparable with Western industrialized societies, China's leaders elevated family planning to the level of economic planning in state policy. In so doing, they made antinatalist population policy for the first time in world history a central component of a national development strategy.

As a result, the implementation of the Chinese national family planning program has been more insistent and more compulsory than family planning programs elsewhere. The state not only mandates a minimum age at marriage and a maximum number of children, but has even pro-

60 Total fertility as early as 1973 was only 2.8 in rural Jilin, 2.82 in rural Jiangsu, 3.46 in rural Zhejiang, and 4.16 in rural Liaoning. By contrast, it was as high as 7.4 in rural Guizhou, 6.48 in rural Gansu, 5.35 in rural Guangdong, and 5.17 in rural Henan (Coale and Chen 1987).
moted mandatory abortion, mandatory IUD insertion and retention, and mandatory sterilization to achieve population goals (Banister 1987). This has led, for example, to the well-known excesses of the sterilization campaign of 1983, when cadres used mass mobilization to force many people to undergo abortion and sterilization (Hardee-Cleaveland and Banister 1988). While recent family planning campaigns have been less heavy-handed, cadres continue to be responsible for the implementation of birth control policy in localities under their jurisdiction; those who fail to fulfill family planning targets face such explicit punishments as monetary fines, demotions, and, since 1991, dismissal. Consequently, even though state family planning rhetoric emphasizes education and voluntarism, local cadres in some places continue to resort to physical coercion to meet the demanding goals set by the state.

Just as programs of land and economic reform reached different parts of China at different times and with different intensity, the current family planning program has been more effective in some areas and some periods than in others. This was especially true in rural China, where the needs for familial labor and old-age support resulted in negotiations between the local peasantry, cadres, and government officials. As a result, the one-child policy was formally relaxed and modified in 1984 and 1988, with the exception of a few localities. Most of rural China has always followed a de facto two-child policy. This stands in sharp contrast to urban China, where more than 90 percent of all couples during the past two decades have had only one child. Such uniform and rapid urban compliance was at least initially a consequence largely of urban dependence on the state for employment, housing, education, and other benefits (Wang 1996). In rural China, where there is no such dependence, there is also no such compliance.

61 According to official Chinese statistics, the annual number of male sterilizations consequently nearly doubled from 649,476 in 1982 to 1,230,967 in 1983, while the annual number of female sterilizations more than quadrupled, from 3,925,927 in 1982 to 16,398,378 in 1983 (China Population Information Center 1988: 245).

62 The paradox of course is that such coercion is illegal and has been widely publicized by the Chinese as well as Western media. Indeed, some of the most celebrated stories of forced family planning “broken” by the Western media were in fact first exposed and criticized by the Chinese government. See the article “China’s crackdown on birth: A stunning, and harsh, success” by Nicholas Kristof on page one of the New York Times, 25 April 1993. The main tragedy cited by Kristof, the death on 30 December 1992 of a neonate just nine hours after his seven-month-pregnant mother was forced to induce his birth, was, as Kristof acknowledged, taken from a classified government report.

63 For major changes in Chinese family planning policy in the 1980s, see Greenhalgh (1986), Hardee-Cleaveland and Banister (1988), Zeng (1989), Luther, Feeney, and Zhang (1990), and Feeney and Wang (1993).

64 Greenhalgh (1986 and 1993) documents in detail the evolution of one-child policy implementation in rural China, specifically in Shaanxi province. Resistance from the peasantry and the decline of state power following rural reforms in the 1980s led many rural cadres to delay or defer implementation and to adjust or request adjustments in family planning policy. The central government responded both by formally relaxing the policy and by letting provincial and lower-level governments establish their own conditions under which families are exempted from the one-child policy. Peasant resistance and negotiations resulted in a “peasantization” of the one-child policy.

65 According to Zeng Yi (1989), while the suburban counties of Beijing, Tianjin, and Shanghai and most rural areas of Jiangsu and Sichuan provinces did not formally relax the one-child policy, in six provinces and autonomous regions—Guangdong, Hainan, Ningxia, Qinghai, Yunnan, and Xinjiang—rural couples were allowed to have a second child, while in the 18 remaining provinces, excluding Xizang which was not part of his study, rural couples were allowed to have a second child if the first child was female.
The common assumption that China uniformly follows a one-child policy is simply not true for rural families, who account for 80 percent of the total population. Figure 8 describes the rural period parity progression ratio, that is, the proportion of rural women at each parity (number of live births) who go on to have at least one other child. The proportion of women who had a first child and went on to have a second child was scarcely affected by the one-child policy throughout the 1980s. This proportion declined from close to 100 percent in 1979, to 90 percent in 1985, and to 77 percent in 1991. By contrast, the proportion of women with two children who went on to have a third birth declined markedly from 81 percent in 1979, to 49 percent in 1985, and to 26 percent in 1991; while the proportion of women with three children having a fourth or higher-parity birth declined from 48 percent in 1979 to 18 percent in 1991.

Government intervention largely accounts for the acceleration of the Chinese fertility decline from a total fertility rate of 6.1 in the second half of the 1960s to an estimated below-replacement level of 1.9 in the early 1990s. Nevertheless the Chinese fertility transition is fundamentally a consequence of new collective institutions and collective goals, not the innovation of ideas. In contrast to the Western fertility transition, which required a revolutionary extension of individual decisionmaking from marriage to fertility, the Chinese fertility transition required the transfer of control over nuptiality and fertility from the family to the state. For the

**FIGURE 8** Parity progression ratios (in percent) in rural China, 1979-91

![Graph showing parity progression ratios in rural China, 1979-91](source: Feeney and Yuan (1994).)
FIGURE 9  Stylized paths of fertility transition: Western Europe and China

Chinese, deliberate fertility control has long been within the calculus of conscious choice. China’s unusually rapid fertility transition may, therefore, be attributed to the fact that the Chinese people did not require a change in attitudes, only the establishment of new goals and institutions, along with the diffusion of efficient birth control technologies.

The Chinese fertility transition is quite different from the stylized Western transition. Figure 9 contrasts these two kinds of transitions. The matrix identifies four types of fertility regime, classified simultaneously by marriage age, early or late, and fertility control within marriage, high or low. As Malthus would have predicted, the transition in Western Europe followed the path from C to D. In other words, marriage age was already relatively late, and the fertility transition essentially involved a shift from uncontrolled to controlled marital fertility. By comparison, fertility transition in most developing countries requires both a postponement of marriage to later ages and fertility control within marriage: a move from A to D.

China, we suggest, followed a far more complex path. The Chinese fertility transition did not resemble the European transition, nor does it fit well with the general pattern just described for developing countries. Rather, it shifted first from B to A, and only then from A to D. Marital fertility appears to have been low originally compared with premodern European populations. But with the rise of economic opportunities in the eighteenth century and the deterioration of familial authority in the twentieth, Chinese fertility control relaxed, shifting the Chinese fertility regime from B to A, that is, yielding a high overall fertility compared with modern European populations. This resulted in two stages of population growth: a slow

66 The figure with some modifications replicates a matrix drawn from Matras (1965) and Macfarlane (1986).
rise in population over two centuries from 225 million in 1750 to 555 million in 1950 and the recent population explosion, which more than doubled population size in just 50 years from 555 million in 1950 to nearly 1.3 billion in 2000. This explosion, in turn, generated a collective response: a state decision to reimpose population control by means of a strict family planning program, involving both a demand for later marriage and birth control within marriage, thus moving China from A to D.

While the transition in Europe and elsewhere came about largely by an extension of individual agency from nuptiality to fertility and mortality behavior, the Chinese demographic transition is the product of the transfer of the collective decisionmaking process from the family to the state. For the Chinese, planning demographic events has always been an important part of life. Demographic decisions are never individual. They require careful consideration of collective needs at both ends of the social spectrum: the family and the state. Rational decisionmaking in this context is a process of negotiation that takes into full consideration hierarchical prerogatives and collective interests. What matters is not individual preferences, but the person’s gender, birth order, and relation to the household head within the family, and his or her occupation, place of residence, and political status in the society.

A salient characteristic of such a collective process is the enormous cost it imposes on individuals. At no stage of an individual’s life can he or she behave in a way so as to maximize his or her personal interests. Until recent decades, a couple’s marriage was arranged by their parents and elders and their marital life was monitored and controlled by other people. There was little room for personal romance or sexual indulgence. Perhaps most painfully, for a society where the parental relationship is the primary social relationship, many parents were forced to kill or acquiesce to killing their own children. While the Chinese can now generally choose their own spouse, they still cannot choose the number of their children. And, if they live in cities or work for state enterprises, they can have only one child.

For the Chinese public, the broadly accepted and deeply held goals of the family planning program legitimate the imposition of such individual costs. While many Chinese sympathize with the victims of state coercion when its methods lead to excess, unlike Western observers they also believe that such sacrifices are necessary and that excesses are probably unavoidable. In that sense, their ambivalence over forced abortion and ster-

67 Most Chinese understood the government rationale for the population policy. In a representative survey conducted in Hebei, Shaanxi, and Shanghai in 1985, women of reproductive age were asked what they believed to be the main reason for the one-child policy. They were provided with five choices: population control, economic development, for both mother’s and children’s health, other, and don’t know. A majority of respondents (90 percent in Shaanxi, 63 percent in Hebei, and nearly 80 percent in Shanghai) reported that the main reason was for population control. Between 10 and 20 percent of the women believed it was for women’s and children’s health, and another 10 percent or so mentioned the need for national economic development (State Statistical Bureau 1986, Vol. 1: 98).
ilization probably resembles that of family members in the past when a young couple had to kill or abandon an infant. All collective societies exact individual sacrifices in the name of the greater good of the group. In Chinese culture, moreover, such sacrifices are not only deemed necessary, they are also routinely glorified. While this is less true of family planning now, that is only because such control has become a universal and routinized practice.

The Chinese family planning program and its distinctive demographic checks and institutions are the product of long-standing Chinese social, cultural, and political traditions. In it, we can easily recognize many characteristic features of the Chinese demographic system, only with contemporary trappings. While fertility has declined in recent decades to an extremely low level, sex-selective abortion has risen. To some extent, infanticide and adoption have also returned. Nevertheless, we must also recognize that the consequent reductions in Chinese fertility have already reduced world population growth by perhaps 250 million. By 2030, when China’s population is expected to plateau at 1.5 billion, its size will be well below one-fifth of the global total, a reflection of the remarkable and in no small extent policy-induced speed of the Chinese fertility transition.

Conclusion

The binary contrast between a collectivist “East” and an individualist “West” and the linkage between demography and ideology can be overdrawn. Nevertheless, the comparison of human experience over time and place remains important to all social scientific enterprises. Only through his explicit comparison of population behavior in the non-European and nonmodern European world with that in the modern European world was Malthus able to identify the distinctive differences between Western and non-Western population behavior and to produce his influential demographic model of positive and preventive checks. Only through similar comparisons, largely between “East” and “West,” were subsequent scholars able to link Malthusian population processes to social organization and economic behavior (Hajnal 1982). Without such comparisons, Malthus and these later schol-

68 Public displays of symbols of local achievement have a long history in China. The arches, banners, and inscriptions of the past, however, have generally been replaced by official certificates. Typically the contemporary government awards such certificates to families who have a child in the army or to couples who pledged to have only one child in the late 1970s and early 1980s, when the current family planning program was in its early stage.

69 See Johnson, Huang, and Wang (1998) for a recent discussion of adoption in contemporary China.

70 World population in 2030 is predicted to be 8.4 billion (United Nations 1998).

71 See, for example, Goody’s critique titled, “From collective to individual: The historiography of the family in the West,” in Goody (1996: 162–204).

72 See Lee and Ochiai (1998) for a recent assessment and reaffirmation of such comparisons using data from the Eurasian Population and Family History Project.
ars would only have written descriptive population history or population studies, not social theory.

Any attempt to reduce human experience to a simple binary opposition, of course, requires caution and qualification. While collectivism and individualism may explain many of the demographic differences between China and Europe, they are also universal aspects of human behavior.⁷³ Even in the contemporary United States, where individualism is often extolled, few individuals can live free from a web of social and political regulations and constraints. Similarly, even in China, where collectivism appears triumphant, individuals have always been able to exercise a degree of personal initiative. The comparison of demographic behavior and demographic systems in this essay illustrates the social consequences of the different cultural, ideological, and political orientations in East Asia and Western Europe and the quantitative significance of these consequences.

The explanatory power of the Malthusian or neo-Malthusian models lies in part in the simplicity of the Malthusian binary model. In contrast, the current fashion in history and in some of the social sciences is to use comparison to generate complexity. This is true even in the quantitative social sciences, where sophisticated multivariate techniques of analysis are used to measure the multiple dimensions of human motivation and experience. We are now confounded by a multiplicity of coefficients and explanations at the individual and aggregate level organized by class, ethnicity, gender, geography, and time. The challenge of such approaches is that in the absence of any larger organizing principles or narratives, it is increasingly hard to fit each story within a global or even historical context. Ironically, while the world has grown increasingly smaller, our understanding of our shared experience has grown increasingly complex, so complex as to defy synthesis.

That this may be less true in demography is a tribute to Malthus. Ever since the publication of the first edition of An Essay on the Principle of Population in 1798, his model of positive and preventive checks has remained predominant in the intellectual discourse of population studies. While our increasing scientific and technological productivity has proven his pessimistic predictions regarding population and living standards to be incorrect, the Malthusian focus on the potentially precarious balance between human numbers and resources remains one of the central preoccupations of our time. Following on the two-hundredth anniversary of the publica-

⁷³ Social thinkers, especially political philosophers, have long recognized the existence of such basic aspects of human behavior and have commented on their implications (Triandis 1995). It was not until a few decades ago, however, that social scientists, most notably clinical psychologists, began to conceptualize and measure personal traits as collectivist or individualist. Such research has shown that just as individuals from some societies are more likely to demonstrate one inclination over the other, so within the same society substantial differences can also coexist whether measured by age, birth order, gender, education, ethnicity, occupation, or the like.
tion of the first edition of Malthus’s essay, it therefore seems especially appropriate to review the Malthusian model in light of our new understanding of Chinese realities.

Note

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The Bangladesh Fertility Decline: An Interpretation

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The Bangladesh fertility transition has attracted more theoretical interest than any other contemporary transition. Among countries where there has not been a coercive government family planning program, Bangladesh, with a 1997 per capita income of US$270 (World Bank 1999), is the poorest to have a total fertility rate under five births per woman. If per capita purchasing power parity figures are employed, Tajikistan joins Bangladesh as a very poor country with a total fertility rate in 1997 under 5 (3.4). Bangladesh’s decline has been recent and steep, from a total fertility rate of 6.3 in 1971–75 (and perhaps close to 7 earlier) to 3.3 in 1994–96 (BDHS 1997: 7). No other country has reached this low level of fertility with such high mortality: an infant mortality level of 82 per thousand live births (BDHS 1997: 21) and an expectation of life at birth of 58 years (ESCAP 1997), although India comes close with an infant mortality rate of 73, a life expectancy of 61 years, and a total fertility rate possibly in 1994–96 one decimal point lower at 3.2. Only Vietnam records a fertility level similar to Bangladesh at a comparably low per capita income, but its per capita purchasing power is 60 percent higher, its mortality is much lower, and its family planning program has coercive elements.

Interest in the Bangladesh fertility decline was heightened by the publication of a World Bank study, The Determinants of Reproductive Change in Bangladesh: Success in a Challenging Environment (Cleland et al. 1994), which is probably the most influential analysis to posit the almost complete dominance of family planning programs—at least in the short term—in achieving such a change. Going beyond an unexceptionable statement about the
proximate determinant of fertility, “The main mechanism of change was increased contraceptive use” (Cleland et al. 1994: 56), the authors concluded: “We have found it unnecessary and indeed implausible to invoke economic change and shifts in the utility of children as the central determinant” (ibid.: 140). According to a probably more widely read summary of the report published by the Population Reference Bureau the previous year, the analysis showed that no change was needed in the levels of economic development, urbanization, employment of women, or education “for a family planning program to succeed” and that a key lesson had been “the critical importance of sustained political commitment to an effective family planning program, adopted and pursued at the highest levels of government” (Carty, Yinger, and Rosov 1993: 3–4).

These are momentous conclusions. The purpose of this article is to investigate whether the experimental conditions were sufficiently good to warrant the findings. Were economic and social conditions so static that socioeconomic change—or perceived change—played only a small role, at least in the last quarter-century? We will refer to Bangladesh statistical information, but the main instrument will be data from a joint research program on fertility decline undertaken by the Extension Project of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) and the Australian National University. This article will focus on 1997 field work rather than on the 1995–96 phase of the study based on documents and selective interviews, which traced the historical roots of the family planning program and documented changes over time in the ideas and ideologies of the national elite (Khuda et al. 1996).

The nature of the debate

Bangladesh poses an unusual challenge for both technical aid and population theory. With almost 2,500 persons per square mile in 1997, it is the most densely settled country of any significant size in the world: 60 percent denser than Taiwan, twice the density of South Korea or the Netherlands, thrice that of India or Belgium, four times that of Britain, seven times that of China, and 32 times that of the United States. It is among the poorest countries in the world, with most of the poorer countries being in sub-Saharan Africa, and it is still 80 percent rural. It is 88 percent Muslim, with purdah widely practiced although less so than in earlier times. The median age of women at first marriage was under 14 years at Independence in 1971 and was still not much higher in the 1980s (Mitra et al. 1994: 74–75). Contraceptive practice in rural areas near Comilla was around 4–6 percent in the late 1960s (Stoeckel and Chowdhury 1973: vii; Green 1969), in spite of the establishment of a national family planning program in 1956 and its intensification in the 1960s.
The Bangladesh government, with strong external support (especially from the World Bank and a group of countries forming a consortium with it, notably the United States through programs funded by USAID), intensified family planning program efforts from about 1973, achieving considerable momentum by 1975. In the next few years comprehensive family planning experiments began in the Matlab District under the auspices of the ICDDR,B. Nevertheless, there appeared to be strong forces militating against the onset of marked fertility decline. Demeny (1975) pointed to the need of families in rural areas to find safety through numbers. Cain’s field research showed that sons were almost the only form of physical protection from risk in rural areas and earned their keep through production (Cain 1977, 1978, 1981, 1983; Cain, Khanam, and Nahar 1979). In a country with a high rate of divorce and a significant level of widowhood, women needed sons to reduce the problems they would face if left without a husband. Khuda (1978) and Caldwell et al. (1984) confirmed the value of children. Arthur and McNicoll (1978) had doubted whether the central government reached successfully into the villages.

The 1975 Bangladesh Fertility Survey confirmed that fertility was high and possibly stationary in 1971–74, but the 1989 BFS appeared to show that fertility had subsequently fallen by almost 20 percent and each survey in the 1990s has reported successively lower fertility and higher contraceptive use rates. The decline may now be slowing, as indicated by two successive Demographic and Health Surveys that showed the total fertility rate dropping only from 3.4 to 3.3 from the period 1991–93 to 1994–96. The interval between surveys was short, however, and, in any case, the small apparent decline may have been an artifact of the survey methodology, for the proportion of currently married women aged 10–49 years practicing family planning rose in the interval by 10 percent for all contraceptive methods and by 15 percent for modern methods so that by 1994–96, 50 percent of all married couples were practicing birth control (BDHS 1997: 7–9).

When it makes a strong statement, the World Bank study (Cleland et al. 1994) often qualifies that statement. But the central argument remains that there has been little causative socioeconomic or demographic change in recent times, hence the fertility decline must be explained almost entirely in terms of the activities of the national family planning program. Specifically, infant and child mortality had not fallen in the two decades before the onset of fertility decline although it did fall later, nor was there any perception of a decline (ibid.: 61); per capita income has risen slowly since 1971 (p. 65); landlessness has, in fact, increased since 1960 (p. 67); “School enrollments have not increased greatly in the last 20 years” (p. 132) and any increases that have taken place have had little effect on child labor inputs (pp. 69–73); “There is no evidence that the contribution of children to household welfare has fallen” (p. 132) and “We doubt that a
collapse in intergenerational obligations has taken place in Bangladesh” (p. 74); and “we note that Bangladesh remains in many fundamental ways a patriarchal society, and any improvements in the position of women have probably been slow and gradual” (p. 78). There is a kind of Easterlin (1975) perspective at work here that almost converts the effect of social change into a consideration of the social cost of family planning practice: “Disharmony, or the threat of disharmony, represents a cost of contraception in the Bangladesh context” (Cleland et al. 1994: 87).

The focus of the World Bank study is on the period immediately before 1973 and the following two decades. It is agreed that, over the longer period, socioeconomic forces, or at least demographic ones, have been influential. The most important long-term change has been the decline in mortality, which has probably been in progress for a hundred years and which can be documented through a fall in the crude death rate from 47 per thousand in the 1920s to 13 in the 1980s (Cleland et al. 1994: 59). A slow increase in the chance of children surviving and hence in the size of the family unconsciously led parents to worry less about maximizing the number of births, so that Bangladeshis, and probably most Asians, were not “emphatically pronatalist” by the beginning of the 1970s (p. 135). It was within these circumstances that the family planning program so successfully struck.

Yet, just when one believes that the argument has been mastered, other concessions are made. Cleland et al. refer to the growing complexity of society, and then state: “It is unlikely that family planning would have flourished in the absence of all these other changes. Thus the results of our analysis should not be regarded as an emphatic rejection of demand theories of fertility decline. There is simply insufficient evidence . . . ” (p. 133). But “The crucial change that has taken place concerns acceptability of and access to birth control and not structural change that has driven down the demand for children” (p. 134, emphasis in the original). In fact the arguments posed here had earlier been put more strongly and more purely demographically:

In our interpretation, the origins of the decline in fertility in the late 1970s may be seen in the mortality improvement of 1930 to 1960. Without that prior mortality decline, there would have been much less latent demand or need for birth control and any attempt to popularize family planning would have failed. In all probability there would have been no family planning programme, because population growth would have been modest. Family planning programmes are a society’s response to changing mortality. All that was now required for fertility decline was a programme that would legitimate the idea of birth control and make the means accessible. (Cleland and Streatfield 1992: 20)

This, in turn, harks back to the view of the priority of ideas that pertain to the means of fertility reduction rather than of ideas that provide the motive for such reduction (see Cleland and Wilson 1987: 29).
Where we differ

Both statistical sources and our own field work lead us to believe that the analysis of Cleland et al. (1994) must be modified in order to provide an adequate description of the Bangladesh or any other fertility transition. Their report, like the earlier “iconoclastic view” (Cleland and Wilson 1987), is important in drawing attention to the role of birth control knowledge and access to contraception, and in arguing that family planning programs can have a marked effect over a short time within the larger framework provided by socioeconomic change. But staking out this position has been achieved at the expense of understating some of the other changes that Bangladesh has experienced in recent years.

The change apparent to foreign visitors to Bangladesh over the last 30 years is ubiquitous and large. The capital, Dhaka, has grown from a modest provincial city to one of the world’s largest metropolises. Provincial centers have increased in size, and linear urbanization, much of it commercial, has developed for mile after mile along main roads. Previously lightly trafficked highways with an occasional bus, but more bullock-carts, have become jammed with huge trucks. The earlier tracks from the main roads to villages have been paved with bricks, and waterways have been bridged so that once predominantly pedestrian movements have been supplemented by microbuses and numerous bicycle and motor rickshaws that carry people and large amounts of produce to the markets along the highways. A rice monoculture has been transformed into something closer to mixed farming, with the growing of a range of vegetables and a huge increase in fish farming. A larger proportion of rice is now sold on the market rather than being held for subsistence. School children are visible in greater numbers, especially girls going to high school. Women streaming to and from work in the garment factories have changed the appearance of Dhaka. The villages have been increasingly opened to the outside world. This is partly the result of growing commerce but it owes much to politics and the movement of people, both of which increased from the time of Partition in 1947 to the establishment of Bangladesh in 1971. National political parties reached down to the village and vied there for votes. In 1971 refugees and armies criss-crossed the country.

These are not merely impressions. The proportion of urban population more than doubled from 6 to 13 percent between 1965 and 1985 and had risen to almost 20 percent, or 24 million, by 1997. Now, the estimated increase of the rural population is less than 1 percent per annum, compared with almost 5 percent for the urban population (United Nations Population Division 1998). Dhaka, which provides for most of the rural population the contrast with rural life, grew from less than one-quarter of a million people at Partition to over 9 million in 1997. In the United Nations Population Division’s (1998: 140-143) list of the world’s 30 largest cities, Dhaka
appeared for the first time in 1990 with 28th ranking; it is now 20th and is expected to be 5th, with a population reaching 20 million, by 2015. Even so, Bangladesh remains less urbanized than most of the world, even most of South Asia, although the density of rural population means that there are few very isolated areas. Since 1950 radio reception has risen from a very low level to the point where most villagers now quickly learn important broadcast news.

A similar observation of a society undergoing significant change was made by Bongaarts and Watkins (1996). According to their calculation, the UNDP Human Development Index (HDI) (based on life expectancy, literacy, and real GDP per capita) for Bangladesh rose by 45.5 percent between 1960 and 1980, the second greatest increase during that period in South Asia, and the fifth fastest of the 12 Asian countries for which they prepared such an estimate (1996: 670). Furthermore, they conclude that they could predict, with 90 percent accuracy, the onset of fertility decline in Asian countries given the date of the first Asian transition (Singapore in 1959) and the HDI trajectory (p. 651). Indeed, Bangladesh lies right on the regression line defined by the onsets (p. 650). This suggests either that family planning programs have little to do anywhere with the timing of the onsets, or that family planning programs are similar everywhere in Asia and that Bangladesh’s effort was typical and historically to be expected.

The World Bank study is most tendentious with regard to education, directly stating “there has been no dramatic improvement in the education of women,” but mostly ignoring the issue or treating it as a matter of whether children have time left over for work on the farm or in the home (Cleland et al. 1994: 69–73, 75–78). The study also considers the impact of education primarily in terms of whether wives had formal education rather than whether a couple’s children are in school. This is in conflict with the widespread perception among respondents we found during field work of a continuing educational revolution. In the years that the Bank study regards as critical, 1973–86, the number of schools increased and the number of girls attending primary school and high school rose by 70 and 61 percent respectively, while the actual number of girls in the population increased by only half as much (Khuda and Howlader 1990: 95). The World Bank’s World Development Reports show that boys’ schooling increased more slowly but that primary schooling became complete by the early 1990s and high school enrollment had then reached 25 percent of the relevant age group. Girls’ primary school enrollment rose from one-third in the 1960s to one-half in the mid-1980s and to 100 percent in the early 1990s. Their high school enrollment levels rose merely from 3 to 12 percent, largely reflecting the influence of purdah, but recently proportions have been climbing steeply with government encouragement and scholarships for all high school girls (see Amin and Sedgh 1998). Such educational statistics tend to
overstate school enrollment, and particularly daily attendance, in most developing countries, but are more satisfactory for measuring relative change over time in a single country.

The need for child labor is a complex matter, inadequately addressed in the World Bank study. The last three decades have witnessed a steep decline in average farm size in Bangladesh as the population has doubled, but a much smaller fall in rice production per farm. The reason is that Green Revolution rice varieties, together with the additional irrigation and fertilizer they demand, have permitted many areas to grow three rice crops per year and others two rice crops and one vegetable crop. The smaller farm size means less labor at harvest times, but the additional crops mean that high levels of labor can be sustained throughout the year. This has meant that farm labor is increasingly performed by men. Farming is increasingly capital-intensive, with much of the money required for capital inputs being earned by massive temporary migration to the Middle East. Both increasing landlessness and smaller farm size have freed more children for schooling. At the same time the growth of both the urban areas and the rural off-farm labor market has provided alternative employment for youths and men. In Dhaka and, to a lesser extent, Chittagong, the garment industry employs over one million women, most in the 15–29-year age range, or over one-tenth of all Bangladeshi women of that age. A high proportion of young women from poor families are so employed.

Massive changes have occurred, then, even if the result has until recently been only a slow growth in per capita income. Almost any index reveals the same story. Between 1976 and 1986 the number of electrified villages quadrupled; the number of doctors multiplied threefold and nurses fivefold. Between 1980 and 1986 the number of tubewells rose by 53 percent and the rise has since been steeper (Khuda and Howlader 1990: 95–96). Government and NGO programs have flourished in fields other than family planning and have interacted with the family planning effort.

The Bank study is probably right that Bangladesh was by the 1960s not very pronatalist. What it does not say is that traditional methods of birth control—mostly periodic abstinence and withdrawal, methods not advocated or taught by the family planning program and not needing access to supplies or services—were little used to limit family size at that time, demonstrating no strong desire for limiting family size either. As late as 1975 such methods were practiced by only 2.7 percent of couples, but that practice rose consistently thereafter to 8.7 percent by 1991 (Mitra et al. 1994: 45; Gray et al. 1997: 4–5). One could argue that this rise in traditional family planning was evidence not only of a growing desire to limit family size but of the government’s advocacy of family limitation outrunning its ability to supply contraception. This was reported to have been the case in a 1974 village study, although the authors of that study were un-
sure whether the demand arose from government advocacy or from chang-
ing socioeconomic conditions (Arens and van Beurden 1977: 67–68). The
latter might well have been important, especially in 1974, a year of famine
and high rice prices.

The 1995–97 research program

It is pertinent to ask whether the Bangladeshi people themselves felt that
their change from largely unrestricted fertility to widespread practice of
family planning meant merely that long-felt needs had at last been met by
government provision or whether they also believed that the needs them-
selves were intensifying. These were matters that we investigated at length
during a 1995–97 anthropological-demographic field program.

We planned and directed a program that sought to discover what the
actors themselves considered to be their circumstances and motives. In what
follows we will report on the 1997 field work in the Chittagong Division in
the southeast of the country. We chose that division because its lower lev-
els of contraceptive use had been identified in the 1993–94 Demographic
and Health Survey (Mitra et al. 1994: 47) and the World Bank study
(Cleland et al. 1994: 139–140). We aimed both to understand the situation
facing parts of the country that were demographically advanced at a rela-
tively early date, and to examine resistance to family planning. We chose
two areas, both in the southern part of the division. But, when the 1996–
97 DHS—taken after the Chittagong Division had been subdivided into the
Sylhet Division in the north and a continuing Chittagong Division in the
south—was released, it was found that the lower level of contraceptive
practice was in Sylhet Division, although Chittagong Division did record
the second lowest level of such practice among the country’s major ad-
ministrative divisions (BDHS 1997: 11).

The two thanas (or districts) chosen were ones where the ICDDR,B
Extension Project (Rural) had instituted a demographic surveillance sys-
tem. This provided a sampling frame and a set of demographic measures
with which we could compare those obtained in our research program.
The first thana we investigated was Mirsarai, about 75 kilometers north of
Chittagong City and stretching west to east from the most easterly of the
large Bangladesh estuaries leading into the Bay of Bengal, to the first slopes
of the Chittagong Hill Tracts. The second was Satkania, 60 kilometers south
of Chittagong City and extending from the Bay of Bengal to the Hill Tracts.
The broad modern, traffic-choked highway from Dhaka through Comilla
to Chittagong passes through Mirsarai, while the highway’s narrower, less
frequented continuation to Cox’s Bazaar goes through Satkania. Largely
because of its better road connection and shorter distance to Dhaka, Mirsarai
is the more economically developed of the two thanas, with farming more
market-oriented. Both areas consist, like most of the country, of deltaic low-lying plains, criss-crossed by water channels and predominantly devoted to rice cultivation. Most of the population lives on artificial mounds, called baris, raised above flood level, each the base for a group of buildings occupied by related persons but usually not forming an extended family. The only larger aggregates of people are the newer commercial populations that have formed along the roads, sometimes nucleating around an administrative center or market. Motor vehicles and bicycle rickshaws can approach most of the baris, and middle-aged residents can recall when, usually within the last 30 years, the first example of each type of vehicle arrived as footpaths were raised above flood levels and widened to accommodate traffic and as bridges were built. Table 1 compares the studied thanas with the country as a whole.

The two Chittagong thanas are not behind the rest of the country in the level of mortality, nor, as other indexes show, does the division as a whole lag behind in terms of economic development and schooling. Mirsarai’s fertility level is below that of the country as a whole, although apparently with a lower level of contraceptive practice. The higher fertility and lower level of contraceptive practice in Satkania may be explained by a lower level of market orientation and possibly greater religiosity, although whether this means greater devoutness or less social and economic change is unclear. Part of the explanation may also be an educational intervention program carried out by ICDDR,B in Mirsarai, but this had been only recently underway when these statistics were recorded.

In each thana the ICDDR,B surveillance system covered a sample of households in three unions, or smaller political areas. We selected a simple

<p>| TABLE 1 | Demographic estimates: Mirsarai Thana, Satkania Thana, and Bangladesh, 1996 |
|----------|---------------------------|---------------------------|---------------------------|</p>
<table>
<thead>
<tr>
<th></th>
<th>Mirsarai Thana</th>
<th>Satkania Thana</th>
<th>Bangladesh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population (thousands)</td>
<td>387</td>
<td>331</td>
<td>122,100</td>
</tr>
<tr>
<td>Births per 1,000 population</td>
<td>24.5</td>
<td>33.3</td>
<td>26.8</td>
</tr>
<tr>
<td>Total fertility rate</td>
<td>3.0</td>
<td>4.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Deaths per 1,000 population</td>
<td>8.8</td>
<td>9.2</td>
<td>9.7</td>
</tr>
<tr>
<td>Infant deaths per 1,000 births</td>
<td>67</td>
<td>73</td>
<td>82</td>
</tr>
<tr>
<td>Expectation of life at birth (years)</td>
<td>58</td>
<td>56</td>
<td>57</td>
</tr>
<tr>
<td>Contraceptive prevalence rate (percent)c</td>
<td>38</td>
<td>32</td>
<td>49 (41d)</td>
</tr>
</tbody>
</table>

aLater data suggest that the actual rate was higher.
bLater data suggest that the actual level was lower.
cCalculated for currently married women, 10–49 years of age, currently practicing contraception.
dModern methods only.
random sample of 250 surveillance households in each thana, not using stratification because of a rather homogeneous population over a limited area. Ultimately 476 women and 379 men were studied, with somewhat more contraceptive users in Mirsarai than expected because of rising levels of family planning practice since the most recently reported surveillance statistics were collected.

The research approach was an experimental anthropological demographic one developed from earlier experience (see Caldwell, Hill, and Hull 1988; Caldwell, Reddy, and Caldwell 1988). Three elements were basic to the approach. The first was that questionnaires were not used. An initial household census was compared with the records of the surveillance system. Thereafter, some dozen subjects of interest to our investigation, like social and economic change and the value of children, were discussed at length and in no particular order, with issues often being raised and shaped by the interviewees. Notes were taken during the discussions and full reports written up afterward, with the interviewer finally adding his or her own summary of the substance of the encounters. The second element was that the whole family was studied, with female interviewers taking separately to wives and mothers-in-law and male interviewers to husbands. This approach meant that the authors had to read and discuss each report as they searched for synthesizing ideas. Much of the material was subsequently coded by the interviewers, but the issues to be coded progressively emerged from the reports themselves and were not prelisted. No single issue was addressed by every family, for each had its own circumstances and priorities. The third element was a broad investigation into the characteristics and problems of the locality itself and the changes it experienced. Necessarily the heart of this component of the study, carried out mostly by the authors themselves, was an assessment of the agricultural production system.

The development of the research project was assisted by a smaller investigation, carried out in June-July 1996 in southwestern Bangladesh, that came to conclusions similar to those described in this article (B. Caldwell, Khuda, and Hossain 1997).

Apart from the authors, the interviewers were eight men and eight women, most of whom had been selected for training in late 1995 and had undertaken some investigatory research in Dhaka in early 1996. The interviewers talked to persons of their own sex only, a requirement in such research in Bangladesh. The rural field work occupied the first four months of 1997, with residence first in Mirsarai and then in Satkania.

The survey population lived in fairly austere material conditions. The median size for dwellings was a little over 200 square feet (18 square meters) in spite of the fact that they averaged seven residents. Dwellings were typically divided into three rooms, of which two were used for sleeping (and other purposes). Only 39 percent were furnished with a clothing cupboard.
(i.e., a wardrobe or almirah), but 55 percent had a table, 62 percent at least one chair, and 70 percent at least one bed. Most had mud walls and floors but there are now more iron (i.e., corrugated, galvanized, or zinc-coated) roofs than thatch ones. Only 5 percent of households had a television set, but almost 70 percent owned a radio, and 15 percent a bicycle.

With regard to possessions, which can be taken as a rough guide to living standards, two points are illuminating. First, these apparently minimal possessions were pointed to by the great majority of households to show a marked improvement in living standards. A generation ago houses were much more sparsely furnished and few had corrugated iron roofs. Second, by every one of these measures, those who practiced family planning were better off than those who did not. Upward mobility appears to be associated with taking up family limitation, although causation may also flow in the opposite direction, or both may derive from a will to be upwardly mobile.

Nearly half the households farmed some land, 90 percent of this group more than 0.3 acres (0.12 hectares). Slightly more than half the households owned a cow or buffalo and slightly less than half a fishing net. Neither landownership nor the amount of land owned was significantly associated with the practice of family planning. But, in keeping with the finding about social mobility, households practicing family planning were significantly more likely to possess both draft animals and fishing nets.

Explanations for taking up the practice of family planning that invoke social mobility are necessarily multi-generational. Households practicing family planning had higher educational levels than those who were not, both among the respondents’ generation and their children. In contrast, other supposed measures of modernization appear to have had no influence. The proportion of nuclear family households at around 70 percent was similar for those practicing and those not practicing family planning. It may, of course, be argued that this measure is not very meaningful in Bangladesh because there is no great difference between living in an extended family and living in a nuclear one embedded in a bari.

Perceptions of change

The longer discussions involved in our study frequently centered on change over the last few decades or the previous generation. Most respondents picked up this theme, arguing that change had been substantial. Table 2 reports this finding and also identifies what respondents believed to be the single greatest change, as well as all the changes felt to be important.

Table 2 supports the field reports of both the principal investigators and other interviewers. There is a pervasive feeling in rural Bangladesh that massive change has been underway and that most of this change has
been for the better and heralds both an improved family situation and new problems to be solved. Unexpectedly most people identified improvements in their wellbeing less in terms of individual economic advance than with reference to the extension of the economic and social infrastructure: better roads and paths, extension of the electric grid, greater access to health services, family planning, and education, and the spread of the media, especially radio. Only 10 percent mentioned the improvement in women’s status, but this proportion rises steeply if one takes into account the number of those mentioning education and adding that the beneficial educational advance was especially noteworthy in the case of girls. Most people undoubtedly see change in concrete terms rather than in social abstractions. Unexpectedly, nearly as many of those respondents not practicing family planning thought that the advent of family planning facilities signified progress as did contraceptive users. The facilities were there if they needed them, and perhaps outsiders tend to overemphasize the distinction between the two groups.

Several observations might be made. Most rural Bangladeshis when discussing change mention both gains and losses, as is set out in Table 2. There has been great change, most of it beneficial. However, the population has grown and fewer people can expect support from the land. Nominal incomes have risen but consumption has increased more slowly because of rising prices. The world is more complex and preparation has to be made for it by investing in health and education and by limiting family size (as can be seen in Table 3), the latter largely to allow a longer schooling of children rather than freeing up their mothers’ time. The different emphases placed on certain changes by men and women are in keeping with gender differentials in what society expects to be their concerns. Few emphasized the decline in child mortality, and most who did so were women.

But all this is part of a larger whole, as became clear in our anthropological exploration of the local economy. That economy has changed markedly and with it people’s lives and their choices. Indeed, the range of these choices has widened enormously and made lives much more complex. Farming has changed from a largely rice monoculture for subsistence consumption to a mixed economy where vegetables and fish cultivated in ponds are also important. The intrusion of the national—and international—economy has monetized the economy and families’ lives. More than half the rural male labor force now works at least partly outside agriculture. There are opportunities to be grasped and choices to be made, and these increasingly include ones about family size.

Family planning as an option

The discussions about the reasons for increasing fertility control are summarized in Table 3.
<table>
<thead>
<tr>
<th>Nature of change identified by respondents</th>
<th>Greatest single change: one response (percent of respondents)</th>
<th>Any change identified: multiple responses (percent of respondents)</th>
<th>Marked difference between the sexes (sex with greater number giving this response)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Both sexes</td>
</tr>
<tr>
<td>For the worse</td>
<td>25</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>More people on the land, in subdivision</td>
<td>13</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Rising prices</td>
<td>8</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Past times happier, simpler</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Worsening of individual and social behavior</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Other changes</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>For the better</td>
<td>69</td>
<td>75</td>
<td>72</td>
</tr>
<tr>
<td>Better transport, electricity, etc.</td>
<td>27</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>Better health and health facilities</td>
<td>15</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Family planning services now available</td>
<td>8</td>
<td>25</td>
<td>17</td>
</tr>
<tr>
<td>More opportunities for education</td>
<td>12</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Better economic conditions</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Happier time now</td>
<td>(0.3)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Women's status improved</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Chance noted but no definite balance of opinion on whether the total impact was for the worse or the better.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little change, no change, no discussion</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Sample size</td>
<td>379</td>
<td>476</td>
<td>855</td>
</tr>
</tbody>
</table>
Of the nearly one-quarter of the respondents who did not venture any opinion about reasons for family planning practice, most were not using family planning. Very few cited changes in child mortality, or, surprisingly, the problems of women’s health or the dangers of childbirth. These are just taken to be parts of the social landscape.

The greatest emphasis among respondents was on socioeconomic change. Some characterized the situation negatively in terms of the costs of a large family or there now being too little land for all the children to be able to regard it as their future source of livelihood. Others spoke of the fact that a family sufficiently small not to absorb all income and resources in simply maintaining itself could afford to keep children at school long enough to secure nonfarming employment. Few regarded these two interpretations as being essentially different. Most thought that the growing problem of surplus labor beyond the requirements of the agricultural system meant that new employment for children had to be found outside farming. They almost invariably took it for granted that the route was through schooling. They recognized that urban and other nonfarm employment was growing, and nearly all thought that off-farm employment had advantages for both the individual and the family. They were mostly referring to sons but many expect their daughters to marry nonfarmers and to live in towns, where some education is increasingly needed. Nearly all thought that keeping children in school was harder for large families. Similarly, the great majority realized that opportunities for education and urban employment had increased and were greater than in their own childhoods and much greater than when their parents were young.

### TABLE 3 Why people are using family planning now, Bangladesh, 1997

<table>
<thead>
<tr>
<th>Reason given by respondents</th>
<th>Main reason (percent of respondents)</th>
<th>All reasons given (percent of respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>Child mortality is lower</td>
<td>1 (0.2)</td>
<td>1</td>
</tr>
<tr>
<td>To protect mother’s health</td>
<td>0 (0.2)</td>
<td>0.1</td>
</tr>
<tr>
<td>To allow investment in children’s education and other family needs</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Social change</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Too little land</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Large family is too expensive</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>Awareness of contraceptive methods</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Availability of contraceptive methods</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Persuasion by family planning workers</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>No idea, no discussion</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Sample size</td>
<td>379</td>
<td>456</td>
</tr>
</tbody>
</table>
Somewhat less emphasis was given to family planning, but most respondents took it also to be part of the larger picture of change and saw it as the mechanism whereby family size had to be controlled. The family planning program is not regarded merely as a supplier of contraceptives, for one-fifth of all respondents stressed its activist, persuasive role. When we asked those who had taken up family planning whether such persuasion had been an element in their own decision to practice contraception, 28 percent said that it had, although nearly all thought that the decision harmonized with their own material circumstances at the time. Most felt that the persuasion had occurred when they accepted contraception. This view need not conflict with evidence that pressure from the program is not cumulative through a number of unsuccessful visits before the family planning worker finally succeeds (Arends-Kuenning 1997).

Was the World Bank report right?

Are the more radical statements in the World Bank report right, especially as represented by the Population Reference Bureau publication (Carty, Yinger, and Rosov 1993)? Can a major fertility transition be achieved solely by the activities of a family planning program, given only that a sufficient reduction in child mortality has occurred? Is there evidence that so little socioeconomic change was underway in Bangladesh that this is the controlled experiment testing the program’s effect which researchers have been seeking?

One source of evidence for Bangladesh suggests that it is not. The ICDDR,B’s Matlab MCH-FP rural experimental area has had complete contraceptive availability and ample family planning persuasion since 1979 (or even 1977) to reduce fertility to low levels; yet it has taken 20 years for fertility to decline gradually and for contraceptive prevalence rates to rise gradually (following an initial spurt as “unmet” need was met) (van Ginneken et al. 1998: 26–28). Something else seems to have happened over those two decades as well. One of the changes at Matlab was a rise between 1976 and 1996 in the proportion of children with any schooling from 51 to 71 percent and of girls from 43 to 71 percent (Razzaque et al. 1998: 58).

Within the country sufficient change has occurred for us to state that the case for the unique role of the family planning program cannot be proven. Certainly, the respondents in rural southeast Bangladesh feel this to be the case. They place the greatest emphasis on the contemporary problems and opportunities that their parents, let alone their grandparents, never faced. But they also argue that they are able to control family size because of access to contraceptive methods that were unknown to their forebears. Very few practice any method of traditional birth control and even fewer believe that their parents did so.
What has happened to fertility levels and contraceptive prevalence rates over the last three decades in Bangladesh has been extraordinary. But what has happened in other sectors of the society and economy is also far more extensive than the World Bank report conceded. We must await—almost certainly vainly—a better controlled experiment to appear elsewhere.

We, like the actors, believe the activities of the family planning program to have been important, probably in the timing of the onset of fertility decline and certainly in the pace of that decline. But we strongly doubt whether a total fertility rate little above three would have been reached had the society of the early 1970s remained largely unchanged. It was a society that offered fewer opportunities and demanded fewer economic decisions from parents.

Notes

Assistance has been received from Wendy Cosford, Pat Goodall, Indrani Haque, and Elaine Napper. The research was funded by the Population Sciences Division of the Rockefeller Foundation.

1 In terms of comparisons of Bangladesh with a 1997 total fertility rate of possibly 3.2, a 1997 per capita income of US$270, and a 1997 purchasing power parity of US$1,050, the closest parallels are with the following five groups of countries shown with their TFRs followed in parentheses first by per capita income and then, after the slash, by per capita purchasing power estimates (both in US dollars): South Asia: India, 3.1 ($390/$1,650); Sri Lanka, 2.1 ($800/$2,460); (2) North Africa: Morocco, 3.3 ($1,250/$3,130), Tunisia, 3.3 ($2,090/$4,980), Egypt, 3.6 ($1,180/$2,940); (3) Caribbean: Jamaica, 2.6 ($1,560/$3,470), Suriname, 2.7 ($1,240/$2,740); (4) Former parts of the Soviet Union and related countries: Armenia, 1.6 ($530/$2,280); Azerbaijan 2.3 ($510/$1,520); Kazakhstan 2.3 ($1,340/$3,290); Kyrgyz Republic, 3.0 ($440/$2,040); Tajikistan, 4.0 ($330/$930); Turkmenistan, 3.6 ($630/$1,410); Uzbekistan, 3.3 ($1,010/$2,450); Mongolia, 3.3 ($390/na); (5) Socialist countries: China, 1.8 ($860/$3,570); Vietnam, 3.2 ($320/$1,670).


2 A 1995–98 research program, The Onset of Fertility Decline, was carried out jointly by the Extension Project (Rural), International Centre for Diarrhoeal Disease Research, Bangladesh and the Health Transition Centre, National Centre for Epidemiology and Population Health, Australian National University, Canberra, funded by the Population Sciences Division, Rockefeller Foundation, and directed by the authors of this article. The Extension Project has recently changed its name to the Operations Research Project.

3 Just as this article was completed, we read a circulated copy of a memo (Briscoe 1998) to the president of the World Bank written by a technical aid specialist who had lived in Fatepur, a village on a 300-square-mile deltaic island in the Meghna River (i.e., part of the Meghna-Padma or Meghna-Ganges-Brahmaputra Delta) in Comilla District in 1976–78 and returned to it in 1998. He found that great socioeconomic change had occurred over that time, infrastructural change particularly. There were new issues to be addressed by the people and decisions to be made. He had not previously envisaged that such radical changes in way of life, especially that of women, could occur.
References


The Effect of Household Wealth on Educational Attainment: Evidence from 35 Countries

DEON FILMER
LANT PRITCHETT

AVERAGE EDUCATIONAL ENROLLMENT and attainment within developing countries have been widely examined in both official and academic reports. Here we explore this topic as well but emphasize how educational attainment within countries differs by household wealth. For example, how much schooling have children from poor households in Brazil, India, or Kenya received, both absolutely and relative to the rich in the same country?

Answering this question, especially in a way that produces valid comparisons across countries, is hampered by the limited availability, difficulty of use, and lack of comparability of household survey data. The Demographic and Health Surveys (DHS), which applied essentially the same survey instrument in more than 50 countries, go a long way in overcoming these problems. One potential limitation of the DHS survey instrument is that it lacks questions on household income or consumption expenditures, which are conventionally used as indicators of households’ economic status. In an earlier methodological contribution (Filmer and Pritchett 1998), however, we show that an index constructed from the questions asked in the DHS about household assets and housing characteristics (for example, construction materials, drinking water, and toilet facilities) works as well as, and arguably better than consumption expenditures as a proxy for long-run household wealth. This finding allows us to use a comparable method, principal components, to construct a ranking of households within each country. The “poor” are simply defined as the bottom 40 percent of individuals in each country; so, while absolute levels of poverty are not comparable across countries, the rankings are constructed using a similar method for each country.

Our analysis of data on education and wealth reveals three key findings. First, very low primary school attainment by the poor is driven by...
two distinct patterns of enrollment and dropout. There is a South Asian and a Western and Central African pattern in which many 15 to 19 year olds from poor households have never enrolled in school. In these countries more than 40 percent of children from poor households never complete grade 1 and typically only one in four complete grade 5.2 In contrast there is a Latin American (South and Central America and the Caribbean) pattern in which virtually all 15 to 19 year olds complete grade 1 but dropout is the key problem. In South American countries fewer than 10 percent of 15 to 19 year olds from poor households fail to enroll, but dropout is so high that median years of school completed are only between 4 and 6 years. For example, even though 92 percent of 15 to 19 year olds from poor households in Brazil completed grade 1, only 50 percent completed grade 5. The result is that median attainment of the poor in South America is less than that of the poor in Kenya or Zimbabwe.

Second, the wealth gaps in education show large variation across countries, and in most instances raising the enrollment of the poor will be the key to achieving universal basic education. The difference in median grade attainment of 15 to 19 year olds from poor and rich households is very high in South Asia (10 years in India, 9 in Pakistan), high in Latin America and Western and Central Africa (generally 4 to 6 years), and low in Eastern and Southern Africa (generally 1 to 3 years). The bigger the wealth gap, the bigger the role that increasing educational attainment of the poor will play in universalizing basic education. In Colombia and Peru over 70 percent of the shortfall in achieving universal primary school completion is attributable to children from the poorest households.

Third, these data cast doubt on the notion that physical availability of school facilities at the primary or secondary level is the key issue in many countries. In South America typically over 90 percent of the shortfall from primary completion involves children who completed grade 1 (hence likely could attend school) but failed to complete primary school. In South Asia, and Western and Central Africa, a larger fraction is attributable to children who never enroll, but in those countries the wealth gap suggests that even poor children have physical access to schools. A companion article examining differences within Indian states provides estimates of school access effects, which are quite small relative to household wealth impacts (Filmer and Pritchett forthcoming). While this is perhaps not conclusive evidence on the role of physical access, these results suggest that in many cases the issues of access to good-quality schooling and of maintaining household demand for education are as important as the number of schools. At the secondary level the smooth patterns of attainment suggest that high dropout across the transition from primary to secondary school is not a major issue except in a small number of cases (for example, Indonesia, Tanzania, Turkey).
In many ways our analysis confirms findings of previous studies. Many country-specific studies examine enrollment rates by wealth groups (for a review see Behrman and Knowles 1997). Moreover, Behrman, Birdsall, and Szekely (1998) assess the relationship between attainment and wealth in a group of Latin American countries. In the context of benefit incidence analysis Castro-Leal et al. (1997) compile results on the relationship between enrollment rates and expenditure groups for a variety of countries in different regions. The main contributions of our study are the direct comparability across countries of educational data, the focus not just on enrollment but on the entire attainment pattern (showing the importance of dropout within education levels), and a comparable methodology for documenting attainment differences attributable to household wealth.

Data and methods

The Demographic and Health Surveys (DHS) are large, nationally representative household surveys. They have been carried out using a nearly identical survey instrument in over 50 developing countries. The DHS are a systematic data collection effort focused on obtaining nationally representative and cross-nationally comparable household-level data on fertility, use of family planning methods and services, child mortality, and maternal and child health. Many of the surveys, the 35 included here, also record data on school enrollment (for household members aged 6 to 25) and educational attainment (for household members aged 6 and above) as reported by a chosen respondent.

The education variables we analyze are based on four questions: Has [name] ever been to school? If attended school: What is the highest level of school attended? What is the highest grade/years completed at that level? Is [name] still in school?

We use responses to these questions to construct an “attainment profile” for a recent cohort, those aged 15 to 19 years (inclusive) at the time of the survey. This attainment profile records the percentage of the cohort who have completed any given grade or higher.

The analysis covers 35 countries, grouped into six regions. The regions, ranked roughly from lowest to highest median attainment of 15 to 19 year olds from the poorest households are: Western and Central Africa, South Asia, Central America and the Caribbean, South America, Eastern and Southern Africa, East Asia and the Pacific, and Middle East, North Africa, and Central Asia.

Constructing an “asset index”

The DHS do not ask about household income or consumption expenditures, but the survey instruments for surveys carried out since 1990 in-
clude two sets of questions related to the economic status of the household. First, households are asked to report about ownership of various assets, such as whether any member owns a radio, television, refrigerator, bicycle, motorcycle, or car. Second, questions are asked about housing characteristics, namely whether electricity is used, the source of drinking water, the type of toilet facilities, how many rooms there are for sleeping, and the type of materials used in the construction of the dwelling. There is substantial overlap in the questions asked in different countries, but the precise list varies. The number of variables derived from these questions is usually 15 or 16 but varies from 9 to 21 (shown in the last column of Table 1).

In order to use these variables to rank households by their economic status, we need to aggregate them into an index, and the main problem in constructing such an index is choosing appropriate weights. We use the statistical technique of principal components to derive weights. Principal components is a technique for summarizing the information contained in a large number of variables to a smaller number by creating a set of mutually uncorrelated components of the data. Intuitively, the first principal component is that linear index of the underlying variables that captures the most common variation among them.

We assume that this index from a set of asset variables is a good proxy for a household’s wealth. Elsewhere (Filmer and Pritchett 1998) we show that the asset index performs as well as a more traditional measure, such as household-size-adjusted consumption expenditures. Empirical estimates in that methodological paper suggest that the asset index works as well as, or better than consumption expenditures as a proxy for long-run household wealth in predicting children’s school enrollment. Two key findings suggest why this is so. First, when using expenditures as opposed to assets, the enrollment profile is consistently “flatter,” that is, it shows smaller gaps between rich and poor, which is consistent with a large transitory component or measurement error in expenditures. Second, in three countries with surveys where the results using an asset index and consumption expenditures could be compared for the same households, the comparison of ordinary least squares estimates to instrumental variables estimates, and of bounds on measurement error from “reverse regression,” suggest that the consumption expenditures measure has considerably more measurement error as a proxy for predicting school enrollment than does the asset index.

We do not imply that the asset index is a proxy for current standards of living or that it is appropriate for all types of poverty analysis. Attempting to draw such conclusions would require a different set of research questions. The method does appear useful, however, in establishing differences in long-run household wealth, and opens up new lines of research. For example, this method could also be used to examine wealth differences in other variables reported in DHS data, such as health outcomes, immunization cover-
age, or family planning use (for example, child mortality in Hammer 1999 and a range of health, nutrition, and population outcomes in Rutstein 1999).

The fourth column of Table 1 shows how well the first principal component of the asset variables (which is our asset index) “fits” the underlying variables, reporting the proportion of the variation captured. The proportion is remarkably stable, and reasonably high, at between 20 and 30 percent of the variance (ranging from Malawi, Tanzania, and Uganda at .19 to Bangladesh and Bolivia at .31).7

There is a generic problem with principal components analysis. While it is relatively easy to interpret the first principal component, an intuitive explanation of the second and higher-order components is more problematic. Analysts generally hope for only one factor with an eigen value greater than 1, the commonly used cutoff value for “significant” components. In our case, although the first eigen value is relatively high, it is not as high as we would have liked and the second eigen value is also generally above 1. This suggests that the “co-movement” of the assets is explained by more than one factor. We do not know how to interpret this second principal component (especially in a consistent way across countries) and ignore it for now in an uneasy truce with the data. We do believe, however, that it is reasonable to assume that the factor which explains the largest amount of the “co-movement” of the different assets can be interpreted as a household’s economic status.8

The asset index is calculated separately for each country. Within each country individuals are sorted by the asset index, and cutoffs for the bottom 40 percent, the middle 40 percent, and the top 20 percent of the population are derived. Households are then assigned to each of these groups on the basis of their value of the asset index.9 From here on we refer to these groups, without further qualification, as “poor,” “middle,” and “rich.”10

The principal components procedure normalizes the mean of the index to zero for each country. Therefore, in comparing the “poor” in Kenya to the “poor” in Turkey or India, it is important to recall that the measure is relative, and 40 percent of individuals are defined as living in “poor households” in every country. Moreover, the gap between rich and poor could easily vary between countries such that the Brazilian poor could be relatively poorer than the Brazilian rich compared to the Egyptian poor relative to the Egyptian rich.

Our focus in this article is on education gaps across the wealth distribution, not the relationship between inequalities in education and inequalities in wealth, which is clearly a related, but different, point. This focus is in large part data driven, as we can establish to our satisfaction that the principal components method produces a good ranking of wealth across households for the purpose of predicting education outcomes, although its usefulness in capturing the characteristics of the wealth distribution has yet to be shown.11
TABLE 1  Summary information about the included Demographic and Health Surveys

<table>
<thead>
<tr>
<th>Country</th>
<th>Year of DHS</th>
<th>Number of households</th>
<th>Number of household members aged 15-19</th>
<th>Proportion of variance explained by first principal component</th>
<th>First eigen value</th>
<th>Difference between first and second eigen values</th>
<th>Number of assets in wealth index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Western and Central Africa</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benin</td>
<td>1993</td>
<td>4499</td>
<td>2459</td>
<td>0.268</td>
<td>4.3</td>
<td>2.7</td>
<td>16</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>1992-93</td>
<td>5143</td>
<td>3471</td>
<td>0.276</td>
<td>4.0</td>
<td>2.3</td>
<td>15</td>
</tr>
<tr>
<td>Cameroon</td>
<td>1991</td>
<td>3358</td>
<td>1997</td>
<td>0.247</td>
<td>3.8</td>
<td>2.0</td>
<td>15</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>1994-95</td>
<td>5551</td>
<td>2513</td>
<td>0.240</td>
<td>3.8</td>
<td>2.0</td>
<td>16</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>1994</td>
<td>5935</td>
<td>3696</td>
<td>0.223</td>
<td>3.3</td>
<td>1.7</td>
<td>15</td>
</tr>
<tr>
<td>Ghana</td>
<td>1993</td>
<td>5822</td>
<td>1854</td>
<td>0.211</td>
<td>3.2</td>
<td>1.6</td>
<td>15</td>
</tr>
<tr>
<td>Mali</td>
<td>1995-96</td>
<td>8716</td>
<td>4053</td>
<td>0.230</td>
<td>3.4</td>
<td>1.4</td>
<td>15</td>
</tr>
<tr>
<td>Niger</td>
<td>1992</td>
<td>5242</td>
<td>3118</td>
<td>0.265</td>
<td>4.2</td>
<td>2.6</td>
<td>16</td>
</tr>
<tr>
<td>Senegal</td>
<td>1992-93</td>
<td>3528</td>
<td>3181</td>
<td>0.237</td>
<td>3.6</td>
<td>2.0</td>
<td>15</td>
</tr>
<tr>
<td><strong>South Asia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1993-94</td>
<td>9174</td>
<td>4998</td>
<td>0.285</td>
<td>4.0</td>
<td>2.3</td>
<td>14</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1996-97</td>
<td>8682</td>
<td>4982</td>
<td>0.309</td>
<td>4.0</td>
<td>2.5</td>
<td>13</td>
</tr>
<tr>
<td>India</td>
<td>1992-93</td>
<td>87175</td>
<td>50625</td>
<td>0.256</td>
<td>5.4</td>
<td>3.7</td>
<td>21</td>
</tr>
<tr>
<td>Nepal</td>
<td>1996</td>
<td>8082</td>
<td>4482</td>
<td>0.219</td>
<td>2.6</td>
<td>0.9</td>
<td>12</td>
</tr>
<tr>
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*aNortheast Brazil for 1996 is a sub-sample of the 1996 national DHS sample; the wealth groups are derived from the national sample.*
Attainment profiles

We use the data for persons aged 15 to 19 to create an educational attainment profile, which shows graphically the proportion of individuals who completed each grade or higher (see Figure 1). For example, this means that the level at grade 1 shows the proportion that ever attended school and completed first grade. One minus this proportion is the proportion that never completed even one year of schooling. The slope of the enrollment profile is a simulation of dropouts. The difference between the proportion that completed grade 5 or higher and those that completed grade 6 or higher is an estimate of the proportion of all children who dropped out between grades 5 and 6. This is not the usual dropout rate, because the denominator is all children as opposed to the proportion of those reaching grade 5. In the attainment profile the dropout rate is the vertical drop between grades relative to the absolute height.

Figure 1 shows the attainment profiles for each of the 35 countries (some with profiles for more than one survey) with the profile of the poor, middle, and rich wealth groups identified. The data for selected grades are reported in Table A-1. Since much of the article is an exploration of the results and patterns that emerge from these graphs, we first interpret the graphs by describing the first country, Benin, in detail.

In Benin only 26 percent of the 15 to 19 year olds from poor households have completed grade 1 or higher, so 74 percent have never attended school (or more precisely, have not completed at least one year of schooling). A mere 7.9 percent completed grade 5 or higher, and only 0.7 percent completed grade 9 or higher. Among the rich, 80 percent completed grade 1 or higher, but dropout is such that only 54 percent completed grade 5 or higher. Even among the rich only 17 percent completed grade 9 or higher.

We define two “wealth gaps.” First is the wealth gap in the completion of any given grade (which, graphically, is the vertical distance between economic groups). For example, the wealth gap in grade 1 completion is 53 in Benin (79 percent for the rich versus 26 percent for the poor), while the wealth gap at grade 5 is 46. Second is the wealth gap in median grade completed. Visually the median is where a horizontal line at 50 percent would cross the attainment profiles; hence the gap is, graphically, the horizontal distance between the two groups. The median grade completed by the poor in Benin is zero—less than 50 percent of this group have completed grade 1—the median grade completed by the middle group is 2, and that by the rich is 5 years. The wealth gap in median attainment between children from the richest and the poorest households is thus 5 years.

Three main patterns emerge from these figures relating to: (1) the role of “ever enrollment” versus dropout in explaining education outcomes; (2) differing wealth gaps and attainment patterns across countries; and (3)
the use of the differences in attainment profiles as a diagnostic tool. They are discussed in turn.

Enrollment and dropout among the poor

Average educational attainment can be decomposed into two parts: the fraction of 15 to 19 year olds who ever enrolled and, conditional on having enrolled, the last grade completed. We cannot distinguish between those who never enrolled and those who may have enrolled but did not complete at least one year of schooling, and in the following discussion the two descriptions are used interchangeably.

Patterns of enrollment and dropout

The four patterns of enrollment and dropout of the poor tend to follow regional patterns:
—low ever enrollment and high dropout (Western and Central Africa)
—low ever enrollment and low dropout (South Asia)
—high ever enrollment and high early dropout (Latin America and the Caribbean)
—high ever enrollment and late dropout (Eastern and Southern Africa) or very late dropout (East Asia and the Pacific and Middle East, North Africa, and Central Asia).

Table 2 presents the proportion of 15 to 19 year olds from poor households who completed (at least) grade 1, grade 5, primary school, and grade 9. Because the lengths of the cycles (primary versus lower secondary—sometimes together called “basic”—and upper secondary) differ across countries, we show the results both for the comparable number of grades (grade 5) and for the comparable cycle (primary). Grade 9 was chosen as the highest attainment to report because the truncation problem (that children are still in school and we are not observing completed spells of schooling) becomes more severe the higher the grade.

In Western and Central Africa (excluding Cameroon and Ghana) only between 4.6 percent (Mali) and 27 percent (Côte d’Ivoire) of 15 to 19 year olds from poor households completed grade 5. This is a combination of low ever enrollment and substantial dropout. For instance, in Benin 74 percent never completed at least grade 1 and, of those that did, only 30 percent completed grade 5, leaving overall completion of at least grade 5 at only 8 percent.

In South Asia the fraction of 15 to 19 year olds from poor households who did not complete at least grade 1 is also very high, around 50 percent, but, among those who did start, retention in school is much higher. Having begun school, between 55 percent (Bangladesh) and 80 percent (India) stay through to grade 5, but thereafter dropout accelerates.
FIGURE 1   Educational attainment profiles for ages 15 to 19, by wealth group: Western and Central Africa
The Latin American pattern is one of high initial enrollment, but very steep dropout among the poor. The situations are strikingly similar especially within South America, where almost all 15 to 19 year olds from poor households start school: the percent that never enrolled ranges from 4.2 in Bolivia to 7.6 in Brazil, but subsequent dropout is high. In all four South American countries studied here the attainment profile of the poor drops sharply while the middle and rich children stay in school. In Brazil only 49 percent of those who completed grade 1 go on to complete grade 5. The situation is even bleaker when looking at the entire 6 to 8 years of primary school. Of those who complete at least grade 1, only 16 percent in Brazil go on to complete primary school; in Bolivia only 30 percent do so.

A noteworthy finding to emerge from these results is that the level of attainment among 15 to 19 year olds from poor households in Latin America
is lower, not only than in East Asia, but even than in Eastern and Southern Africa. Grade 5 completion for this group is 46 percent in Brazil, 57 percent in the Dominican Republic, 63 percent in Colombia, and 75 percent in Peru. In contrast, grade 5 completion is 62 percent in Tanzania, 84 percent in Kenya, and 89 percent in Zimbabwe. Among Eastern and Southern African countries, only Comoros, Malawi, and Uganda have lower attainment for 15 to 19 year olds from poor households than Brazil.

Eastern and Southern African countries have, by and large, relatively low dropout rates in the primary school years. Thus, while the fraction who never enroll is similar to that in South America, the better-achieving Eastern and Southern African countries retain higher proportions of the poor. This is especially clear in the flat portions in Figure 1 of the profile for the poor
FIGURE 1 (continued)  Educational attainment profiles for ages 15 to 19, by wealth group: South America

Bolivia 1993–94

Northeast Brazil 1996

Northeast Brazil 1991

Brazil 1996

Colombia 1995

Colombia 1990

Peru 1991–92

Peru 1996

- Richest
- Middle
- Poorest
FIGURE 1 (continued) Educational attainment profiles for ages 15 to 19, by wealth group: Eastern and Southern Africa

Comoros 1996

Kenya 1993

Malawi 1992

Namibia 1992

Rwanda 1992

Uganda 1995

Tanzania 1991–92

Tanzania 1996

Zimbabwe 1994

Richest

Middle

Poorest

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in Kenya, Tanzania, and Zimbabwe (and Ghana, which although it is in West Africa has the attainment patterns of Eastern and Southern Africa).

The final pattern is relatively high-attainment countries with both high enrollment and high retention through primary and beyond into lower secondary school. The patterns differ between Indonesia and Turkey with sharp dropoffs in attainment between primary and secondary and the Philippines and Egypt with less sharp changes across primary to secondary, a difference we return to below.
Reaching universal attainment and closing the wealth gap

Nearly every country in the world has set a goal to reach universal educational attainment through some level: primary, “basic,” or even secondary. An important question is what remains to be accomplished to achieve this goal. Examining the attainment profiles in Figure 1 makes clear that in some countries it is practically only the poor who did not complete primary school, while in other countries it is both the middle and poorest groups who did not do so. In only a very few countries have the rich not already achieved universal basic education.

In Table 3 we report the deficit from universal completion of grade 5 and of primary school. In Figure 1 this shortfall is the vertical distance from...
the horizontal line at universal completion (value of 100) to the level who have completed the grade in question. We then decompose this deficit into that fraction attributable to shortfalls of 15 to 19 year olds from poor, middle, and rich households.

Again, there are regional patterns in the absolute level of the shortfall and in the fraction of that shortfall attributable to the different groups. Western and Central Africa has high levels of deficit from grade 5 attainment (in two countries reaching 80 percent) that are nearly evenly distributed across the poorest and middle groups. This, perhaps counterintuitive, result stems partially from the fact that the asset index is ranked across all individuals while we are looking only at 15 to 19 year olds. In these cases more than 20 percent of children are in the richest households (the percentage reaches as high as 27 percent in Côte d’Ivoire).

In South Asia the attainment deficit is also large but its distribution is different. In India and Pakistan the large wealth gaps are revealed in a concentration of the attainment deficit in the poor and middle groups. For India there is a 38 percent shortfall from completion of grade 5, of which 61 percent is attributable to 15 to 19 year olds from poor households while only 4 percent is attributable to 15 to 19 year olds from rich households.

Consistent with our previous observations, the high dropout rates of the poor in Latin America are revealed in the large proportions of the deficit that are attributable to the poor. In South America the fraction that did not complete grade 5 ranges between 12 percent (Peru) and 32 percent (Brazil), but at least 70 percent of both shortfalls is attributable to the poor. The attainment deficit problem for these countries is essentially the problem of keeping the poor in school once enrolled.

The Eastern and Southern African countries are again a contrast with those in both Western and Central Africa and Latin America. The shortfalls from grade 5 completion are much lower than those in Western and Central Africa or South Asia and somewhat higher than those in South America, but the distribution of the shortfall is more even. This is true especially when looking at the entire primary school cycle, where the fraction attributable to the poorest and middle groups is roughly equal.

Finally, in East Asia the gaps are smaller, but concentrated among the poor. The Philippines registers only a 13 percent shortfall from universal primary completion, of which 72 percent is attributable to the shortfall of the poor.

Wealth gaps across countries

The second prominent feature of the country profiles in Figure 1 is the uniform ranking of the rich, middle, and poorest groups in terms of educational attainment. As discussed above there are two ways we define a wealth gap: 1)
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*Northeast Brazil for 1996 is a sub-sample of the 1996 national DHS sample; the wealth groups are derived from the national sample.*
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*aNortheast Brazil for 1996 is a sub-sample of the 1996 national DHS sample; the wealth groups are derived from the national sample.*
the difference in the proportion of each group who completed any given grade; and 2) the difference in the median attainment of richest and poorest groups.

Table 4 reports the gap in the proportion of the 15 to 19 year old cohort who have completed grade 1, grade 5, primary school, and grade 9. In Western and Central Africa large wealth gaps exist at the primary level, but by grade 9 attainment has fallen for the rich so the wealth gap closes. In South Asia the wealth gap starts large and stays large ranging from 34 (Nepal) to 60 (Pakistan) for primary school completion and from 31 (Nepal) to 59 (India) for grade 9 completion. The wealth gap in South America is less than 10 at grade 1, but gets progressively larger. For example, by the end of primary school the wealth gap in completion has reached 43 in Brazil, while in Bolivia by grade 9 it has reached 57. The wealth gaps in Eastern and Southern Africa are relatively small, even through primary completion (except for Namibia and Zambia).

The second way of defining the wealth gap highlights striking differences across countries. In the attainment profiles, the difference in median grade completed is the horizontal gap at 50 percent (i.e., half the population). Figure 2 shows the median educational attainment of 15 to 19 year olds from richest and poorest households for each country. The last four columns of Table 4 report the median grade attainment of the poorest, middle, and richest, as well as the difference between the rich and the poor for each country. Perhaps not surprisingly, as countries move from low to high levels of attainment, the wealth gap starts out high, grows, peaks, and then falls when the entire population enrolls and stays in school through basic education.

In most countries in Western and Central Africa the median grade completed by 15 to 19 year olds from poor households is zero, as less than half of them ever finished at least one year of schooling. However, since members of rich households did not achieve very high levels of schooling either, the wealth gap generally ranges from 4 to 6 years.

The wealth gap is highest in the world in South Asia, where the poor are not going to, or staying in, school. The median grade completed for 15 to 19 year olds from poor households is zero in two of the four countries studied. On the other hand, those from richer households in South Asia have high levels of attainment. India has the world's largest wealth gap, 10 years, with the poor having a median grade completed of zero, while for the rich attainment is 10 years. This is followed closely by Pakistan at 9 years, and Bangladesh at 6 years.

Again the comparison between Latin America and the much poorer countries in Eastern and Southern Africa is striking: 15 to 19 year olds from poor households in Eastern and Southern Africa have considerably higher educational attainment than those from poor households in Central and South America. The median grade completed in Kenya and Zimbabwe is 7, in contrast to 4 in Brazil, and 5 in Colombia and Peru.
FIGURE 2 Median grade completed by 15 to 19 year olds in the richest and poorest households

NOTE: For survey years see tables. For countries for which two surveys are shown, earlier one appears first.
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aNortheast Brazil for 1996 is a sub-sample of the 1996 national DHS sample; the wealth groups are derived from the national sample.
The Eastern and Southern African pattern of high initial enrollment and high retention of all groups through primary school leads to low wealth gaps in median grade completed, ranging from 1 (Kenya) to 4 (Comoros and Malawi). The wealth gap is 3 for the two East Asian countries studied. This is attributable not to especially low attainment for the poorest and middle groups, but rather to higher levels of attainment of the richest group. The wealth gap is 4 in Egypt and Turkey, again largely because of the high attainment of the richest group.

Attainment profiles as a diagnostic tool

The attainment profiles presented above can be used to identify key concerns in national educational systems. When the issue of increasing enrollment rates or educational attainment is discussed, there is often a tendency to talk about “access” to schooling, where access is narrowly defined as the physical availability of schools. This was almost certainly the key issue some years ago when a shortage of schools and teachers was the rule. It is increasingly unlikely, however, that in many countries the physical presence or absence of schools and teachers is the major constraint on expanding enrollment and increasing attainment, particularly of the poor. Many analysts have concluded that even in very poor countries improving the quality of schooling is now the critical issue for expanding enrollments. The figures we present here provide three stylized facts that are consistent with this conclusion, two from the primary level and one from the transition from primary to secondary school. Nevertheless, a thorough analysis of local conditions is necessary for drawing firm conclusions for a given situation. The attainment profiles nonetheless provide initial insights into the importance of the issue of improving schooling quality.

Primary school. First, if a child went to school and then stopped attending, it is likely that he or she could have continued to go to school. The first column of Table 5 presents the proportion of the shortfall in primary school completion among 15 to 19 year olds that is attributable to dropout (i.e., the ratio of the difference between grade 1 and primary completion and the shortfall in primary completion).

The noteworthy results here are the high numbers for Latin America (from 61 to 94 percent), Eastern and Southern Africa (excluding Comoros, from 64 to 92 percent), and East Asia and the Pacific (from 85 to 90 percent). In these countries, the main explanation for why 15 to 19 year olds did not complete primary school is not that they did not start school, but that they dropped out. In Western and Central Africa and in South Asia, dropout explains less than half the shortfall from universal primary education for those from poor households, with values ranging from 10 percent in Mali, Senegal, and Pakistan to 49 percent in the Central African Republic.
Of course, this approach can only address the question of the physical availability of schools, not true access to education. In particular it is possible that children did attend first grade, but in classes of 100 or more, with no materials, indifferent (or worse) teaching, and deteriorating buildings. Not surprisingly there will be high dropout under these circumstances, resulting not from sheer physical availability but from inadequate access to education as properly defined, a definition that includes quality. A second approach to the impact of school availability, then, would be to look directly at the relationship between the presence of schools and enrollment. For example, using the DHS-like National Family Health Survey data from India, Filmer and Pritchett (forthcoming) found in state-by-state regressions only a weak relationship between the availability of schools and enrollment rates. In the present article we do not replicate our analysis country by country but, as a heuristic indication, we report the proportion of “rich rural males” (more precisely, rural males ages 15 to 19 years old from the richest households) who have completed at least grade 1. Since poverty is not completely regionally concentrated, this group is likely to suffer from a lack of physical access to schools similar to that among less socially favored groups (the poor and females). If so-called rich rural males have relatively high attainment, this provides an indication of the degree to which other groups are falling short because of their economic and social status, not school availability.

Table 5 shows large gaps in countries with low educational attainment between the proportion of rich rural males and the proportion of all 15 to 19 year olds who have completed at least grade 1. In Pakistan grade 1 completion among rich rural males is 94 percent, while the average is 58 percent (a 36 percentage point gap); in India grade 1 completion among rich rural males is 96 percent, while the average is 70 percent (a 26 percentage point gap); corresponding percentages in Côte d’Ivoire are 83 percent versus 60 percent (a 23 percentage point gap) and in the Central African Republic 95 percent versus 69 percent (a 26 percentage point gap). Increasing the average proportion who complete at least grade 1 to that of rich rural males would in most countries nearly eliminate the proportion of children who complete less than 1 year of schooling, except for the very lowest performers such as Mali, Niger, and Senegal.

Transition to secondary school. Another point about availability is that the attainment profiles do not suggest that the lack of availability of secondary schools, or the rationing of secondary places, plays a large role in most countries, although these are important phenomena in some. Table 5 reports the simulated school dropout rate of the poor between the second-to-last and the last year of primary, between the end of primary and the end of the first year of secondary, and between the first and second years of secondary. If secondary school places were rationed (either offi-
<table>
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*Northeast Brazil for 1996 is a sub-sample of the 1996 national DHS sample; the wealth groups are derived from the national sample.*

Click to return to Table of Contents
cially by an exam or in practice by the lack of facilities) one might expect to see much higher dropout rates across the transition between primary and secondary school (column 5) than either before or after the transition (columns 4 and 6).

This is indeed the pattern in some countries, identifiable in the graphs by a steep drop at the end of the primary cycle. Thus, in Turkey the dropout rate is 1 percent before the transition, 67 percent at the transition, and 10 percent after it. In Tanzania the dropout rate is 22 percent the year before the end of primary schooling, but 98 percent at the transition, as almost no poor child reached the secondary school level. High dropout rates at the primary to secondary transition are also prominent in Indonesia and Guatemala.

In nearly every other country, however, dropout is somewhat higher at the transition between primary and secondary school than in the year before or after. Most of the patterns in Figure 1 are characterized by smooth slopes that make it difficult to distinguish the transition year. For example, in Nepal the dropout rates are 17 percent, 21 percent, and 21 percent in the three years around the transition.

In the Philippines the dropout rate is 8 percent before the end of primary education, increases to 24 percent at the transition, and then falls slightly to 18 percent. This pattern of a higher rate in the transition followed by a somewhat lower subsequent rate is also true of Haiti, the Central African Republic, Zambia, and Uganda. In Bolivia the dropout rates are 24 percent, 32 percent, and 45 percent, so dropout is higher after the first year of secondary school than before and at the transition.

The analysis reveals the importance of considering the entire attainment profile. Looking only at the differences in average enrollment between primary and secondary schooling, one might have concluded that the large gap indicated that the problem was across the transition. However, examining the profile might reveal that dropouts within the primary level imply that the “excess” of primary school leavers over secondary school entrants is quite low.

Figure 3 illustrates the point by showing the profiles for 15 to 19 year olds from poor households in Brazil and Indonesia. In Brazil, dropout at the transition may be high (48 percent), but it is high throughout the primary school years. In Indonesia, dropout is more than ten percentage points higher at the transition (61 percent) but the underlying profile is very different as there is only a minor dropout within the primary school years and virtually all of the dropoff is across the transition.

Of course this use of educational attainment profiles is diagnostic and can only point to issues needing more detailed examination. For instance Lavy (1996) has shown that the lack of secondary school facilities can influence dropout even before the end of primary school by lowering the expected return to additional primary years. Therefore, we cannot conclude from high primary dropout that the physical lack of secondary facili-
ties is unimportant. Moreover, by focusing on access and quality here, we do not exclude other explanations of the determinants of schooling such as fees (both direct and indirect), opportunity costs to parents, and labor market returns (although these may be related to quality as well).

Conclusion

In this article we have documented striking cross-country patterns in school enrollment and educational attainment by household wealth in 35 countries.

While others have examined the differences in enrollment behavior between the rich and poor, a major advantage of our analysis is that the data are comparable across countries. The attainment data are derived consistently and, while the levels of the asset index are not directly comparable across countries, they are derived using an identical methodology.

Two overall conclusions emerge from these results. First, in many (if not most) countries the bulk of the deficit from universal primary (or basic) education comes from the poor. The achievement of higher levels of enrollment for this group is an exercise in social inclusion, reaching out and bringing the poorest into what is already the norm for the rich and, in many cases, for those in the middle with respect to wealth status. Second, the evidence suggests that, except in the very poorest settings, the key to closing wealth gaps in school enrollment and educational attainment lies in actions that raise the demand for schooling of the poor. Although this requires more research, we believe that raising the quality of schooling received at the primary level is likely to be a main ingredient needed to attract and retain poor children in school.
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*aNortheast Brazil for 1996 is a sub-sample of the 1996 national DHS sample; the wealth groups are derived from the national sample.*
Notes

This work is the result of research developed jointly with Jee-Peng Tan, and it has greatly benefited from her input. The authors thank Emiliana Vegas and seminar participants for helpful comments and suggestions. This research was funded in part through a World Bank Research support grant (RPO 682-11). See also www.worldbank.org/research/projects/edattain/edattain.htm. The findings, interpretations, and conclusions expressed in this article are entirely those of the authors. They do not necessarily represent the views of the World Bank, its Executive Directors, or the countries they represent.

1 Several recent estimates of the stocks of schooling years in many countries have been produced based on the UNESCO Yearbook series of enrollment rates and on labor force and census surveys (Nehru, Swanson, and Dubey 1993; Barro and Lee 1993; Dubey and King 1994; Ahuja and Filmer 1996).

2 Since this analysis focuses on 15 to 19 year olds, it reflects the situation of a few years prior to the survey.

3 Table 1 shows that the samples of individuals aged 15 to 19 years usually exceed 2,000, but vary from 1,355 in Kazakhstan to over 50,000 in India.

4 There are three main designs of the survey instrument. DHS I surveys, carried out between 1985 and 1989, do not contain the requisite education data. DHS II were collected between 1990 and 1993, and DHS III have been carried out since 1994. We limit ourselves here to datasets with the requisite education and asset information.

5 For a detailed description and assessment of the methodology see Filmer and Pritchett (1998). The variables used in the construction of the index are (in a typical case such as Mali): (1) a set of six dummy variables, each of which is equal to one if a member owns a radio, television, refrigerator, bicycle, motorcycle, or car; (2) a set of three dummy variables one of which is equal to one if the household’s drinking water is from a piped source, a well or surface source, or another source (rainwater, tanker truck, etc.); (3) a set of three dummy variables one of which is equal to one if the household has a flush toilet, a pit toilet latrine, or no/other toilet facilities; (4) a dummy variable equal to one if the house has electricity; (5) the number of rooms for sleeping in the dwelling; (6) a dummy variable equal to one if the dwelling’s floors are made of finished materials (such as cement, parquet, vinyl).

6 If these assets were to be used only to examine the impact of some other factor (e.g., maternal education) as a “control” for wealth in a multivariate regression, we would not need to aggregate the variables (cf. Montgomery et al. 1997).

7 Since random measurement error will tend to “flatten” the household wealth/enrollment relationship, the fact that the fit is similar across countries is reassuring as the cross-country comparisons are therefore not likely to be greatly affected by differing degrees of measurement error.

8 Since, by construction, principal components are orthogonal to one another, the “omitted variables” problem of ignoring the second principal component should not be severe. But this rationalization would not be true of omitted variable bias for additional control variables, such as urban residence, which may be correlated with either component.

9 This method of ranking households is analogous to standard approaches used in analyses of the correlates of poverty or the benefit incidence of public spending, which use consumption quantiles. In this application, while the cutoff is based on all individuals, the analysis is carried out only for those aged 15 to 19 so there can be more or less than 40 percent of that cohort in the poorest households.

10 Note that the results presented here are practically unaffected if the ranking is carried out on the basis of the asset index divided by household size (or household size to a power between zero and one).

11 In fact, in many applications of principal components only the index normalized by its standard deviation is used, a transformation that does not affect our ranking of households but that would affect studies of the distribution. In addition we do not at-
tempt to pool all data and derive one “world-
wide” asset index and compare individuals
across countries. There are two main reasons
we do not do this. First, the variables avail-
able differ across countries. Second, compar-
ing levels of wealth across countries is a dif-
cult proposition even with the “best”
consumption and/or GNP data available.

12 The sample consists of all household
members regardless of relationship to the
head of household. There is a potential prob-
lem of endogeneity whereby households that
have more 15 to 19 year olds are more likely
to be classified as wealthy if people from this
age group contribute to household wealth.
There are several reasons why we think this
is not problematic. First, we are only com-
paring households that have a 15 to 19 year
old. Second, the results do not change when
scaling the asset index by household size
(which includes 15 to 19 year olds). Third, the
bias is likely to lead us to underestimate the
wealth gap in attainment because children of
poorer households are less likely to be in school
and therefore are contributing more to current
household wealth, and vice versa for wealthier
households. Our estimates can be thought of
as lower bound estimates.

13 We are therefore not distinguishing
between having attended school but never
completing even one grade and never hav-
ing attended school at all.

14 This is a simulation because we are
not observing an individual’s progression
through the school system but a cross-sec-
tion of attainments of this cohort.

15 The analysis here focuses on differ-
ences by wealth and does not factor in dif-
fferences by gender. This is undoubtedly an
important issue in some countries, and we
have analyzed it at length in the Indian con-
text (Filmer and Pritchett forthcoming). A
breakdown of the attainment profiles by gen-
der (and the interaction between gender and
wealth) for all the countries analyzed here
can be found at www.worldbank.org/
research/projects/edattain/edpintrai.htm but
an analysis of these data is left for ongoing
and future work (Filmer 1999).

16 We use two sources to establish the
number of years in the primary cycle at the
time most of the individuals aged 15 to 19
were of primary school age: one “official,”

the UNESCO Statistical Yearbook (UNESCO
1998), the other “standard” (Husen and
Postlethwaite 1994).

17 Observing truncated spells would
tend to make us overstate the wealth gap in
attainment if poorer children started school
at a higher age than richer students and both
completed the same number of years of
schooling. However, a comparison of the co-
hort of 15 to 19 year olds in one country
with the cohort of 20 to 24 year olds in the
same country about 5 years later for eight
countries where this is possible suggests that
we are, if anything, understating the mag-
nitude of the bias. Our estimates are there-
fore, at worst, lower bound estimates. For
example, in Peru we can compare the attain-
ment profiles of 15 to 19 year olds in 1991/
92 to that of 20 to 24 year olds in 1996, the
“same” cohort at two points in time. The re-

sults show that the proportion of 20 to 24 year
olds who have attained grade 8 and 9 is in-
deed higher than that of 15 to 19 year olds
(70 percent versus 58 percent for grade 8 and
64 percent versus 43 percent for grade 9); the
difference below grade 8 is very small. How-
ever, when breaking down the population by
urban/rural residence, the results show that
the discrepancy is practically all in the urban
areas (which are wealthier according to the
asset index) and close to zero in the rural ar-

eas. This suggests that in the rural areas there
is little or no bias, whereas in the urban areas
there is a small downward bias, leading to a
downward bias in the estimate of the urban/
rural gap (because wealth is likely to be less
stable than residence between ages 15 to 19
and 20 to 24, we did this comparison on the
basis of residence and not wealth status).
Therefore, even when children from rural
households start school at a later age, they tend
to stop earlier and by ages 15 to 19 we are able
to get a good measure of their educational at-
tainment. In the eight countries where there
have been two surveys we find either that this
general pattern holds (Colombia, Dominican
Republic, Indonesia, Peru, Zambia), or that
there is no significant difference between the
two dates (Bangladesh, Egypt, Tanzania).

18 For example, the fraction attributable
to the poor is $Sp*pp/S$, where $Sp$ is the short-
fall for the poorest group, $pp$ is the propor-
tion of 15 to 19 year olds in the poorest
group, and $S$ is the total shortfall.
19 This is calculated from the data and is not truncated at grade 9. This implies that the differences are, if anything, larger because of upper censoring of those still enrolled.

20 Again, the rates are simulated as we are deriving the value implied from the cross-section of 15 to 19 year olds. For example, in a country in which the primary cycle is 6 years, the simulated dropout rate in the last year of primary is the ratio of the completion of grade 5 to the completion of grade 6; the rate between primary and secondary cycles is the ratio of the completion of grade 6 to the completion of grade 7; and the rate in the second year of secondary is the ratio of the completion of grade 7 to the completion of grade 8.

References


NOTES AND COMMENTARY


E. A. Wrigley

The OED gives the following base definition of the word dearth: “dearness, costliness, high price,” while cautiously noting: “This sense, though etymologically the source of those that follow, is not exemplified very early, and not frequent.” It goes on to offer other usages: “A condition in which food is scarce and dear; often, in earlier use, a time of scarcity with its accompanying privations, a famine” and “scarcity of anything, material or immaterial.” That there should be a link between high prices and food shortage is entirely natural given the character of all preindustrial economies; and therefore that the same word should have come to assume the range of meanings defined in the OED is not surprising. Yet achieving an effective understanding of some aspects of the nature of the relation between the two has proved surprisingly elusive, given the central importance of the harvest in all economies until the recent past.

Of the four necessities of life recognized by the classical economists, food, shelter, clothing, and fuel, the first was by far the most important. Among the poor, three-quarters or more of all income might have to be devoted to food even in normal times, and in most European economies the great bulk of this expenditure went on bread grain. Little wonder, therefore, that the bounty or otherwise of the last harvest, which, together with the scale of any carryover from earlier years, determined current supply, and the prospects for the next harvest, which began to affect the price of grain many months before any corn was cut, were matters of such pressing concern to individuals, to communities, and to governments. The petition “give us this day our daily bread” is the only material concern mentioned in the Lord’s Prayer. It symbolizes the central importance of the grain harvest to all those living in organic economies, economies, that is,
in which animal and vegetable products were not only the sole source of food but were also the basis of almost all forms of material production.

Because the demand for bread grain was relatively inelastic, relatively small variations in its supply had a very marked impact on its price. Hence the superficially paradoxical fact that years of bad harvest were years of prosperity for any farmer with a substantial surplus to sell after meeting his domestic needs. The relation between the supply and price of grain was an issue that attracted the attention of the pioneers of political arithmetic. Davenant, who was substantially indebted to Gregory King in this regard, published a formula intended to capture this relation which showed, for example, that when supply fell below the normal level by 30 percent the price of grain might be expected to be about 160 percent above its long-run average, while in the disastrous circumstance of a 50 percent fall in supply the price would be 450 percent above normal. More than a century and a half later Jevons devoted attention to the question and suggested an algebraic formulation of the relation that produces results closely similar to those suggested by Davenant. Others, notably Bouniatian, studying the relation also confirmed the broad accuracy of Davenant’s pioneering initiative.1

But although the formulation of the relation that was first suggested by Davenant in the 1690s has proved able to capture fairly robustly the average behavior of price in response to supply changes, it may prove a very poor guide to the relation in particular instances. For the model to “save the phenomena,” a number of assumptions about the state of the market, and particularly about the nature of effective demand, must hold true. This is an issue to which Amartya Sen, whose analysis has proved immensely influential, devoted much attention about 20 years ago. His exposition of the influences that can both give rise to starvation even when the local harvest is of a normal size and yet can also leave prices largely unaffected, even in conditions of food shortage so acute that there are many famine deaths, gave a very different shape both to academic analysis of the topic and to the politics of food shortage and public action (Sen 1981).

It is a singular tribute to the breadth of Malthus’s interests and to his acuteness of mind that he considered the same issue and arrived at a fundamentally similar understanding of the nature of the question in his second work, which, like the first, was published anonymously. It was entitled An investigation of the cause of the present high price of provisions, containing an illustration of the nature and limits of fair price in time of scarcity, and its application to the particular circumstances of this country. This pamphlet, merely 28 pages long, was published in 1800, when Malthus was still only 34 years old, after his return from a lengthy tour of Scandinavia that occupied the second half of 1799. He had discovered that the high price of bread in England had become a burning issue during his absence, and the essay, published within a few months of his return, represents his analysis of its cause.
The price of wheat per quarter in England in the 1780s and early 1790s had fluctuated between 40 s. and 55 s., but rose steeply during the war years of the 1790s, and in 1800 and 1801 reached 113 s. and 119 s. These figures are annual averages, and at times during the crisis years prices were significantly higher. Wheat was never again so costly throughout the Napoleonic war period, except for 1812, and once the wars were over wheat prices dropped back to the range between 50 s. and 70 s. a quarter. The price of wheaten bread in London rose roughly in step with the price of the grain. The 4 lb loaf cost between 5\(\frac{1}{2}\) d. and 7 d. in the 1780s and early in the 1790s but the price rose above 15 d. in both 1800 and 1801 (Mitchell 1988: chap. xiv, tables 17 and 22). Its price had roughly doubled during Malthus's absence in Scandinavia.

Malthus's view of the cause of the rise in bread prices was heavily conditioned by his experiences while in Sweden. The nature of the question he set out as follows: "It cannot admit of a doubt . . . that, during the last year, there was a scarcity, to a certain extent, of all sorts of grain; but it must be at the same time acknowledged, that the price was higher than the degree of that scarcity would at first sight appear to warrant" (Malthus 1800: 5). He then described what he had recently seen when abroad:

In the summer of 1799, in the course of a northern tour, I passed through Sweden. There was at that time a general dearth of corn throughout the country, owing to a long drought the preceding year. In the province of Värmland, adjoining to Norway, it approached almost to a famine, and the lower classes of people suffered most severe distress. At the time we were passing through that part of the country, which was in July, they were reduced to two most miserable substitutes for bread; one, made of the inner bark of the fir, and the other, of the common sorrel dried, and powdered. These substances, though made into the usual shape of their rye bread, had no affinity to it whatever in taste, and but very little, I believe, in nourishment, as the effects of this miserable food were but too visible in their pallid and unhealthy countenances. (ibid.)

Malthus went on to remark that there could be little doubt that the degree of scarcity then prevailing in Värmland was "considerably greater" than that found in England at the same time, but, he added, "yet, as far as we could learn, the price of rye, which is the grain principally used for bread, had not risen above double its usual average; whereas in this country last year, in a scarcity that must be acknowledged to be greatly inferior in degree, wheat rose to above three times its former price" (ibid.: 6).

Malthus then addressed the question of whether any individuals or groups were to blame for the situation in England, an issue that had been the occasion for much heated debate in 1800 as in similar situations time out of mind. He criticized the Lord Chief Justice, among others, for pan-
dering to the wish to find scapegoats in the guise of corn merchants and big farmers who were accused of withholding supplies in order to maximize their profits. He expounded the orthodox riposte of the classical economists that the workings of the market through the decisions of interested individuals were beneficial in this respect and elaborated on this theme at intervals throughout the essay. The essence of his case is captured in a later passage in the following terms:

A reflecting mind, far from being astonished that there are now and then errors in speculation, must feel much greater astonishment that there are so few; and that the supplies of a large nation, whether plentiful or scanty, should be distributed so equally throughout the year. Most happily for society, individual interest is, in these cases, so closely and intimately interwoven with the public interest, that one cannot gain or lose without a gain or loss to the other. The man who refuses to send his corn to market when it is at £20 a load, because he thinks that in two months time it will be at £30, if he be right in his judgement, and succeed in his speculation, is a positive and decided benefactor to the state; because he keeps his supply to that period when the state is much more in want of it; and if he and some others did not keep it back in that manner, instead of its being £30 in two months, it would be £40 or £50. (ibid.: 10–11)

Although Malthus was concerned to dismiss what he regarded as outdated and ignorant explanations of current high prices, the prime purpose of the essay was to offer an alternative explanation, which he first expressed in these terms:

To proceed to the point: I am most strongly inclined to suspect, that the attempt in most parts of the kingdom to increase the parish allowances in proportion to the price of corn, combined with the riches of the country, which have enabled it to proceed as far as it has done in this attempt, is, comparatively speaking, the sole cause, which has occasioned the price of provisions in this country to rise so much higher than the degree of scarcity would seem to warrant, so much higher than it would do in any other country where this cause did not operate. (ibid.: 6–7)

He went on to suggest that a combination of humane feelings on the part of the higher and middle classes of society and the complaints of the poor to the justices had led to increases in the scale of poor relief, which transferred purchasing power into the hands of those most in need and thereby simultaneously encouraged speculators to withhold supplies in anticipation of further price increases, thus propelling a further cycle of similar increases in poor relief and hence in prices.

Malthus was, of course, an opponent of the poor law system of relief, trenchantly so in his early days, but throughout his life was notably will-
E. A. Wrigley

ing to act in accordance with the principle that circumstances alter cases. In 1800 he was in no doubt that the existence of the poor laws was a saving grace in the face of severe shortages because they ensured a substantial transfer of purchasing power to those who might otherwise have been obliged to confront the same sort of terrible alternatives to normal foodstuffs of which he had been a witness a few months previously in Sweden. He concluded this section of his essay by making clear both his general prejudice against the poor law system and his relief that it had mitigated the effects of the shortage of bread grain so effectively. The same passage demonstrates that he had achieved an understanding of the nature of the interaction of supply and demand in conditions of dearth strongly reminiscent of Sen’s later discussion:

I do not, however, by any means, intend to infer, from what I have said, that the parish allowances have been prejudicial to the state; or that, as far as the system has been hitherto pursued, or is likely to be pursued, in this country, that it is not one of the best modes of relief that the circumstances of the case will admit. The system of the poor laws, in general, I certainly do most heartily condemn, as I have expressed in another place, but I am inclined to think that their operation in the present scarcity has been advantageous to the country. The principal benefit which they have produced, is exactly that which is most bitterly complained of—the high price of all the necessaries of life. The poor cry out loudly at this price; but, in so doing, they are very little aware of what they are about; for it has undoubtedly been owing to this price that a much greater number of them has not been starved.

It was calculated that there were only two thirds of an average crop last year. Probably, even with the aid of all that we imported, the deficiency still remained a fifth or sixth. Supposing ten millions of people in the island; the whole of this deficiency, had things been left to their natural course, would have fallen almost exclusively on two, or perhaps three millions of the poorest inhabitants, a very considerable number of whom must in consequence have starved. The operation of the parish allowances, by raising the price of provisions so high, caused the distress to be divided among five or six millions, perhaps, instead of two or three, and to be by no means unfelt even by the remainder of the population. (ibid.: 13–14)

Sen defined his form of analysis of poverty and famine as the entitlement approach. “The entitlement approach to starvation and famines concentrates on the ability of people to command food through the legal means available in the society, including the use of production possibilities, trade opportunities, entitlements vis-à-vis the state, and other methods of acquiring food” (1981: 45). The scale of personal entitlement was a function of two parameters, the “ownership bundle” belonging to a person, which Sen termed his or her endowment, and the “exchange entitlement mapping” of the person in question, or “the function that specifies the set of alterna-
tive commodity bundles that the person can command respectively for each endowment bundle" (ibid.: 46). Starvation can occur either because of a fall in endowment or because of an unfavorable shift in exchange entitlement mapping. Bengali fishermen in 1943, Sen noted, might still be able to catch fish but this was of little benefit to them in meeting their need for food other than fish if the demand for fish declined sharply relative to that of rice; and fish was, comparatively, a luxury food (ibid.: 51). Or to take an historical example from a period not long before Malthus’s lifetime, in the aftermath of harvest failure in the Beauvaisis in 1693–94, the village of Mouy suffered perhaps the most severely of all the parishes that were analyzed in detailed by Goubert. Mortality there was especially heavy because Mouy was dependent primarily on woolen manufacture for its income. Weavers were still able to produce cloth, but could no longer find a market for their wares since under pressure of necessity purchasing power in the Beauvaisis was directed more and more exclusively to food. Mouy’s inhabitants, therefore, suffered both because they did not produce food directly themselves and because what they did produce was no longer able to command a price that would enable them to buy sufficient food to keep them alive. Their exchange entitlement map had deformed greatly to their disadvantage.

In his essay on the high price of provisions, Malthus was making use of the same insight into the determinants of life and death when food is short or dear. His was a much less comprehensive analysis than that of Sen, but when he claimed that “Among the many causes that have been assigned of the present high price of provisions, I am much inclined to suspect, that the principal one has hitherto escaped detection” (Malthus 1800: 5), he was probably making a fair assertion, and his explanation consisted in noting that starving or avoiding starvation was as much a matter of the way in which the cake was divided up as it was about the size of the cake. The operation of the allowance system under the poor law was transferring purchasing power into the pockets of those most in need and was spreading more uniformly through an increased proportion of the population the deficit that would otherwise have been visited almost exclusively on those who were most vulnerable. In contrast, in Värmland the very fact that prices had risen more modestly, though the degree of harvest failure and the consequent shortage of supply were more acute, was testimony to the inability of the poor to make any effective claim upon the stocks available. A desperate need for food would only produce a matching surge in price where those most exposed could translate their plight into effective demand.

The situation in Värmland was not unlike that which Sen described in Wollo province in Ethiopia in the famine year of 1973. “People starved to death,” he wrote, “without there being a substantial rise in food prices. In terms of the entitlement approach, there is, of course, no puzzle in this.
Since the farmers’ food entitlement is a direct entitlement (without going through the market), a collapse of it can operate without a rise in market prices” (Sen 1981: 96). Whether the peasants in Värmland were in a similar state, or whether those who were dying were in the market sector of the economy, is unclear. Perhaps it was a combination of these two possibilities. In any case Malthus had pointed to an element that is essential to any adequate analysis of food shortage and starvation and had done so in a manner that was both innovative and ingenious.

When considering Malthus’s place in intellectual history, therefore, and in honoring his better-known achievements, such as the development of a model that has proved remarkably fruitful for the analysis of the relations between the population and economy of any preindustrial society, or the description of the relation between resources and reproduction that was later to produce for Darwin an engine to drive the process of natural selection, we should not lose sight of his less well-known achievements. I have described one of them in these remarks. But there were others. For example, he was aware of a point that has concerned some development economists in recent years. One of the disadvantages of a peasant economy and of the predominance of peasant values is sometimes held to be that the marginal member of a family on a peasant holding will only leave the land when the average income of the family falls below subsistence level and not when the marginal income falls to that point. This in turn, inasmuch as the model is correct, implies that a substantial proportion of the rural workforce may be producing less than it consumes. In pointing out that, in a capitalist economy, it can never pay the landlord or the farmer to retain in his employment any worker whose output is worth less than the value of a wage sufficient to provide him and his family with some minimum command of the necessities of life, Malthus was making the same point. Such a system put a floor to living standards beneath which they could not fall. He pointed out, however, that under other systems such a floor might be lacking and that exceptional misery might thereby result (Malthus 1826: 405–406).

Malthus’s habit of qualifying most of his assertions and his respect for the complexity of reality tend to make his work both less accessible and less immediately striking than that of those who prefer clarity to comprehensiveness. The first edition of the Essay on Population remains his most widely read work in part because it is the least typical of his works in this regard. But his other writings also repay study. It is no accident that today no less than in 1798 he remains a vital and protean influence on thinking about many social, economic, and demographic topics, and especially about the constitution of all those societies that were essentially dependent on the productivity of the soil, those commonly termed preindustrial,\(^5\) which were, of course, the only societies with which he was familiar.
Notes

1 Establishing a general relationship of this kind, is, of course, at best only a first step. Many factors have a bearing on the quantity of corn effectively available in the market place and therefore able to influence its price. It is important, for example, to take into account the necessity of ensuring that sufficient grain is reserved from the current crop to meet the seed needs of the next year. When yields are low, as, say, in medieval England, seed grain may well account for a quarter of the crop even in an average year (Wrigley 1987).

2 Malthus kept travel diaries during his tour of Scandinavia. Unfortunately those that have survived cover only his account of events and his reflections on them up to the point at which he crossed the border between Norway and Sweden, so that his detailed observations on the situation in Värmland and the suffering of its inhabitants can no longer be consulted (James 1966: xv).

3 Malthus’s unwillingness to succumb to the temptation of ignoring exceptions to simplifying generalizations is forcefully set out in the introduction to the Principles of Political Economy (Malthus 1836: 11–13).

4 After describing the general pattern of linkage between the harvest and the demographic crisis in the rural Beauvaisis in 1693–94, Goubert added, “Mouy présente une variante sociale: ce gros bourg manufacturier fut atteint plus rapidement, plus tôt, et plus fortement que les bourgs agricoles. Les ouvriers du textile qui le peuplaient voyaient disparaître, en temps de cherté céréalière, à la fois le travail et le salaire” (1960: 52–53).

5 I have discussed some aspects of this issue at greater length elsewhere (Wrigley 1986).

References


DATA AND PERSPECTIVES

Marital and Fertility Careers of Russian Women Born Between 1910 and 1934

SERGEI SCHERBOV
HARRIE VAN VIANEN

The history of Russia and the Soviet Union during the twentieth century has been strongly affected by a series of social and political upheavals that have had disastrous demographic consequences (Andreev, Darsky, and Kharkova 1992). The main crises occurred in the periods 1915–22, 1928–34, and 1941–47 (Zakharov and Ivanova 1996).

World War I, the Revolution of 1917, and the subsequent Civil War with the expropriations of “War Communism” all affected a society that, at the beginning of the century, was still predominantly traditional and rural, albeit industrialization and urbanization were expanding rapidly.

Stalin’s ambition to turn the Soviet Union into a world power overnight knew no bounds: the collectivization of agriculture, the offensive against the so-called kulaks, shock industrialization, and the destruction of the existing agrarian structure uprooted large segments of society and resulted in the devastating famine of 1933.

The German invasion of 1941 started the Great Patriotic War, which, according to an official estimate, resulted in some 26 to 27 million excess deaths in four years, mostly of civilians, and laid waste large parts of the country’s most productive regions. After the war the priority given to industrial reconstruction at the expense of agriculture led to serious food shortages (McCauley 1993: 186–190).

These societal cataclysms led to major population losses attributable to excess mortality (also differentiated by sex) and a deficit of births that shaped a highly irregular age pyramid (see Figure 1). Although the birth rate rebounded after each crisis, there were no long-lasting baby booms to com-
Pensate for the losses. Over time the birth rate continued its slow secular decline, from its high pretransitional level of around 50 per thousand at the turn of the century to around 17 per thousand in 1987, just before the spectacular acceleration of the decline that followed the collapse of the Soviet empire.

Besides these major social and political events, policy measures contributed to the temporal course of fertility. Abortion was legalized in 1920, but in the wake of events in the early 1930s a pronatalist policy was promulgated, including the complete prohibition of abortion in 1936. New laws to promote larger families were enacted in 1944, when the strengthening of the family was a general policy response seeking to foster social reconstruction in most European countries (Winter 1992). Abortion was legalized again in 1955 and became the principal means of fertility regulation (Avdeev, Blum, and Troitskaja 1994). All of these developments are perceptible in the fertility levels and make the analysis of period fertility difficult (Avdeev and Monnier 1994).

Yet the history of a population is formed not only by its immediate reactions to external events. It is also the history of a secular unfolding of long-term trends. Developments in the areas of public health and medical
facilities, ongoing urbanization, better education, and the chronic housing shortages all contributed to a lowering of fertility levels. This process can better be studied by tracking the fertility histories of successive birth cohorts.

Since 1959 detailed age-specific fertility figures are available from civil registration, and in the population censuses of 1979 and 1989 questions on number of children ever born were asked, permitting the reconstruction of parity progression ratios and derived fertility measures for birth cohorts beginning with 1909 (Avdeev and Monnier 1994). Additional data are available from a fertility survey in 1960, the microcensus of 1985, and the microcensus of 1994. The first two sources were exploited by Darsky and Scherbov (1990) and Darsky (1994) for the study of marriage cohorts after 1945.

The most recent microcensus, that of 1994, is unique because it contains data of sufficient detail to reconstruct part of the life course of individual men and women and to trace the fertility and nuptiality history of cohorts born since 1910 in more detail. Earlier studies employed a period perspective (e.g., Coale, Anderson, and Härm 1979) or were constrained by data that referred to small samples, referred to the Soviet Union as a whole, or were only accessible in aggregate tabulations.

In the following note we analyze the marital and fertility careers of the cohorts of women born between 1910 and 1934. We are especially interested in the cohorts born around 1920, because these cohorts represent the first generation that grew up under the communist regime in a period when the state intervened most decisively in the lives of its citizens. At the start of their reproductive careers, these women were confronted with World War II and its aftermath. During the crises, and particularly during the war, the vital registration system collapsed (Andreev, Darsky, and Kharkova 1992), and the 1994 survey offered the last chance to question the women concerned directly. We chose 1910 as the upper bound because by 1994 respondents from earlier cohorts were too old and too few to yield reliable results. As to women born since 1935, they started reproduction after the death of Stalin and the end of the “personality cult” associated with him, when life became more normal and for a long time was not interrupted by major disasters. For these women, moreover, the renewed legalization of abortion created new options to control their fertility.

In the next section we give a short description of the 1994 microcensus of the Russian Federation and the methods used in our analysis. In subsequent sections we describe the marital and fertility careers of succeeding birth cohorts constructed from our data and present detailed birth interval distributions.

Data and methods

Over the history of demographic data collection in Russia and the Soviet Union, eight censuses and two microcensuses were conducted. Before the
The microcensus of 1994 relates to the status of the population on 14 February 1994. Some 7.35 million persons were interviewed, 4.99 percent of the total population of the Russian Federation, 147.3 million at that date. Although the exact method of sample selection was never published, it is known that the selection was based on the 1989 census enumeration districts. Enumeration districts were selected so as to cover 5 percent of the total population. It is also known that the institutional population (persons in nursing homes, military barracks, prisons, and so on) was practically excluded. For obvious reasons the Chechen Republic was not included. Although sample selection was not purely random, the enumerated population as a proportion of the resident population per region differed only slightly from 5 percent. Larger differences are seen when looking at the age and sex distributions. In particular, the low proportion of males aged 18–19 (seen in Figure 1) is attributable to the fact that the population in military barracks was not covered. As regards our analysis, the enumerated population of women aged 60 years and older comprised 836.5 thousand persons or 5.2 percent of the 16.41 million women in this age group in the Russian Federation (Andreev and Scherbov 1997). Table 1 presents some statistics from the 1994 microcensus for the female cohorts born between 1910 and 1934. The total size of the sample population, women aged 60–84, is 814,631, and the separate cohorts range in number between 15,475 in 1911 and 54,322 in 1928. This number is the combined effect of births in a given year and the survival probability up to the date of the microcensus. The relatively small size of the cohorts of 1916 and 1917 (World War I) and 1933 and 1934 (the famine) is striking.

In the 1994 microcensus the household was used as the unit of observation for the first time in Russia. A household is defined as a socioeconomic unit of individuals living and keeping house together. In previous censuses the family was used as the unit of observation. Unlike the members of a household, members of a family must be related through marriage or blood ties (Andreev and Scherbov 1997).

The 1994 microcensus included 49 questions on nine topics:
— housing conditions and information on the presence of a private plot of land, garden, etc.
— general characteristics, sex, date of birth, ethnicity/nationality, language
— place of residence, place of birth, place of last previous permanent residence, and date and reason for last move
TABLE 1  Sample size of cohorts of women born 1910-34 and their completed fertility (average number of children ever born), 1994 microcensus of the Russian Federation

<table>
<thead>
<tr>
<th>Year of birth</th>
<th>Number of women</th>
<th>Completed fertility</th>
<th>Year of birth</th>
<th>Number of women</th>
<th>Completed fertility</th>
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<tr>
<td>1910</td>
<td>15,691</td>
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<td>15,475</td>
<td>2.44</td>
<td>1925</td>
<td>44,495</td>
<td>2.11</td>
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<tr>
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<td>20,092</td>
<td>2.43</td>
<td>1926</td>
<td>48,252</td>
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<td>19,848</td>
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<td>1914</td>
<td>23,733</td>
<td>2.32</td>
<td>1928</td>
<td>54,322</td>
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<td>1916</td>
<td>17,463</td>
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<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>814,631</td>
<td></td>
</tr>
</tbody>
</table>

— education
— marital status, date of first marriage, date and cause of first marriage termination, date of second marriage, current or last marriage order
— fertility intentions of all women aged 16–44 years
— fertility history of all women 15 years and older: number of children born alive and, for every child, date of birth (month and year), date of death (month and year), year since which child has been living separately
— source of income or subsistence, economic activity during last week
— characteristics of long-term absent members of household

Although the data permit the distinction of various subpopulations, here we study only the marital and fertility careers of various birth cohorts. The information we have pertains to the history of women who survived until the date of the census, that is, women between 60 and 84 years of age. With the relatively high mortality levels of Russia and the various catastrophic events these cohorts experienced, a significant selection bias will be present. In famine and war, pregnant women and women with young children are more vulnerable, and mortality was generally higher in the higher-fertility countryside than in the cities, so we expect that our fertility figures will be biased downward. Other problems generally related to the age of respondents may be omission of children who died long before the date of the microcensus, age misreporting, and the displacement of the date of an event owing to memory lapse or to intent to hide an extramarital birth.
An analysis of mortality at young ages as reported in the microcensus discloses that for all but the most recent cohorts, infant mortality was systematically underreported. Comparison with recent and the few extant older estimates of infant mortality indicates that about half of the deaths were not reported. Because our data on fertility correspond closely to parity data reported in earlier censuses, this underreporting of dead children is of the same order of magnitude in all earlier analyses based upon this type of retrospective information. This underreporting introduces an appreciable bias in estimated fertility before and during World War II, when infant mortality was still high in Russia, a bias amounting to an underestimate of total fertility of at most 10 percent in the oldest to 1.5 percent in the youngest cohort in our analysis. It does not influence our main conclusions on the trends over time of demographic events.

A minor problem originates from a limitation of the census questionnaire, which provided space for at most ten children. Although an additional form could be used to record a number greater than that, the maximum number of children per household in our data files is ten.

In Soviet censuses before 1979 a person was asked whether he/she was currently married; beginning in 1979 this question was replaced by the usual survey question on marital status: never married, married, widowed, or divorced. In the 1994 microcensus a further distinction between married and living in consensual union and between divorced and separated was introduced for the first time. Since, in the period to which our analysis relates, cohabitation and separation were infrequent, we do not retain these distinctions but combine married and living in consensual unions and the divorced and separated. The 1994 microcensus also asked for the date of first marriage, the date and cause of termination of first marriage, the date of the second marriage, the number of marriages, and current marital status. This feature of knowing the date of certain events on an individual basis allows for the construction of multistate marital tables (Willekens 1987; Darsky and Scherbov 1993, 1995). The main advantage of these tables over conventional marital tables is that they consider not only first marriages, divorces, and loss of spouses by death, but also remarriages of widowed and divorced men and women. The tables allow us to obtain a complete picture of marital state changes during the life of the cohort. Using the tables we can evaluate conditional probabilities for a person being in a certain marital status at a certain age; we can also decompose life expectancy by the number of years spent in the various marital states. Because the data used in constructing the tables are retrospective, the tables are “gross”: the effect of mortality is not included.

The tables constructed from the microcensus are marital status tables, stating the probability of being single, married, widowed, or divorced at a given age for women who are single at age 16. The microcensus contains
all necessary information on first marriages. For women widowed or divorced from first marriage, we know their date of remarriage and their current status, though not the date or cause of subsequent events; but using acceptable hypotheses we can calculate transition probabilities and construct multistate marital tables (Darsky and Scherbov 1995).

The censuses of 1979 and 1989 contained a question on the number of live births. This information allowed for the calculation of parity progression ratios for the birth cohorts from 1909 onward (Avdeev and Monnier 1994). The knowledge of date of birth by year and month for all live births individually up to the tenth is a unique feature of the data from the 1994 microcensus. It allows us to construct not only parity progression ratios, but also age at birth measures, and birth interval distributions up to parity ten.

Marriage

The Russian marriage pattern strongly resembles the pattern prevailing elsewhere in Eastern Europe. It is distinguished from the Western European pattern by the very high proportion of women ever marrying and the low mean age at marriage.

As the first step in our analysis, Figure 2 presents the mean age at marriage for women born between 1910 and 1934. From around 23 years in the earliest cohorts, the mean age at marriage rises slowly to 23.5 years in the cohort of 1917 and increases rapidly to a peak of 25.3 years in the

**FIGURE 2** Mean age of women at first marriage and mean age at childbearing for the first, second, and third births, by cohort, 1910-34, Russian Federation

![Graph showing mean age of women at first marriage and childbearing](source: 1994 microcensus.)
1922 and 1923 cohorts. Afterward it falls off again and in the latest cohort in our study the mean age is 23.6 years. It is more instructive, however, to look at the distribution of age at marriage, because the marital careers of these cohorts were affected by the crises of the early 1930s and World War II. Figure 3 presents the distribution of women's age at first marriage in a Lexis surface showing proportions marrying by single year of age and year of birth. To ease interpretation of the graph, two-diagonal lines are added, corresponding to the calendar years 1932 and 1942.

The concentration of marriages around the modal age is distorted by the events circa 1932; although it resumes afterward, another deep trough is caused by World War II. In the female birth cohorts most heavily affected—those born 1916-22—the distribution of age at marriage is bimodal; thus a central measure such as mean age at marriage becomes inappropriate to characterize it. The shortfall in marriages is made up after the war, but the concentration of marriages at a somewhat higher modal age only reappears in the latest cohort studied—those born in 1934. Comparing the cohorts of 1910 and 1934 it can be seen that the marriage pattern
has changed. Women’s modal age at marriage rose from around 19 years to 21 years and the distribution is less skewed toward the younger ages.

Figure 4 shows the proportion of women never marrying and the proportion remaining childless by birth cohort. The proportion never marrying is 7.5 percent in the oldest cohort; it rises for the cohorts born during World War I but after reaching a maximum of 9.4 percent for the 1920 cohort, it decreases monotonically and in the 1934 cohort it is a very low 4.3 percent.

These relatively minor effects of a disastrous war, entailing heavy excess male mortality, both on the propensity of women to marry and on their mean age at marriage, are all the more remarkable because the female cohorts born in 1924–28 were already larger than the corresponding male cohorts of 1919–23 owing to the effects of the civil war. World War II magnified these imbalances (Ilyina 1977). These findings are consistent with an earlier analysis of Louis Henry (1966) on the nuptiality of French women after World War I, for whom the radically depleted size of certain male cohorts was compensated by a shift in the age pattern of nuptiality, resulting in only modest changes in the proportion of women never marrying. Moreover, Soviet ideology and lifestyle changes notwithstanding, the long-term trend in the demographic characteristics of nuptiality suggests that the institution of marriage retained many of its traditional features in Russia (Darsky and Scherbov 1993).

A sharper picture of some of the demographic consequences of World War I can be obtained from a life table analysis of the marital careers of women born between 1910 and 1934 (see Figure 5). These careers are depicted for
FIGURE 5  Probability (in percent) of being in a given marital state at a given age by five-year birth cohorts, 1910-14 to 1930-34, Russian Federation

five-year birth cohorts 1910–14 through 1930–34, from age 16 to age 50. The graphs show the probabilities of being single, married, widowed, or divorced at those ages for women single at age 16. For the oldest cohorts the probability of being married is about 75 percent at age 27, but by age 35 this proportion drops to 55 percent as the probability of being widowed soars to 30 percent. In the cohorts 1915–19 after age 24, the leveling off of the proportion married and the large proportion widowed at a young age tell of the devastations of the war years. The 1920–24 cohorts experienced marriage delay in particular, and only in the 1930–34 cohorts does the proportion married exceed 80 percent, by around age 33. The probability of being divorced rises steadily by age and by year of birth but remains at a rather modest level for the cohorts considered here.

Fertility

The unfolding of Russian fertility can be closely followed in the distributional and timing aspects of family building. Table 1, presented above, shows completed fertility rates (i.e., the average number of children ever born) for the cohorts of women born between 1910 and 1934. Comparing these figures with data collected in the censuses of 1979 and 1989 (as presented in Avdeev and Monnier 1994: 870), we note that our figures are consistently lower, although the trend of the two series coincides exactly. As we noted earlier, we expected a downward bias because of selection effects.

In Figure 6 we plot parity progression ratios—the probability, expressed in percent, that a woman of a given parity will have at least another child—up to the progression from the ninth to the tenth child, for selected cohorts. These ratios clearly illustrate the fertility transition that took place in the Russian Federation. In the oldest (1910) birth cohort, parity progression ratios fall off gradually, but in succeeding cohorts a particular pattern emerges. The probability of having at least one child ($a_0$) is around 87 percent for the oldest cohort, declines to 84 percent for the 1920 cohort, and then rises again to 91 percent in the youngest (1934) cohort. This pattern was also noted by Avdeev and Monnier, who commented that this rise of $a_0$ was without doubt due to an improvement in women’s health (Avdeev and Monnier 1994: 878). The time trends in the proportions childless and proportions never married shown above in Figure 4 suggest a simpler explanation. Going beyond the data shown in that figure, from the microcensus we can obtain the proportion ever married with no children ever born. It is around 8 percent in the oldest generations, increases to around 11 percent in the 1922 cohort, and thereafter falls off again to around 7 percent. The implication is that the major cause of the change in $a_0$ is the change in the propensity to marry.
The conditional probability of having a second child for women with at least one child \( (a_2) \) is about 70 percent in all cohorts (Figure 6), which implies an appreciable and rather constant proportion of families with only one child ever born. The probability of having a third child \( (a_3) \) presents the key feature of the fertility transition that took place. It is around 60 percent in the 1915 cohort but declines steadily to 40 percent by the 1934 generation. A similar drop is also noted for \( a_3 \). The youngest generations show a strong preference for a two-child family (albeit with appreciable proportions of one- and three-child families).

For all cohorts, parity progression ratios remain at a more or less constant level of around 50 percent for all parities above four. The probability of continued childbearing is below the level that would be expected from natural fertility, which would be around 90 percent for \( a_5 \), decreasing to about 70 percent for \( a_9 \) (Darsky and Scherbov 1990). The observed ratios are more or less independent of parity, a feature of Russian fertility also noted by Avdeev and Monnier (1994).

The microcensus provides us not only with the number of births but also with the date of each event and hence with the individual birth histories of each woman in the survey. This allows the calculation of measures of the timing of births. Some preliminary results of our analysis of such calculations are shown in Figure 2 (presented above), which displays the mean age of women at marriage and at the first, second, and third birth. These data reflect the general pattern of a rise in the various ages due to
the mobilization for World War II, the consequent delay of marriage, and a return to earlier levels for the younger generations. A second feature is the comparatively low age at which these events occur. The delays in the mean age at these events attributable to external influences are generally small: at most 1.5 years for the age at first birth and about one year for the age at third birth.

Because of selection, the intervals between mean age at birth at various birth orders cannot be straightforwardly interpreted as the mean length of the birth intervals: not all women with a second child will proceed to a third child and those women who proceed will, in general, be younger at their second birth than women who stop childbearing after the second child. Figure 7 presents the mean length of birth intervals as obtained from the microcensus.

The remarkable decline in the length of the interval between marriage and first birth may be related to the often very young ages at marriage and consequent subfecundability in the oldest cohorts and to an erosion of traditional patterns of behavior resulting in a rise in premarital conceptions among the younger ones. The pattern of an early peak in fertility, which is characteristic for Russia and other Eastern European countries, persists until the present (Zakharov and Ivanova 1996: 45). The length of the second birth interval after a modest rise falls off again to its earlier value after the 1920 generation. The lengths of the third and fourth intervals suggest that in the cohorts most affected by the war there was some
effort to make up for the postponement of marriage. Nevertheless, the overall pattern is remarkably stable over the cohorts studied.

Conclusion

The history of Russia in the twentieth century is characterized by a succession of often violent societal upheavals. The foregoing analysis suggests that the long-term trends in demographic behavior developed in relative independence of these events. Although wars and political events often had profound short-term effects, the proposition that “none of the crises observed in Russia has succeeded in exerting a decisive influence on the course of the demographic transition” (Zakharov and Ivanova 1996: 39) is broadly supported by our analysis.

Shifts in the timing of marriages during a crisis tended to cause large irregular changes in all period measures of fertility, which then no longer reflect the underlying level of fertility as implied by the number of wanted or planned children. The results of our analysis underline the importance of taking a cohort perspective when studying demographic change. Whereas period measures are shaped by conjunctural effects and thus may behave irregularly because of the many factors affecting fertility decisions, cohort measures more truly reflect lifetime fertility desires.

Russia appears to have followed a unique path during its fertility transition caused by differences in its initial pretransitional circumstances and its peculiar process of modernization. By European standards, fertility decline started late but all cohorts born after 1920 had a completed fertility near replacement level. Nuptiality behavior is generally characterized by a young age at marriage and a low proportion of women remaining single. Fertility is characterized by a low level of (voluntary) childlessness; young ages of mothers at childbirth, giving rise to an early peak in fertility; a significant drop in parity progression ratios after the first child; and rather low, but nearly constant parity progression ratios at parities above four.

Our findings corroborate earlier analyses of fertility and nuptiality in Russia. The data we had available on the life course of individual women made it possible to add more detail to the demographic picture of Russia, especially with regard to marital status changes during the life course.

Notes

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1 We intend to explore this issue in more detail in a subsequent paper.

2 Note that, for example, a woman divorced at age 30 may marry a second time and at, say, age 50 she can be (re)married,
widowed, or divorced again. These events are taken into account but the complete multistate marital tables are not presented here.

3 A more complete analysis of these findings can only be made by taking into account changes in the age and sex structure of the "marriage market" over the life course. In view of the nature of these retrospective data, a complete reconstruction is not feasible, but we intend to address this problem by analyzing male nuptiality in a subsequent paper.

References


Humans are dependent on others for their livelihood for many years before they become economically productive and self-supporting. In modern industrial societies productivity and the capacity to be self-supporting also require costly investments in human capital. What is the proper division of responsibilities between parents and other members of society for rearing children and thus, collectively, reproducing the population? And how equitable is the sharing between husband and wife of the burdens that fall on the immediate family? To what extent should social responsibilities for childrearing be formalized in explicit institutional arrangements? While certainly long-standing, these questions acquired a special urgency in industrial countries beginning with the second decade of the twentieth century as a result of the convulsive experience of the world war. (In subsequent decades, below-replacement-level fertility amplified such concerns.) Total mobilization for war resulted in the massive influx of female workers into industry, thus undercutting prevailing assumptions about the logic and equity of an industrial system characterized by sharp divisions of labor by sex, discrimination in hiring and remuneration in the job market, and routine reliance on unpaid female labor in childrearing.

In the March 1917 issue of The Economic Journal, Eleanor F. Rathbone addressed these issues in an article titled “The remuneration of women’s services.” This article is reproduced below in full. “Perhaps the most important function which any State has to perform—more important even than guarding against its enemies—is to secure its own periodic renewal by providing for the rearing of fresh generations,” asserted Rathbone. How is this burden paid for? She saw the existing system as iniquitous and haphazard—requiring a disproportionate and unremunerated contribution from the adult female population, a contribution supplemented only in a “hesitating and half-hearted way” by the state. The modern state gradually accepted responsibilities to cover some of the costs of formal education and started to
make minor provisions for child nurture and medical expenses. Still, she noted, “the great bulk of the main cost of [population] renewal [the state] still pays for . . . by the indirect and extraordinarily clumsy method of financing the male parent”—thus accomplishing the task “in a very defective and blundering way.” Rathbone argued for a radical rethinking and revision of the existing system. She further elaborated her proposals in a book, The Disinherited Family, published in 1924. This book was republished posthumously in 1949 under the title Family Allowances. Lord Beveridge, father of the post–World War II British welfare state, in an Epilogue written for that book, attributes the intellectual preparation of the 1945 Family Allowances Act “first and foremost” to the author of The Disinherited Family.

Eleanor Rathbone was born in 1872 to a prominent Liverpool family. Educated at Oxford in classics and philosophy, she played an active public role as a suffragist, feminist, and advocate of social reforms. She was a member of the British Parliament, as an Independent, from 1929 to her death in 1946.

Among the problems of reconstruction after the war, two at least are especially concerned with women, and they affect between them what are probably the two most important bodies of women—the industrial workers and the working-class mothers. The first is the problem of the position of women in skilled industry. The second is the question, what is to be done to safeguard the conditions under which children are born and reared, so as to ensure that the killing or maiming of so many of the best young men of the country shall not result in a permanent enfeeblement of the nation’s stock. These two questions appear at first sight to have no particular connection. They are in fact, I believe, rather closely related, and though this paper is mainly concerned with the first, one of its objects is to show their inter-relation.

The war has brought about a marked change in the position of both these bodies of women. Its outbreak found the working-class mothers mainly dependent on such portions of their husbands’ wages as these husbands, belonging to every grade in the hierarchy of labour, chose to give them. This source of maintenance being withdrawn by the enlistment of the men, the women have been transformed into an army of State servants, drawing their separation allowances direct from the State in amounts proportioned, not to the value of their husbands’ services, but to the size of their families. It is the largest experiment in the State endowment of maternity that the world has ever seen.

In industry, the outbreak of the war found the women workers confined almost entirely, except in a few occupations traditionally their own, to the lowest, most ill-paid, and unskilled occupations. The barriers that kept them out of the skilled trades were for the most part unrecognised by law, but they were almost completely effective, being built up partly of
tradition, partly of trade union regulations, but mainly of the sex exclusiveness in which employers and employed made common cause. Against these barriers the “women’s movement” had beaten itself for half a century in vain, but within two years the necessities of the war have broken them down—by no means completely, but to such an extent that it is plain that if re-erected they will have to be based frankly upon the desire of the male to protect himself from competition, and no longer upon the alleged incapacity of the female to compete. Of course, there may be processes in which such incapacity is a fact, but in view of recent experience there is a growing tendency among employers to put such cases to the test instead of taking them for granted.

With regard to the first of these problems most people have assumed as a matter of course that at the close of the war the women who have drawn their allowances weekly at the Post Office will go back to their old condition of complete dependence upon the bounty of their husbands, the quay-porter’s wife who has been keeping eight children on a separation allowance of 33s. being, of course, reduced to her pre-war inferiority of income to her next-door neighbour, the ship-labourer’s wife, who has maintained one child on an allowance of 17s. 6d.

With regard to the industrial workers, the restoration of the status quo ante bellum is admitted more doubtful. The male workers, of course, with a few enlightened exceptions, would wish it, and, so far at least as Government work is concerned, Mr. Lloyd George, in pressing his scheme for the dilution of labour, gave certain very unqualified pledges to the trade unions which will have somehow to be redeemed. The women themselves, ill-organised and voteless, with the sentiment in favour of the returning soldiers not only strong against them but strong among them, could not by themselves put up much of a fight. But they are likely to have two powerful allies: first, in the employers, who, having tasted the advantages of a great reserve of cheap, docile, and very effective labour are obviously not going to let themselves be deprived of it without a struggle; and secondly, in the growing public sense of the necessity on national grounds of making the most of our economic resources.

The more intelligent of the trade unionists are conscious of the strength of both these forces and are showing a disposition to make terms. Among the resolutions passed at the Trade Union Congress held recently was one demanding “that the conditions of female labour should be settled by the trade unions.”

The implied assumption that the women themselves need not be consulted is naturally irritating, even to the women who are not professed feminists. They are alarmed at the prospects of seeing their future in industry—their right to make a livelihood in the most profitable way—determined by a Parliament in which they have no representation, or, worse
still, trafficked away as the result of a legalised bargain between employers bent on the exploitation of women and trade unionists bent on their exclusion. In the words of a manifesto issued by the National Union of Women’s Suffrage Societies, they have no mind “to be treated as a football in a game between Capital and Labour with the Government acting as umpire.”

In nearly all previous instances of restrictive industrial legislation the object has ostensibly been the safety and welfare of the restricted class—women or young persons or children—although it is an open secret that much of the pressure behind the legislation has had other motives. The pledges given to the trade unions in Circular No. 7 and elsewhere—that the dilution of labour shall be temporary—are probably the first instances for a century at least of Governmental interference with the right of the labourer to offer his labour in the most profitable market, based avowedly on the desire to protect a particular class of workers against competition. The success of the negotiations of which these pledges formed a part was thought necessary to the effective prosecution of the war, and no fair-minded person supposes that the Minister responsible for giving them was consciously influenced by the thought that the persons to be protected were mainly voters, and those to be excluded were non-voters. That this is, in fact, the case is, however, an unfortunate circumstance, and the debates which took place in the House of Commons in August on the franchise question show that the Prime Minister and the leading members of the Government are well aware of this. The concession of women’s suffrage would do much to put the matter on a fairer basis, to gild any pills that may have to be swallowed by women, and to prevent a renewal in an aggravated form of the stormy agitation of the years before the war.

But it would not, by itself, solve the real difficulty that lies at the root of the whole situation—a difficulty for which neither men workers nor women workers nor employers nor Parliament are to blame, but which, I venture to think, is habitually shirked by all of them, probably because of an uncomfortable fear that it is insoluble and cannot be vanquished, but only evaded by means of shifts and compromises or by pretending that it does not exist.

This difficulty may be most shortly put in the form of a question: “Is fair competition between men workers and women workers possible, bearing in mind the customary difference in the wage level of the two sexes and the causes of that customary difference? In other words, is it possible for women to compete freely with men, without undercutting their standards of pay and so undermining their standards of life?”

The reply offered by feminists to this question is usually prompt and unhesitating, and is practically a denial of the difficulty. Women, they say, must, of course, be allowed to compete freely in all occupations. But they
must not undercut. They must demand and receive equal wages for equal work. This is the claim put forward by practically all women, except, of course, when they are themselves employing women. I have not yet met the feminist whose principles compel her to pay her waitress the wages that would be demanded by a butler. The same cry has been adopted by the more astute and enlightened of the trade unionists, who see in it an effective way of maintaining the exclusion of women while appearing as the champions of equality between the sexes. It is probable that these leaders will succeed in imposing their views on their followers, though many of them are obviously rather shocked in their hearts at the idea of a woman earning a man’s pay. They have a good deal of the feeling of the graduate of the London University, who in the early days of women’s claim to academic privileges declared that his (pass) degree would lose all its value in his eyes if he believed that even a single woman had attained to or received a like distinction. But after the experiences of the war the cry for unconditional exclusion is likely to meet with so little sympathy that we may, I think, expect with some confidence to see women and trade unionists uniting in this claim, and Parliament possibly, unless capitalist influences are too strong, giving it legislative sanction as the easiest way out of the difficulty. It is worth while, therefore, to examine in some detail what the claim really means, how far it fits the actual conditions of social and industrial life, and how the attempt to enforce it is likely to work out in practice.

First, it must be pointed out that in adopting a formula so vague and ill-defined as “equal wages for equal work” feminists are falling into a very palpable trap. What is meant by “equal work”? That men and women are engaged on the same process in any occupation does not, of course, in itself imply equality, unless both the quality and the quantity of the output are the same. A woman who produces less than a man may be of less value to her employer, even if piece work rates are paid, because her consumption of all the standing charges of the factory—floor-space, light, heat, machinery, superintendence—is greater in proportion to her output than his.

Even where both quality and quantity are identical it does not necessarily follow that she is an equally valuable or at least an equally acceptable employee. There are in the eyes of most employers certain standing disadvantages of women’s labour which have to be reckoned with. There is the fact that the law will not allow him to work her at night nor for overtime, except under rigid restrictions; that her liability to sickness (in most trades) is rather greater; that he cannot put her to lift heavy weights or to do odd jobs; that he cannot comfortably swear at her if she is stupid; that, in short, she is a woman, and most employers, being male, have a “club” instinct which make them feel more at ease with an undiluted male staff. Above all, there is the overwhelming disadvantage, if the occupation
is a skilled one, that she is liable to "go off and get married just as she is
beginning to be of some use."1

Of course, there are advantages which to a certain extent counter-
balance these disadvantages from the employer's point of view. There is
the greater docility of women; their greater willingness to be kept at rou-
tine work; their lesser liability to absence on drinking bouts, to strikes, and
to other disturbances of the economic routine. But obviously most of these
"advantages" are likely to be regarded by the employer rather as reasons
why he can safely exploit women than as reasons why he should equita-
bly pay them as much as men.

If the object of the claim for “equal wages for equal work” is really to
secure for women a fair field of competition with men, their work being
accepted or rejected on its merits, then to secure this object it seems neces-
sary that any permanent recognised disadvantage that adheres to women
workers as such should be allowed for by a pro rata rate reduction in their
standard rates. The attempt to establish strict arithmetical equality between
them goes further than is necessary to protect the men against unfair com-
petition and really weights the scales against the women.

Unless this is recognised and allowed for, any bargain that is struck
on the basis of “equal wages for equal work” will prove in practice the
equivalent of total exclusion. It is difficult to find a modification of the
formula that suits the facts, but possibly it should read “equal wages to
workers of equal value.”

But this does not dispose of the main obstacle to the realisation of the
principle thus laid down. To understand what this is, we have to ask our-
selves how it has come about that the standard of women’s pay is, under nor-
mal circumstances and in the great majority of occupations, so much lower
than the standard of men’s pay, even when they do work which is either
identical or of fully equivalent difficulty. For in this connection it is quite
as relevant to compare the earnings of, say, a Court dressmaker’s hands
with those of a West-end tailor, as to compare those of men and women
elementary teachers, though the demand for equalisation has usually been
confined to the comparatively few instances of identical occupations.

The causes of the low rate of women’s wages cannot be discussed in
detail here, but they may be outlined. It is first necessary to make a dis-
tinction—so obvious that it ought not to need making, but which is never-
theless often ignored, between absolute and relative lowness. Women earn

1 How seriously the last-named fact may influence the economic value of women’s labour may be
illustrated by the following instance, given me by the Chairman of an Education Committee, who is also an
economist. At a training college for teachers of both sexes, it is estimated that the cost per head on the men’s
side is 50 per cent. more than the cost per head on the women’s side. But “marriage mortality” among the
women teachers is so great that it is reckoned that the cost of keeping up a given supply of women teachers is
considerably higher to the training institution than that of the men teachers.
less than men, first, because they do, or till lately have done, chiefly the less valuable kinds of work. But they are also paid less in proportion to the value of the work they do, and that is the part of the problem which concerns us here. The reasons for the inferiority may be roughly scheduled as four.

1. Lack of trades organisation.
2. Pocket-money or supplementary wage earning.
3. A low standard of comfort.
4. A wage requirement based on individual subsistence.²

I do not propose to dwell upon the first three causes. They are obvious and easily understood, and their weight is, I believe, apt to be over-estimated rather than under-estimated. It seems better to reserve my space for a consideration of that cause which seems to me at once the most important and the most habitually under-rated, and which in default of a better name I have ventured to describe by the clumsy phrase, “A wage requirement based on individual subsistence.”

In discussions on women’s wages, the fact “that men have families to keep” is usually alluded to in a casual way, as though its bearing on the question were about equivalent to that of the proposition that men expect beef and beer for their dinner while women workers are usually content with tea and pastry. Surely this is a rather astonishing instance of the extent to which familiarity can blind even intelligent observers to the significance of the most obvious facts of human life. After all, perhaps the most important function which any State has to perform—more important even than guarding against its enemies—is to secure its own periodic renewal by providing for the rearing of fresh generations. Among human beings this renewal is a much more laborious and costly process than among animals. The pre-natal period and the period of immaturity last longer. Not only do children remain economically unproductive for fifteen years, more or less, from the time of their conception, but the lives of a considerable section of the adult female community have to be entirely given over to the work of rearing, educating, and training them. All this has got to be paid for somehow. During the last forty-six years the State has taken directly upon itself the cost of the school education of its young, and it is gradually in a hesitating and half-hearted way taking over the cost of some of the minor provisions necessary for child-nurture, such as midwifery (paid for through the maternity benefit), medical attendance (through child-welfare centres, medical school inspectors, &c.). But the great bulk of the main cost of its renewal it still pays for, as it has always done, by the indirect and

² The reasons are fully dealt with in a paper on “The Problem of Women’s Wages,” published by the Liverpool Economic Society, Northern Publishing Co., Liverpool.
extraordinarily clumsy method of financing the male parent and trusting to him somehow to see the thing through. It does not even finance him directly, but leaves it to what it is fond of calling “blind economic forces” to bring it about that the wages of men shall be sufficient for the purposes of bringing up families. The “blind forces” accomplish this task, as might be expected, in a very defective and blundering way, with a good deal of waste in some places and a much worse skimping in others, but upon the whole they do accomplish it. The wages of men in most occupations are sufficient to rear a family, not, indeed, in many of them as families ought to be reared, but without glaring violation of the man’s own standards, those standards which he expects to satisfy before he marries and has children, and which the laws of supply and demand, aided by public opinion, custom, and trade organisation, enable him to enforce upon his employer. Whether he expends the wages so received upon his family or upon his own “menus plaisirs” depends, of course, entirely upon his goodwill, since the State, though it recognises in theory the rights of wife and children to maintenance, does practically nothing to enforce it; such laws as do embody this right being so imperfect and so badly carried out that they are next door to valueless as a protection. In the normal case, however, the family does receive the benefit of the man’s wages, at least up to the point of minimum subsistence level, and the vast majority of wives and of children below fourteen are wholly or mainly maintained out of this source. In other words, the wages of the worker represent not only the value of his services to his employer, and through him to the community, but also the value of his wife’s services to him and their children, and through them to the community, and, in addition, the value to the State of the children themselves. His wages, in short, are the channel by which the community, indirectly and only half-consciously, pays for the continuance of its own existence and the rearing of fresh generations. The amount so paid becomes part of the cost of production of the commodities produced or services rendered by the trades or occupations which male workers follow, and comes eventually out of the pockets of the community as consumers.

The wages of women workers are not based on the assumption that “they have families to keep,” and in so far as these wages are determined by the standard of life of the workers it is a standard based on the cost of individual subsistence, and not on the cost of family subsistence. It is perfectly true that many women workers (according to information obtained by the Fabian Women’s Group, about 50 per cent. of them) contribute towards the maintenance of relations, and no doubt that fact, by making them more ambitious and anxious for money, exercises a certain upward pull upon their wages. But it must be remembered that against the influence on wages of the woman who keeps others besides herself must be set the influence of the pocket-money or supplementary wage-earners who
do not even keep themselves—the daughters living partly on their fathers, the wives working to supplement their husbands’ wages, and the widows who eke out their poor relief. The number of women whose family responsibilities are really equivalent to the normal responsibilities of the average-sized household of man, woman, and three children is, after all, very small. Even the position of the independent widow householder is not really comparable, since the family she works for has lost its most expensive member.

If this view of the facts is correct, it would appear that the differences between the wages of men and women is a much more deep-rooted thing than is commonly supposed. It has its roots in an arrangement which to most people appears a fundamental part of the social structure, the arrangement by which the financial responsibility for the upbringing of the family is thrown on the father. The argument that it is an indisputable principle of justice that if men and women do the same work they shall receive the same pay can be countered by the proposition, apparently equally indisputable, that if men are to pay for the upbringing of the rising generation they must be given some money to do it with. Looked at in this way, the claim of women who do not bear the same domestic burdens to receive the same remuneration seems to involve an ignoring of the still more potent claims of those wives and mothers who are rendering the most essential of all services to the State, who have to be maintained during the performance of those services, and who are at present receiving their maintenance in an indirect fashion through the wages of their husbands.

The line of argument I have been following usually either irritates or depresses all women who have the interests of their own sex at heart, because it seems to point to an impasse. If the wages of men and women are really based upon fundamentally different conditions, and if these conditions cannot be changed, then it would seem that fair competition between them is impossible, and that men are the eternal blacklegs, doomed despite themselves to injure the prospects of men whenever they are brought into competition with them and by a sort of irony of fate to undermine just those standards of family life which should be most sacred to them. If that were really so, then it would seem as if men were justified in treating women, as in practice they have treated them—as a kind of industrial lepers, segregated in trades which men have agreed to abandon to them, permitted to occupy themselves in making clothing or in doing domestic services for each other, and in performing those subsidiary processes in the big staple trades, which are so monotonous or unskilled that men do not care to claim them. The result of this treatment has been a marked growth of unrest and discontent, due as much to the consciousness of thwarted powers and undeveloped capacities as to actual suffering through underpayment and unemployment. No one who is in touch with women work-
ers can doubt that any attempt to shut them up again in their compounds after the war will inevitably be followed by a renewal of this discontent in a much more vocal and embittered form. This is partly because their experiences during the war will have given them greater confidence in themselves and a taste for the satisfaction that is to be found in skilled, responsible, well-paid work; partly because, owing to casualties and to emigration, the proportion of the present generation of women who must remain unmarried will be considerably increased.

On the other hand, if free competition without the attempt to equalise wages is permitted, trade unionists are undoubtedly right in thinking that such competition is likely to be a much greater danger to their own standards than in the past, because the potentialities of women's labour are so much better understood by employers. These will certainly resist, and will receive a considerable measure of public support in resisting, any attempt to handicap them in their task of competing against foreign countries by cutting off from them an important source of labour supply which is open to their competitors.

No intelligent observer who reflects upon these facts can deny that the future solution of the problem is doubtful and difficult, and that it opens up unpleasant possibilities of class antagonism and sex antagonism; that for women especially it seems to offer a choice between being exploited by capitalists or dragooned and oppressed by trade unionists. It is a dismal alternative.

The most immediately practicable way of opening a door out of the difficulty would seem to be by means of one of those illogical compromises which are so dear to the British mind. The claim of women to a free entry to occupations may be conceded subject to the condition that their labour is paid for at the same rates as male labour, and as it is obvious that they would be powerless by themselves to enforce this condition, it may receive legal sanction. This would probably involve a gigantic extension of the system of trade boards, at present confined to a few sweated trades. The practical difficulties to be overcome in securing the effective operation of such a machinery are, of course, innumerable. But they are probably not insuperable, and the plan might work fairly well as a makeshift, provided always that women with the employers' help manage to escape the almost insolently obvious trap that trade unions are already laying for them, by insisting that the rates of pay which they are permitted to accept shall be sufficiently lower than men's rates to balance, but not more than balance, the inherent disadvantages of female labour. It is true that such an arrangement ignores the distinction between the wage requirement of the two sexes, and would mean in practice securing for the woman worker a standard of living considerably more generous than could be enjoyed by male workers drawing the same wage but burdened by greater family responsi-
bilities. But there is nothing more illogical or more unjust in that than in paying to bachelors and fathers of one child the same wage that is paid to the father of fourteen. The industrial woman worker has had such a cruelly hard time in the past that no woman at all events will grudge to her any windfall that may come her way.

But the arrangement is obviously a makeshift without finality. If wages are to be regulated by the State, who can suppose that its interference will be limited to those trades where both sexes work? Obviously this would give the employer the strongest inducement to eliminate one sex or the other, so as to be free from control. If State regulation is extended to all trades, upon what is the standard laid down to be based? Can one justify levelling up women's wages to men's in trades where they both work, while keeping them on an altogether lower scale in wholly feminine trades of equivalent difficulty?

Is there not a more excellent way? The one thing that might conceivably reconcile the woman worker to a continuance of the present limitations upon her industrial opportunities, to meagre earnings and to monotonous work, would be the belief that her sacrifice was a necessary part of a social system upon which the maintenance of family life, the welfare of future generations, depend. For, after all, the majority of women workers are only birds of passage in their trades. Marriage and the bearing and rearing of children are their permanent occupations. But when we turn our eyes from the industrial world to the homes of the workers, is the spectacle of what we find there one that arouses much enthusiasm for the preservation of the existing order? The arrangement by which the most fundamental necessity of the State, the necessity for its own reproduction, is left to haphazard individual effort is so ancient and universal that most people never think of questioning it. But in this, as in other spheres, the war has taught us that, where national interests are at stake, go-as-you-please methods may be too dearly paid for. There is so much futile prattle about child-welfare and the subject is so attractive to sentimentalists and amateurs that the real student tends to shy away from it. But the question of child supply, its quantity and quality, is surely at least as well worth serious consideration as the question of wheat supply. Can anyone who thinks about it seriously defend the system which makes the remuneration of all the services connected with that most important supply dependent upon and subsidiary to the remuneration of a quite different and irrelevant set of services, those of the industrial workers? Consider what happens in the average working-class family.

The wage-earning capacity of a man in the unskilled and the less skilled trades and in all occupations mainly dependent on physical force, reaches its maximum when he is still quite young, often before he is married. As a bachelor his income affords an ample margin for his pleasures. When he
marries, what has sufficed for one has to suffice for two; as children come, it has to suffice for three, four, five, for as many children as he chooses to have. This has several alternative results, all of them bad. At the best, husband and wife restrict more and more closely their personal expenditure, till all but bare necessities have been given up. As each child is born, a bit is pinched off the share of its elders in order to make a portion for the newcomer. If the husband is selfish, it is the wife and children who do all the pinching. In an assembly of married working women one can usually pick out at a glance which is the mother of a first baby. She is well clad and comely; the baby kept “like a little prince.” As the claims on her money and time increase, her standard must be lowered. The home is less well kept, the children are worse fed, worse clad, and worse disciplined. She herself becomes anxious and haggard or coarsened and indifferent. There are miracle-working members of large families of whom all this is untrue, but they are a minority.

Those married couples who are cautious and self-regarding meet the difficulty in another way: by restricting the number of their children. The rapid growth in the practice of limiting families has attracted much public attention lately, but its quantitative effect is not the most serious. It seems quite plain that while the upper middle and upper working classes are practising rigid restriction, the strata below them, including the whole slum population, are multiplying as freely as ever, while the health authorities combined with private benevolence do just enough to keep the slum babies alive, but not enough to keep them healthy. Hence we are as a nation recruiting the national stock in increasing proportion from those who have sunk into the lowest strata because they are physically, mentally, or morally degenerate.

Even in the normal household, therefore, when wife and children get their fair share of the husband’s wage, there is no guarantee that that share is adequate for healthy maintenance, and the system seems irrational. Pharaoh compelled the Israelites to make bricks without straw, but even he did not double the quota of bricks exacted each day without allowing any increase in the supply of clay.

The worst feature of the system, however, is that it provides no guarantees that wife and children shall receive their fair share of the wage which the husband earns nominally in respect of his own exertions alone, though really, if the reasoning of this paper be correct, upon the hypothesis of their existence. Law and custom encourage him in the belief that the money is his own, and Englishmen are strong in the conviction that a man has a right to do what he likes with his own. Unless he carries neglect so far as to bring upon himself the attentions of the S.P.C.C. or to provoke his wife to demand a separation, he is subject to no pressure even from public opinion, and as selfishness and self-indulgence are tolerably common failings
in all classes, the proportion of families where this freedom is abused, though no doubt it represents a minority of the population, is still an exceedingly substantial minority.

All experienced social workers and all persons whose professional work brings them into intimate contact with the homes of the people know how much of the premature old age, the chronic anæmia and ailments of the women, the mal-nutrition and physical or mental degeneracy of the children, is due to this cause.

Many observers, while admitting the defects of the present system, appear to think that any attempt to disturb it, to relieve men from the financial responsibility of the maintenance of their families, or to release wives from total dependence on their husbands, would undermine parental affection and destroy the sanctity of family life. It may, however, be doubted whether the bonds between parents and children, husbands and wives, are really dependent to any considerable extent upon the financial relations between them. There seems no reason to suppose that the custom of marriage settlements in the middle and upper classes injures the marital relation, while there can be no doubt, I think, in the minds of any who have had much to do with married women of the working-class, that friction about money and bitter resentment when they are unable to satisfy the needs of their children because of the selfishness or thoughtlessness of their husbands have in many of them effectually destroyed affection very early in their married lives. During the war many of these women have tasted for the first time the sense of security, of ease and dignity that comes from the enjoyment of a settled income, proportioned to the size of their families and paid directly to themselves. It will be interesting to see how, when the war is over, they will take the restoration of pre-war conditions. It is not pleasant to reflect how many prototypes there are of the two women in Punch who “did not think the war would last long; it was too good to last.” Let every man who blames them imagine what it would be like to be absolutely dependent upon the whim of one human being, not only for every penny which he spent on himself, but for all the tools and materials for carrying out his work in life.

It is outside the scope of the present article to consider what should be the basis, the scale, and the machinery of any system by which the State should take upon itself the prime cost of rearing future generations. It might be done through a continuance of something resembling the present system of separation allowances, which provides for the upkeep of individual homes. The allowance might be on the flat rate—so much for the woman and so much for each child; or it might be dependent to some extent on the amount of the allotment made by the man from his pay. Or, again, our system of elementary schools might be developed into day boarding-schools, where children were fed and clad as well as taught, and could enjoy
organised play. In the upper and middle classes, practically every parent who can afford it either commits his children to such schools or sends them altogether away from home. Yet it is commonly assumed that the discipline of the ordinary working-class home and the playground of the streets are sufficient for the working-class child, and when the results are bad the over-driven mother is blamed.

Whatever system were adopted, it is probable that a large proportion of the husbands would desire to supplement the Government provision, and consequently "having families to keep" would still exert an upward pull on the wages of men as compared with those of women. The potentialities of individual spending are for both sexes so great that it is pretty certain that both would continue to struggle for as high wages as they could get, and would invoke all the resources of trade unionism and political influence to enforce their claims. But the main reason for the differentiation in wages between the two sexes having disappeared, competition between them that was at once free and fair would be for the first time possible, and the services of women—not only in industry, but in the home—would be remunerated on their merits.
J. C. Waterlow, D. G. Armstrong, Leslie Fowden, and Ralph Riley (eds.)
Feeding a World Population of More Than Eight Billion People: A Challenge to Science

This book contains 19 papers presented at a conference held in the United Kingdom in December 1996. It is organized in five sections as follows: The Challenge, Basic Resources and Constraints, Applications for Science to Increase Yield, The Role of Animal Products in Feeding Eight Billion People, and Social Aspects. The longest of the sections is the third, which includes nine papers.

Will science meet the challenge? It is difficult to provide a coherent summary of what was concluded; no such summary was provided, perhaps for good reason. While varying degrees of optimism and pessimism were expressed, the weight of opinion seems to be that, yes, if enough effort is made, a population of more than eight billion people can be fed reasonably well, though there will probably remain a great many millions who are in poverty and with inadequate nutrition. Numerous reasons are given why it may be difficult to provide adequate food for eight billion, but in few or no instances is the reader given a reasonably clear idea of how probable a particular outcome, such as large-scale soil degradation, might be.

Partha Dasgupta in Chapter 2, “The economics of food,” appropriately emphasizes the large numbers of people who are in poverty and/or who suffer from malnutrition. But Dasgupta falls into a common trap, namely that of giving weight to changes in world per capita production of grain or some other measure of per capita food output. He draws serious implications for the future by noting that the world per capita production of grain declined from 370 kilograms in 1984 to 350 kilograms in the early 1990s. One problem with this comparison is that it tells us nothing about the production or availability of grain per capita in the developing countries. A world average can decline while per capita production in both the developing and developed countries increases. The reason is that a world average is affected by the shifting population weights of developed and developing countries. The share of the world’s population in the developing countries has been increasing over time, and since the developing countries produce and consume much less grain per capita than the developed countries, one finds the anomaly that per capita production can increase in both groups of countries with little or no change in world per capita production. For example, one projection of changes in population and grain production per capita for 1980 to 2010 indicates that world per capita grain production would remain virtually unchanged—increasing only from 325 kilograms to 326 kilograms—yet per capita grain production is projected to increase by 14.5 percent in developing countries and more than 6 percent in developed countries (Alexandratos 1995: 27). Over this 30-year period the percentage of the population living in developing countries is projected to increase from 73.7 percent to 80.3 percent. Since per capita grain production in 1980 was 200 kilograms in the developing countries and 678 in developed countries, grain
production can increase in both groups of countries with little or no change in world per capita production, given the shifting population weights.

That is not the only problem with Dasgupta's comparison, however. Much of the slowdown in the growth of world total grain production in the 1990s occurred in the former socialist countries—on the territory of the former Soviet Union and in the former socialist countries of Central and Eastern Europe. By 1996 grain production in the region had declined by about 100 million tons from production in 1985–89 (FAO). But because of the decline in real per capita incomes and the elimination of the large subsidies for meat and milk, consumption decreased even more and grain imports in the region actually declined by 30 million tons annually. Thus grain supplies to the rest of the world increased as a result of the changes in grain supply and demand in Central and Eastern Europe.

The second part of the book discusses resource constraints on agricultural production. Chapter 3, by D. J. Greenland, P. J. Gregory, and P. H. Nye, considers land resources as a constraint. After noting that in a number of African countries yields of food crops have declined over the past three decades, they state (p. 44): “Here, as in many other parts of Africa, the decline in soil productivity could almost certainly be halted by use of better soil management and fertilizers, but without a source of cash income there is no way in which the necessary inputs for soil improvement can be purchased.” The yield declines in many parts of Africa apparently have occurred on lands that receive little or no fertilizer, and thus it would be unrealistic to expect that yields could be maintained since nutrients are being withdrawn faster than nature replaces them. In these areas it has been common to let land lie fallow for an extended period, but as population has increased, the length of the fallow period has been shortened and increasingly the land when returned to cultivation has had lower productivity than in the past and would require the application of fertilizer, either organic or chemical, to maintain its productivity.

Chapter 4, by M. Yudelman, discusses the availability of water. The expansion of irrigation has been an important factor in the large increase of food production since 1950. There seems to be little prospect for a significant increase in the irrigated area in the years ahead, in part, as noted by the author (p. 64), because the low real prices of grain do not justify the large investments required. Consequently, as the demand for water for nonagricultural uses increases in the years ahead, in many areas of the world the efficiency with which irrigation water is used must be increased if the irrigated area is not to decline. With minor exceptions, existing irrigation systems and practices are not designed to encourage efficient use of water. Water is hardly ever priced in a way that reflects its value: the cost of water to the user generally covers, at most, the cost of delivering it to the user. In many cases, such as in India, even the cost of delivering the water is subsidized. The water at its source—a lake, dam, river, or aquifer—is assumed to have a value of zero. As water becomes scarcer, the assumption that water is a free good must be dropped, but it will not be easy to do this.

Chapter 5, by B. A. Stout, considers the effect of future energy supplies on agriculture. What the author does not note is that while the developed countries may be profligate in their use of energy, only a very small fraction of the energy supply is used by agriculture. Three chapters (15, 16, and 17) consider whether there will be a conflict between the increased production of animal products and
the availability of food for the relatively poor. In Chapter 15, by Vernon Young, Nevin Scrimshaw, and Peter Pellett, the role of animal products is seen in a positive light: “The scale and proportion of animal protein foods in the nourishment of 8 billion people is uncertain, although it seems assured that they will continue to contribute in a positive and quantitatively significant way to meeting man’s dietary needs and wants” (p. 219; emphasis in the original). Chapter 16, by H. A. Fitzhugh, also presents a positive role for animal production. The author notes that the ruminants, primarily cattle, “convert coarse feeds to meat and milk as well as provide manure and traction power to improve crop yields” (p. 230).

Dasgupta (in Chapter 2) takes a different and negative view of the effects of animal products on human nutrition. He argues that the increase in meat consumption that has occurred in the developing (as well as developed) countries has had an adverse effect on the poor. His argument is that animals (including humans) make relatively inefficient use of the available feed supplies, such as grain. After noting that feed use of cereals between 1966 and 1980 grew at 3.8 percent compared to the growth of total cereal consumption at 2.9 percent, he writes: “These are not comforting statistics.” But he fails to say that from the early 1960s to the early 1990s, real international prices of grain fell by about 40 percent. This means that the rate of growth of grain supply was greater than for grain demand. Had demand grown more slowly because of a lower rate of growth of feed use, it does not follow that more food would have been available to the poor. Since the majority of the malnourished live in rural areas, it is not obvious that lower grain prices would result in more food consumption by the poor. As Donald Winkelmann notes in Chapter 19, increasing the incomes of farmers is the primary route for eliminating poverty, but lowering prices is hardly the most appropriate way to increase farmers’ incomes.

Chapter 17, by R. B. Heap, considers the role of biotechnology in improving the world’s food supply. The author notes the opposition of European groups, especially the Green Party in Germany, to using biogenetics to change the gene structures of plants and animals. Also noted are the conclusions of several groups that consumers should be informed whether a product has been modified by such procedures through appropriate labeling. What seems to be ignored in such cases is that labeling costs money and will increase the costs of food, not only to those who hold views about biogenetic modifications but also to those who either are indifferent or support biogenetics because of the attendant benefits. Heap expresses the concern that it may take a long time before modern molecular sciences can exert a significant impact on food production and food security.

Chapter 7, by Marc Van Montagu, also addresses the general problem of biotechnology, in this case for plants. He argues that biotechnology has the potential for improving the food security of the one billion people who live in the tropics but that little has been done to achieve this. He argues that the Green militants may do substantial harm by opposing biogenetics, in part because they do not understand that there is no significant difference between the traditional methods of plant breeding and breeding resulting from recombinant DNA (p. 104). In each case, genes are transferred from one plant to another.

Chapter 19, the last chapter in the book, is an excellent summary of the relationships that exist among productivity, poverty, and food security. Poverty limits
people’s access to food, even when it is readily available in the market. Poverty is
the major contributor to chronic malnutrition, whether resulting from inadequate
food intake or from a failure to make effective use of the food actually consumed
because of unclean water, poor sanitation, and inadequate intake of micronutri-
ents. Since 75 percent of the poor in developing countries live in rural areas,
Winkelmann emphasizes the role of productivity and income growth in agricul-
ture as a major link in reducing poverty and malnutrition (p. 269): “As productiv-
ity increases, costs decline, and the returns to land, labor, and capital increase.
Those higher returns have the immediate effect of increasing the incomes of the
owners of the resources and, to the extent that poor farmers and laborers benefit,
reducing their poverty.” Unfortunately, Winkelmann does not note that in too
many developing countries, governmental policies have discriminated against ag-
culture through export taxes, overvalued currencies, and industrial protection
and have thus contributed to poverty and malnutrition in rural areas. While such
policies persist in some countries, they are less evident than they were in the 1960s
and 1970s. To a considerable degree, the high percentage of the chronically mal-
nourished in sub-Saharan Africa is the result of policies that discriminated against
agriculture.

A remarkable proposal for solving the world food problem is offered in Chap-
ter 1, “Needs for food: Are we asking too much?” by J. C. Waterlow, one of the
editors of the book. Apparently in reaction to his personal view that it will not be
possible for food supply to keep up with demand, he proposes that human energy
expenditures be reduced in three ways (p. 14):

- Climatic or ethnic reduction in BMR [basal metabolic rate]: 5%
- Reduction in body size: 10%
- Reduction in the speed and cost of muscular work: 10%.

He goes on to comment that these three “adaptive reductions in energy expendi-
ture” would reduce the required energy intake by 25 percent for at least some
significant percentage of the world’s population. He does not tell us how these
adaptations are to be carried out, but the reduction in body size, so far as I know,
can be achieved only by reducing the food intake of children to achieve what we
now define as “stunting and wasting”—reducing their height and their weight per
unit of height. Our efforts to reduce poverty and food insecurity are directed to-
ward ameliorating the stunting and wasting that now exist in the developing coun-
tries. But Waterlow would apparently make stunting and wasting universal. The
first of the adaptive reactions presumably could be achieved either by moving more
of the world’s population to the warmer climates in order to reduce the energy
expended to combat cold weather or by global warming. The reduction in the speed
and cost of muscular work is achievable as economic growth occurs, the heavy
work of agriculture and manufacturing declines, and the majority of the jobs to be
found are in the service sector with lower energy requirements.

Waterlow concludes his chapter with the following:

Of course, vast numbers of people in the LDCs already operate at this kind of level. If it
is to apply to us in the West, we will have to accept that future generations will be
smaller, leaner, and perhaps slower. I doubt if that matters. It has been well said that “taking a more evolutionary viewpoint, we may ask ourselves if this condition of ‘nutrition at risk’ is not the living condition for which nature has prepared the human race: setting a high genetic potential, knowing by experience that the environment will thwart some of this potential.” The declaration in the U.N. Convention on Human Rights that all people have a right to fulfill their genetic potential does not seem realistic if the race is to survive. (pp. 14–15; emphasis in the original)

Fortunately the rest of the chapters present a much more balanced view of the future of world food and nutrition than this. While numerous doubts are expressed about some aspects of the future, most of the doubts fall in the category that if enough effort is made the doubts probably could be overcome.

I close this review by registering a complaint about the way Malthus’s views are misrepresented in this and, for that matter, in nearly all other discussions of the relationships between population and the food supply. The index gives six references to Malthus, each of which reflects his original unqualifiedly pessimistic view on the tendency of population growth to outstrip the growth of food supply. There is absolutely no recognition that Malthus significantly changed his views in the second and all subsequent editions of An Essay on the Principle of Population. Vice and misery—war and famine—were the only restraints on population growth in the first edition; in subsequent editions a third was added. Self-restraint or the desire for self-improvement would lead to population growth being restrained enough to permit improvement in the conditions of living. After noting the recent growth of population in Europe, Malthus wrote: “[F]ewer famines, and fewer diseases arising from want have prevailed in the last century than in those that preceded it. On the whole, therefore, though our future prospects respecting the mitigation of the evils arising from the principle of population may not be so bright as we could wish, yet they are far from being entirely disheartening, and by no means preclude that gradual and progressive improvement in human society which, before the late wild speculations on this subject, was the object of rational expectation” (Malthus 1992: 331). This revision of his views was first published only five years after his first edition, but the revisions are seldom noted: the very pessimistic views of the first edition have persisted generally and in the book under review.

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References


DANIEL CALLAHAN
False Hopes: Why America’s Quest for Perfect Health Is a Recipe for Failure

This well-written book is designed to spread its important message widely. The message, clearly announced in the title and subtitle, is one to which faithful readers of Daniel Callahan’s books have already been introduced. The titles of earlier works are equally explicit on its theme: The Tyranny of Survival: And Other Pathologies of Civilized Life (1973); Setting Limits: Medical Goals in an Aging Society (1987); What Kind of Life: The Limits of Medical Progress (1990); The Troubled Dream of Life: In Search of Peaceful Death (1993). These have invariably been well received.

In a series of chapters arguing aspects of his thesis, Callahan discusses such themes as progress: when progress is the goal, as it has been for the past 200 years, and the goal is otherwise unspecified, then mankind will go in whatever way the internal dynamics of technology or the blind forces of the market take it (Ch. 2). The author disapproves of such progress, unformed and without a specific goal. On the other hand, he approves of a sustainable health system, one that “would accept the continuing, permanent reality of risk, disease, illness, and mortality” (p. 36). He would have us adapt to these realities rather than conquer them. Solidarity is also favored; it has weakened in our generation, and “must be nurtured as a moral ideal if the provision of equitable health care is to be continued where it already exists, and sought where it does not now exist (as in the United States)” (p. 172). These and many other observations will be called pessimistic by many, but in my judgment they would better be called realistic.

Rather than further discuss Callahan’s case as he states it, I will instead analyze the logic that I see as underlying his argument. We start with the fact that whatever their age, very few people in even passable health want to die; so if we had our way all of us would defer death year after year, decade after decade, forever. Even—perhaps especially—the centenarian, if not in pain and with some control of his or her faculties, would opt to continue. In short, if people had their wish death would be abolished. But if death were abolished then it would take only a little further time for the world to fill up and birth also would have to be abolished. Even the most ardent opponents of birth control would cave in and admit that there is indeed a limit to growth. If medicine achieved the popular goal of immortality, the last generation to be born would have the extraordinary privilege of living vigorous lives forever, but not the privilege of having children.

We have not abolished death and never will, but the idea of it tells something about its partial abolition that we see in present trends of mortality. The prospective crisis of social security systems occasioned by aging can be thought of as a foretaste of the difficulties that would arise if death were eliminated rather than just bit by bit deferred. Once the last generation to be born had passed through the working ages, there would be no workers, only pensioners.

By ironic coincidence, the present decline of mortality is accompanied by a fall (for men) in the age of retirement. It is as though people are saying “While we are dreaming, let us dream not only of living forever, but of being able to quit work as young as we like.” I cannot say what will happen to work in the future, but only that present aging, now showing up as a clearly foreseeable problem of
social security, is only a small movement in the direction of eliminating death, and the fall in retirement age a movement in the direction of eliminating work.

The one thing that even perfect health in a population of immortals could not bring would be the creativity and innovation of youth. Innumerable biographies confirm this. Isaac Newton’s gives the picture of creativity tied to youth in extreme form: by his early 30s he had made his three great discoveries (gravitation, wave theory of light, and calculus) that set the course of physics and much of mathematics for the next two centuries. He lived until nearly 85, and for the last half-century of his life he occupied himself with alchemy and magic, forgoing what we call science altogether. Aside from the medical impossibility of death being overcome in any foreseeable future, from the viewpoint of the human race the elimination of death would bring to a stop all evolutionary and most cultural progress. This is another perspective confirming Callahan’s thesis that our medical establishment nourishes the false hopes that come naturally to Americans (as well as others from China to Argentina, Canada to Kazakhstan, but this book is mostly about the United States).

Add to this a point concerning the allocation of therapeutic effort between the young and the old, treated under the heading “Equity and a steady-state medicine” in Chapter 8. When a simple inoculation saves a child’s life there is a good chance that it will live another 60 or 70 years. Treatments for the old, usually more elaborate and expensive, can produce at best another 1 or 5 or 10 years. So at the margin adding a billion dollars for young people adds far more years of life than a billion dollars spent on the old. In light of this inexorable reality, it is downright unreasonable to devote vast resources to medical research and therapy, much of which is on behalf of people about to die shortly in any case, and whose death, from a collective viewpoint, is actually required.

We have here a rationalizing principle for our or any other medical system: as far as can be arranged, spend the money where it would have equal effect in adding years along all margins. Merely stating this shows how little open we are to rationality in this field. We accept in principle that all lives are of equal value, but we are far from accepting, even in principle, that we should distribute life-saving resources so as to save the most person-years. Exactly attaining this goal in determining research and therapy budgets is out of the question, but we could come a good deal closer than we now do. Africans point out how inexpensively lives could be saved on their continent, but North America and Europe do not hear. We may be deaf to Africa, but how about within the United States, where the entertainment industry shows higher mortality than does banking, and where redirection of research and therapy funds would produce more years added? I do not necessarily recommend this or anything else, but am only giving an example of a possible organizing principle. Students of accident prevention show the variation of efforts in their field, with many times as much spent to avoid the marginal death from an air crash as from a crash on the highway. The health aspirations of citizens and the medical system brought into existence by those aspirations suffer from the total lack of organization or purpose, any pretense even of rationality.

On a more technical level, there is another reason why medical advance is disappointing. Medical research on a specific disease can attain its goal and yet
have less than the expected effect on mortality. It is frustrated in its efforts by the peaks of mortality for the principal killers occurring at about the same ages, such as in the 70s and 80s. A total cure for cancer would leave more people to die of heart disease, and vice versa, and would show in the death statistics soon after the cure became widespread. That is why, even though cancer is responsible for nearly one-third of deaths, its complete elimination would increase life expectancy by only two to three years. Considering that, it may be better not to see us as succumbing to specific causes such as cancer and heart disease, but to the aging in which all of those ailments flourish. So unless there is simultaneous advance on all diseases, or until there is control of the aging process—some way of getting our cells to behave normally after the limited number of divisions to which they are now subject—work on the eradication of a particular disease only encourages the “false hopes” reposing in medicine to which Callahan refers.

Despite the invincible logic of his position, Callahan’s is a minority voice. The man in the street would be more likely to quote Dylan Thomas:

> Do not go gentle into that good night,
> Old age should burn and rave at close of day;
> Rage, rage against the dying of the light.

One might have thought that an ethicist such as Callahan would insist that death when avoidable is to be avoided at all costs. In this case Callahan sees the value of individual death to the community—creative destruction it might be called—while the poet Thomas sympathizes with his father, the individual who is facing death. Physicians, identifying with their patients, would prefer Thomas to Callahan.

In a book that is carefully thought out, well argued, and well written, one is surprised to note a casual use of numbers. Consider the reference to a “relatively slight decline in death rates since 1950, estimated at 6 percent” (p. 105), mentioned as evidence that medicine cannot achieve much extension of life. In trying to trace the source of this figure I find that the United Nations Population Division shows the crude death rate for the United States declining from 9.5 to 8.8 per thousand, that is, a fall of 7 percent from 1950 to 1995 (1996 Population Indicators), close enough to Callahan’s 6 percent to suggest that mortality has fallen only a trifle in the 45-year interval. But this fails to take account of the very considerable aging of the population that is the subject of other parts of the book. To exaggerate a little, using crude rates for comparing 1995 with 1950 has some resemblance to comparing the death rate at age 20 in 1950 with the death rate at age 70 in 1995 and finding that mortality has risen. If we make the comparison using a fixed mix of ages, say that of the United States in 1960, then we find a decline from 1950 to 1985 from 10.45 to 6.89 (Keyfitz and Flieger 1990). So instead of a trifling decline of 6 percent over 45 years we have a truly remarkable decline during 35 years of 34 percent.

What no one can now specify is the future of medicine. On one scenario we could become helpless in the face of the vanishing effectiveness of antibiotics as the bacteria develop resistance and research fails to produce new chemicals to destroy them; and on the organizational side we may be harming ourselves by taking medical decisions out of the hands of physicians and making doctors the hired help of administrators. We do not quite know what has happened in Russia in the
1990s, but one thing its current statistics show us is that sudden large increases in mortality are possible in a modern population. At present rates, a generation of such excess mortality as Russia has experienced will cost as many lives as World War II. But on the other hand it could be that current successes in treating heart disease and certain kinds of cancer will continue, and we could realize the further very large benefits for survivorship shown to be derivable from suitable public health behavior.

Are we more threatened by the possible failure of medicine or by its prospective success? Either way we have disappointment and tragedy. When the common age of death is in the 80s, as it is coming to be, will citizens cheer and tell themselves how lucky they are not to be dying in their 70s as their parents did? No, they will fear and shun death just as when people were typically dying ten years younger. We can expect applause for every effort to raise the typical age of dying from the 80s to the 90s. And with each ratcheting up of the age of death will come a rise in the number of old people who have to be provided for. Individuals, more and more concerned with their own fate, will leave to society the problem of pensioning the old—who, to offset the aging, ought to be staying at work longer, but in a separate independent trend are retiring younger than ever before.

We owe much to Daniel Callahan for working out the details of these paradoxes, but neither he nor anyone else has a feasible policy solution that will satisfy the old. I have been reminded by this book that the ultimate problem of death is wrapped up in the package known as the human condition.
nar on infant and child mortality in the past, organized in 1992 by the Centre Jacques Cartier in Lyons, the University of Montreal, and the Historical Demography Committee of the IUSSP. This volume is an edited collection of papers presented at the seminar.

The volume is divided into four parts: a review of the state of knowledge, assessing trends, differentials, and social context in European populations; a review of the state of knowledge in North America, India, and Japan; presentations of evidence of biosocial influences; and examinations of social variables. The classification into four parts is rather arbitrary and not particularly helpful, so my discussion here will take no further notice of it.

Ansley Coale once jokingly described the techniques for mortality measurement devised by William Brass as “making bricks without straw.” This volume, by contrast, is largely concerned with bricks made only from straw, albeit straw of very different textures. In some papers the straw is wet, heavy, and solid: Robert Wood’s review of infant mortality in Britain, and Frans van Poppel and Kees Mandemakers’s early results from the Historical Sample of the Population of the Netherlands are examples that use well-founded data. Others—such as Osamu Saito’s analysis of pretransition infant mortality in Japan, bedeviled by an age-reporting system that regards all children as age “1” at birth; Jacques Dupâquier’s review of prematurity; or Richard Lalou’s examination of endogenous mortality in New France (roughly coterminous with the modern-day province of Quebec)—use much lighter and less substantial straw. Regardless of the nature of the straw, however, the final outcome is much the same: the historical record does not bring us much nearer to identifying necessary or sufficient conditions for childhood mortality decline.

The papers in the volume thus do not achieve what was presumably their ultimate objective. But they do bring home some important conclusions. First, although the casual observer of statistics on infant and child mortality may conclude that the downturn occurred abruptly at much the same time across a wide variety of social and economic settings, the historical record reveals large differentials in levels across populations and population subgroups. Thus in late-nineteenth-century Canada, Marvin McInnis finds infant mortality to be almost twice as high in francophone as in anglophone areas, but also finds large differentials between different francophone areas. These latter differentials do not correspond to what is known about differentials in economic condition, nor in levels of nutrition, crowding, literacy, urbanization, and fertility. Pier Paolo Viazzo, in a review of Alpine populations of Europe, shows that they also experienced sharply different levels of infant mortality, with some of the high-fertility, low-breastfeeding populations having relatively low infant mortality, and vice versa. Altitude appears to be associated negatively with infant mortality, particularly with postneonatal mortality, but much variability is left unexplained. Marco Breschi and Massimo Livi Bacci present data on another type of differential, namely seasonality, arguing that winter is a high-risk period for newborns, while summer is a high-risk period for weanlings. In a strangely schizophrenic account, their review of national-level data suggests the opposite: for example, neonates in Russia (among the countries examined, the one with the coldest winters) born in the winter had low mortality, whereas in Italy (the country with the warmest summers), summer mortality was high for children born in the winter or spring, before breastfeeding would have ended.
Breschi and Livi Bacci note the contradiction and explain it in terms of well-adapted parental care, which of course begs the question. The authors also present data on seasonality from a family reconstruction study in Italy, and the results fully confirm the hot summer weaning hypothesis: death rates peak in the period July to September regardless of month of birth, but remarkably for children born in the summer, mortality risks the following summer are even higher than in the neonatal period. Tim Dyson, in the only paper dealing with a now-developing area, devotes considerable effort to justifying the proposition that civil registration data for British India provide reasonable indicators of differentials and trends, if not of levels. He identifies a gradient from high infant mortality in the north and central areas to lower mortality in the east and south, but does not examine the issue of explanation. The most poignant paper—by Jean-Pierre Bardet, Corinne Dufour, and Jacques Renard—also offers little in the way of explanation, but identifies extraordinarily high mortality among foundlings in eighteenth-century France: as few as 15 percent would survive to adolescence.

Where do these papers leave us in terms of our understanding of infant and child mortality decline? Differentials demonstrate a large adverse effect of urbanization (though it is surprising that among the “State of Knowledge—Europe” papers, only that by Woods makes explicit reference to this factor), a protective effect of breastfeeding, and relatively small differentials by socioeconomic status. These differentials suggest that water and sanitation and child care practices were probably important, whereas general nutritional status was probably not a key factor. Family formation factors such as birth intervals and birth order also show up as important correlates of risk in New France (Desjardins), as they do in developing countries today. That attitudes to children changed, as argued by Catherine Rollet and echoed by Patricia Thornton and Sherry Olson, seems reasonable, but the direction of causation with respect to mortality decline must be questionable. The decline, when it started (around 1900), was amazingly sharp, a characteristic that encourages the search for a magic bullet. However, the range of conditions under which decline did not take place (before the end of the nineteenth century) and the range of conditions under which it did take place thereafter suggest, as Alter concludes in his review of infant mortality in the United States and Canada, that the search for a single mortality transition is probably misguided, and that we need to think instead in terms of a number of transitions in behavior and environmental circumstances that happened to coincide.

Noël Bonneuil
Transformation of the French Demographic Landscape, 1806-1906

Historians of Europe’s fertility transition disagree about many things, but there has long been consensus on the place of France in this watershed event. France’s fertility transition was first, we are told. Most European countries saw a pronounced
drop in marital fertility only in the mid-to-late nineteenth century; in France this drop occurred sometime during the eighteenth century. A recent estimate by Weir (1994: Table B3) places the Princeton index of marital fertility ($I_g$) at about 0.680 in 1800, down from levels of more than 0.800 in the mid-eighteenth century. Thus France had satisfied the criterion, adopted in the Princeton project on European fertility, of a 10 percent decline in marital fertility before the start of the nineteenth century. According to the Princeton project most other European countries, including England and other highly industrial societies, did not experience this 10 percent decline until the 1880s or later. The Princeton methodology and dating remain controversial, and the Princeton project itself put France’s fertility transition later than does Weir. But numerous studies based on a variety of methods, including those of village reconstitution, have come to the basic conclusion that fertility declined in France much earlier than in the rest of Europe.

The intellectual significance of France’s historical experience is profound. Many of the explanations of fertility decline that have figured in historical discussion are based, implicitly or explicitly, on the French experience. Discussions of inheritance and fertility are motivated by the supposed implications of the inheritance rules instituted under Napoleon. Discussions of secularization and fertility stem from the French experience in restricting the role and influence of the Church. More generally, France’s role as a cultural and intellectual leader in Europe poses a challenge to those who see the fertility decline as reflecting a change in attitudes. If cultural influences lie at the heart of the fertility transition, then why did it take so long for the rest of Europe to imitate the French?

Bonneuil’s results directly challenge this view of France’s fertility transition, and for this and other reasons this is a fascinating and challenging book. French demographers first devised many of the techniques used in historical demography, and here Bonneuil continues the French tradition of methodological innovation. Like many significant works in demographic history, this book consists of two distinct efforts in one. First, Bonneuil reworks the published data to create coherent, département-by-département series of demographic events and population pyramids. Second, he uses the reconstructed data to study the patterns of fertility and its decline in France over the nineteenth century.

The first task, that of constructing usable series out of the flawed official data, requires three steps. The first, which Bonneuil calls achieving “book-keeping coherence,” amounts to locating and correcting the errors introduced in the original statistics through arithmetic mistakes, false transcription of figures, and the like. In the second step Bonneuil accounts for the fact that French censuses took place at different times of the year, deals with départements that were created or that changed borders during the nineteenth century, and uses smoothing methods to contend with age-heaping in the census and death-registration data. The third or reconstruction step is crucial. Doing full justice to his reconstruction would take the 60 pages it occupies in his book, so the discussion here is just an overview. To understand Bonneuil’s approach it is convenient to contrast it with that of Etienne van de Walle, whose 1974 book used different methods to reconstruct the female French population. (Bonneuil does just that, giving full acknowledgment to van de Walle and easing the reader’s task of understanding the present work.) Bonneuil
and van de Walle both want to reconstruct the female population of France by département for the period 1801–1906. Both recognize that the census suffers from under- or overcounts in addition to the age-heaping and other problems noted above. Both recognize that the registration of births and deaths was flawed, especially early in the nineteenth century. And both, finally, recognize that any département-by-département reconstruction must take into account the considerable migration between départements.

Bonneuil’s approach, however, differs in both the fundamentals and the details. Van de Walle uses stable population theory and the method of inverse projection along with reported births and deaths to project the 1801 population forward to the more reliable census of 1906. Along the way he must adjust recorded births and recorded deaths for registration problems, and he relies on the Coale–Demeny model life table system to achieve the latter adjustment. Van de Walle, noting that migration to large urban areas could not be handled properly within the context of his methods, omitted the most heavily urbanized départements from his analysis. Thus his national estimates are not derived from his départemental estimates, but are the result of a separate reconstruction. He also assumed a standard age schedule for migration; that is, the age pattern of migration was assumed to be the same for all départements, corresponding to the implied age distribution of migrants to the département of the Seine (Paris) in the period 1861–1906.

Bonneuil’s method for the period 1856–1906 differs from van de Walle’s in several ways, but three departures are the most important. 1) He uses the method of back projection, starting with the census of 1906 and moving backward, iteratively, to 1856. 2) His method allows him to relax van de Walle’s assumption that the age profile of migration was the same for all départements and simultaneously allows him to include the very urbanized départements that van de Walle was forced to exclude. Bonneuil estimates this age profile of migration by what amount to adding-up constraints: in a closed population every woman aged 20–24 in a given département must be, five years later, either in some other département or deceased. These adding-up constraints rely on mortality figures, and here we find another innovation. 3) Bonneuil uses Ledermann life tables rather than van de Walle’s Coale–Demeny system (Ledermann 1969). For the period 1801–56 Bonneuil’s approach is more similar in spirit to van de Walle’s.

Bonneuil calculates mortality and net migration by département for the years covered in this study, but historical demographers will be most struck by his estimates of fertility, which put him very much at odds with earlier research. The simplest way to see this is to compare his estimates of overall fertility (the Princeton index I,) to van de Walle’s and to Weir’s. In 1806, for example, Bonneuil’s I, is, at 0.393, 18 percent higher than Weir’s. The difference between Bonneuil’s and van de Walle’s estimates of I, is initially even larger. In 1831, the first year for which van de Walle reports the index, Bonneuil’s I, is 24 percent larger than van de Walle’s. These differences are large indeed and would imply that the fertility transition in France started in the first half of the nineteenth century, rather than in the eighteenth century as usually accepted.

But should we accept these results? Weir’s approach, which Bonneuil unfortunately does not discuss, relies on the method of cohort extinction and produces
estimates of both fertility and marital status. This method cannot provide estimates by département and so would not suit Bonneuil’s larger purpose, but it has the virtue of requiring very little structure. Bonneuil does not say why he used the Ledermann model life tables, and he suggests at several points that the discrepancy between his and earlier fertility estimates for the early nineteenth century might well reflect this decision (for example, p. 92; pp. 124–125). His method in effect chooses the model life table that best fits the data for females aged 5–65 and then uses that table to correct the death-registration data for infants and children. If the Ledermann life table has the wrong shape—if the relationship between mortality at ages 0–5 and at older ages in the real population is not that of the model life table—then reliance on the model life table either under- or overestimates the number of births in earlier years. Bonneuil’s estimates of the underregistration of female births are in fact very large, much larger than van de Walle’s. For the first half of the nineteenth century Bonneuil estimates that underregistration of births ranged between 12 and 16 percent (Figure 8.12), and for some départements his underregistration estimates are as high as 44 percent. The largest correction factor that van de Walle used for births for France as a whole was 6.6 percent, for 1801–05 (van de Walle 1974: Table 5.2).

These worries must be placed in context. Any effort of this sort requires some reliance on external information such as the regularities in age patterns of death that underlie model life table systems. Bonneuil is to be applauded for designing an approach that emphasizes the overall coherence of the demographic system. My comments above about the Ledermann life tables echo his own; any criticism of Bonneuil’s methods or results must be tempered with admiration for his frankness. But Bonneuil would have done himself and his readers a service by experimenting with other systems of model life tables to provide some reassurance that the specific features of the Ledermann tables are not driving his results.

Beyond the fertility estimates themselves lie the historical questions they are intended to address. The reconstruction methods Bonneuil uses cannot distinguish marital fertility from nonmarital fertility, nor do they yield nuptiality estimates. Thus he cannot, by construction, address one of the basic questions of the fertility transition: the relative roles of restrictions on nuptiality and marital fertility in limiting fertility. Both van de Walle’s and Weir’s estimates, in contrast, are intended to make precisely this distinction, and thus provide more insight into the basic question that has motivated much of French historical demography. More generally, Bonneuil does not take up some of the important historical issues his results raise. For example, his underregistration estimates make profound if implicit statements about the treatment of female infants and the quality of administration in at least some French départements. If Bonneuil’s estimates are accepted, then he has suggested an important avenue of research for social and demographic historians. The very high levels of underregistration he reports are simply not consistent with our image of a bureaucratically efficient French state. On the other hand, a more intimate knowledge of the social and administrative processes that produce the underregistration of births might form a check on results such as he reports.

The rest of Bonneuil’s innovative work uses these estimates to study spatial and temporal fertility patterns in the nineteenth century. This effort matches his
reconstruction for its insights and creativity. Bonneuil wisely eschews any effort to distinguish between the innovation/diffusion and adjustment views that have provided the framework for much recent discussion of the European fertility transition. The only explanatory variables he employs, other than the demographic estimates that emerge from his reconstruction, are urbanization and literacy. His careful and elegant statistical models nonetheless provide a fine-grained description of the evolution of fertility and its relationship to mortality, migration, urbanization, and literacy. Especially appealing is his controlling notion that a spatial interpretation of innovation and diffusion has to be treated as inherently dynamic and cannot be read from maps that describe fertility patterns at a point in time.

The book’s many and considerable virtues are hidden to some degree by an exposition that makes the underlying ideas unnecessarily difficult to grasp. Part of this is the fault of the publisher. Bonneuil does not say who translated the text into English (there is no French edition), but this translator and the copyeditor failed to remove some unfortunate phrases such as “I do not dispose of many demographic variables . . .” (p. 101). More troubling is the exposition of the technical material. Elsewhere, Bonneuil (1998b) displays considerable annoyance that a criticism of his work, by the historian Maks Banens (1997), reflects misunderstanding of the method Bonneuil employed, confusing, for example, his back projection with the approach criticized by Lee (1993). Fair enough, but even a well-trained mathematical demographer will have to read the methodological chapters of this book several times to understand what Bonneuil has done.

The challenge of Bonneuil’s results to received views in French historical demography suggests that we will see more-detailed defense and perhaps revision of his results. We might also see the sort of research to which Banens alludes, incorporating detailed knowledge of local conditions to refine the treatment of, for example, underregistration of births. Such outgrowths of Bonneuil’s work would be most welcome even for those of us whose research lies outside the field of French historical demography, because this work illustrates the potential for the methods used here.

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Notes

1 Back projection as used in Wrigley and Schofield (1981) has been criticized by Ronald Lee, whose objection can be briefly stated: because of the ergodic properties of populations, a terminal age distribution and annual series of births and deaths are not sufficient to construct a single “true” history of population size and net migration rates. Back projection is only identified by additional demographic structure. For a review and references to earlier literature on this topic see Lee (1993). Bonneuil’s method avoids this lethal objection in part by using censuses other than that for the terminal year (see pp. 56–64 and Bonneuil 1992, 1998a, 1998b).

2 For a review and references see Guinnane, Okun, and Trussell (1994).
According to UNESCO, the earth’s arid regions exist where annual potential evapotranspiration (the maximum rate at which water can evaporate from a leaf surface) is at least twice that of yearly rainfall. In less technical terms, it means that vegetation in the region experiences adequate soil moisture for just several weeks to perhaps three months, after which plant life goes to seed and dies, or relies on its morphology and physiology to limit water loss for the rainless residual of the year. Such harsh conditions describe some 37 percent of Earth’s terrestrial surface, an area which, by 1994, enclosed an estimated 840 million people, or about 15 percent of the global population. Drawing on data for 20 countries entirely or nearly entirely within the arid region, the editors of this informative volume estimated the region’s population growth at 2.3 percent per year, roughly southern Africa’s present growth rate. Historically, the arid region has been the site of frequent human out-migration, some of it—such as mass movements of Mongols, Tibetans, Arabs, Berbers, Afghani Moguls, Persians, and Seljuk Turks—as the aftermath of violent conquest.

The arid region spans the world’s three driest climatic zones: from hyper-arid core deserts (e.g., the heart of the Gobi, and central Sahara), through arid brushlands (e.g., the northern Sahel and much of the Arab Middle East), into semi-arid
short-grass steppes (e.g., the short-grass prairie of the Great Plains in the United States and the southern Pampas of Argentina). Around 3 percent of the region is irrigated or urban. Outside that area, the region’s inhabitants are largely pastoralists and dryland farmers. In developing countries, these populations are among the least literate and least likely to have access to primary health care and family planning services.

The book’s 19 chapters—most of them local case studies situated in the Middle East, North Africa, and the Sahel, the majority written by geographers—are products of a joint conference (IUSSP, UNESCO, and the International Geographical Union) held in Amman, Jordan, in October 1994. Like most conference compilations, the quality of chapters varies. A good deal of that variation issues from the topic itself; some authors seem unable to step back from the palpable proximate causes of environmental change (in this region, overgrazing, water development, urbanization, and associated markets and policies) in order to explore the epistemological murkiness of the debate over ultimate driving forces, within which population growth and other demographic issues figure prominently.

Nevertheless, a majority of the chapters in the four sections of this volume—on the human causes of desertification; on environmental problems; on population dynamics; and on management, responsibilities, and policies—hit the mark. They present field data, observations, and fresh perspectives that could allow researchers to modify and advance models of rural development that have been on the “theoretical menu” for some time. In the remainder of this review, I will confine my remarks to these chapters (without crediting all authors by name) and to the excellent introductory and concluding chapters written by the volume’s editors.

From an agricultural systems perspective, land use in the arid region—as portrayed by the volume’s research, appears to be evolving in terms generally consistent with Ester Boserup’s theorizations (1965, 1987). Empirically, agricultural change in the region has been initiated by overgrazing: during the past half-century, increased stocking has severely diminished native perennial vegetation on tribal lands. Meanwhile, populations of traditionally pastoral residents have continued to grow and to shift in large part to dryland farming, staking claim to and tilling the most productive tribal rangelands. Others without the option to secure farmland have become more engaged in agro-pastoral relationships: grazing standing crop residues and buying residues from farmers and from factories processing agricultural crops. Over the past decades, pastoral people have, as well, migrated to the region’s rapidly growing cities, penetrating labor markets and, in some cases, urban enterprises.

But when individual authors lay bare the detailed fabric of human adaptation in the arid region, the model of steady-state progress unravels. Two aspects of the regional ecology, multi-year drought and low and declining levels of per capita fresh water availability—issues virtually absent from Boserup’s discussions (which focus on regions of greater agricultural potential)—constrain, stall, and distort demographically driven agricultural change. The principal victims of these distortions appear to be the poorest of the poor. Yet even they, as retrospective assessments of Sahelian drought of the early 1970s point out, manage to migrate and survive (Batterbury 1998; Caldwell 1975).
In an arid region grown populous, cities have become, in effect, the locus of rural adaptation. In a detailed study of pastoral economic demography in Mali, Sara Randall finds that periodic multi-year drought in the 1970s and 1980s drove pastoralists into desperate urban survival strategies that took the form of begging, prostitution, and menial labor—circumstances from which, she suggests, it may be difficult to break free. Many of the pastoral elite in Asia and Africa are already permanently ensconced in the cities, having left behind an underclass of herders whom the elite employ to graze their flocks under circumstances of depleted forage quality and deteriorating social conditions.

In arid parts of the developing world, fertility remains high and family ties strong; workers' remittances can underwrite much of local on-farm capital and livestock improvements. But in this volume, Béatrice Knerr suggests that many aridland communities may already be populated well beyond their agricultural capacity. Yet households remain in place, subsidized day-to-day by urban relatives. The strategy may be socially and economically viable for these people, who are often protecting family property and grazing rights. But the presence of “subsidized households” may threaten community resources—fresh water, fuelwood, and wild forage—for which it has always been difficult to control access, particularly in arid regions.

Several chapters in the volume do well in calling attention to rapid and localized urbanization throughout the arid developing states, some towns growing at rates of 7 percent annually and higher. It is a trend that will likely lead to conflictual “water politics,” ultimately pitting household, industrial, and agricultural users against each other—a struggle agriculture is bound to lose. In Spain’s arid regions, in Extremadura and the Mid-Ebro Valley, urban and industrial demand for water has undermined decades of government efforts to irrigate and develop agriculture in the region, as the pull of urban opportunities has siphoned off young adults from the farming community.

For me, the most interesting message of this volume is summarized in the concluding chapter: recent population growth has whittled away the traditional set of rural coping strategies that were available to inhabitants of arid regions just a half-century ago. Ancient patterns of seasonal herd migration, gathering, and farm labor are being replaced, yielding to a new set of urban-based strategies. Should we be surprised at these shifts? Probably not. In a world where humanity has grown populous, and nature’s systems less productive and more fragile, our species has learned wisely to seek its security among urban environments and near services dispensed by the nation-state. Although this new ecology can shelter people from nature’s uncertainties, we have not—as this volume makes clear in the case of water availability—broken free of nature. In the future, water politics, which have always been important to the arid region, will no doubt pattern its ecology and determine the distribution of wealth and poverty; for in the arid region during the twenty-first century, quite likely more power will issue from the end of a water pipe than from the barrel of a gun.

Population and Environment Department
Population Action International

RICHARD P. CINCOTTA


GAD G. GILBAR
Population Dilemmas in the Middle East: Essays in Political Demography and Economy

Middle Eastern countries share two overarching political features. First, religion, whether Islam or Judaism, is an explicit and central reference for political discourse; and second, the protracted Arab-Israeli conflict has profoundly affected political regimes, economic structures, and collective identities. The role of demography in the region’s economic, social, and political situation is of utmost importance. Population Dilemmas in the Middle East examines “demographic developments and the political implications attributable to them” through seven unconnected articles concentrating on two phenomena—fertility and migration—and two populations—Egyptians and Palestinians.

The Introduction is the only section to consider the Middle East in its entirety. It begins with a survey of fertility policies, distinguishing three groups of countries (omitting Oman, Bahrain, and Qatar): antinatalist, pronatalist, and neutral. Economic factors underlie this classification. Antinatalist countries are those facing population pressure on resources (including Algeria as early as 1971, a startling assertion considering the country’s uncompromisingly anti-Malthusian position at the 1974 World Population Conference at Bucharest). Pronatalist countries are the major oil exporters: sparsely populated labor importers, nourishing the ambition of eventually substituting national manpower for immigrants. While this is the official objective of these states as part of a concern for preserving their identity, the researcher should question its relevance: is a newborn child whose training requires some 25 years a reasonable substitute for an immigrant available without delay? If not, should we not try to understand pronatalism in the Arabian Peninsula in light of the historical processes of nation-building and the role of patrimonialism? In the same group, we also find Iran and Israel. Gilbar considers the latter’s pronatalism an answer to a historical conflict, with the state exhorting the populace to produce future soldiers (20 years too late). If one seeks a point of commonality between Iran, a country of 70 million predominantly Muslim inhabitants that was temporarily involved in a conflict with the far less populous Iraq,
and Israel, where the Jewish community holds power over large and rapidly growing Muslim and Christian minorities (promising to become a majority in the near future, in the territory under Israel’s control), the political weight of fundamentalism in both countries is salient and clearly related to pronatalist positions.

The Introduction then tackles the political dimension of migration. Rather than preview the content of the book, Gilbar describes a seemingly remote episode: the population exchange negotiated between Greece and Turkey in 1923–25. In this seeming digression, he finds lessons of broader import: “Rulers in most cases did not have to instigate the exile of local inhabitants from their homes, but once a mass flight of civilians began during the course of war, the dynamic that developed soon turned into policy” (p. 9). Are we to take it that similarly Israel did not force the exodus of Palestinians in 1947–49, although it has now to manage the aftermath? This is only one version of the story. According to the other, deliberate actions by the army and the rulers of Israel would have given rise to the Palestinian refugee problem.1

Chapter 1 focuses on population growth and migration among the Palestinians between 1949 and 1987. Drawing on Israeli statistics abundantly discussed in the literature, it rehearses the well-established extremely high natural growth rate among Palestinians in the Occupied Territories, gradually diverging from that among the Arab Israelis. Beyond the description, one would expect a political analysis: if inhabitants of Gaza persist in having one of the highest fertility rates in the world despite the presence of factors that are commonly related to decreasing fertility (one of the highest levels of female education among Arab countries, a rate of urbanization close to 100 percent), the explanation should be sought in what makes this population unique: the foreign military occupation and the attendant political mobilization. Next, describing fertility differentials by religion, Gilbar notes that fertility decline is more marked among Christian than Muslim Palestinians. Unfortunately administrative distinctions are not sociological ones. One may compare Jewish with Arab fertility because they form two separate populations: the same is not true when Christian and Muslim Arabs are compared, because of intermarriage between the two. In all cases, by law, these intermarriages produce Muslim children because a child inherits his father’s religion and a Christian man can marry a Muslim woman only after converting to Islam. Some Muslim births are thus to one presently or formerly Christian parent. For this reason, the much higher fertility among Muslims is subject to two opposing interpretations: a strong contrast between the two communities, as Gilbar states, or on the contrary a strong inter-mixing.

Turning to emigration from the West Bank and Gaza, Gilbar offers an arithmetic exercise that obliterates the political dimension of emigration. He compares the actual population in 1987 with the expected population in the absence of migration throughout 1949–87. He identifies the 1.4 million difference as the number of persons who left the territories during these 38 years. The cause is to be found in the “high concentration of refugees in the West Bank and the Gaza Strip at the end of the 1948 war and the limited economic potential and investment in those areas during the period under consideration” (p. 23). I will not discuss here the confusion between net migration and the actual population resulting from migration (including natural growth) but I will consider the choice of the period.
1949–87. Making use of data available at the midpoint, the Israeli count of 1967, other authors have established that between 1949 and 1967, Gaza, which was under Egyptian administration, experienced no emigration while the West Bank, annexed by Jordan, recorded some 140,000 emigrants, some of them internal migrants to the East Bank. The war of 1967 produced an immediate exodus: 150,000 people fled the West Bank and 100,000 fled Gaza on the entry of the Israeli army. After the war, both territories occupied by Israel experienced continuous emigration until 1987, estimated by these authors at 165,000 and 140,000 respectively. Thus it was not the concentration of refugees in 1948 that produced ipso facto the outmigration; the outmigration occurred mainly after 1967 as a result of the Israeli occupation. For this reason, the case study of the city of Nablus in 1949–56 in Chapter 2, while highly informative about the administrative and economic inequalities suffered by the West Bank under Jordanian rule, sheds light on only the first and smallest phase of the migration process.

Chapter 3, focusing on the demographic and economic origins of the Intifada—the Palestinian uprising that began in 1987 in the Occupied Territories—could have partially filled the gap. Gilbar describes the few years that preceded the uprising against the Israeli occupation as a period of (1) rapid increase in the demographic weight of youth as a result of record high birth rates and a slowing of emigration to the Gulf; (2) rising aspirations, fed by a rapidly growing level of education; and (3) frustration resulting from economic recession. The unemployment that increasing numbers of young educated people faced was the context of the Intifada, but not its origins. The latter are political. Seeking the origin of the Intifada in the dynamics of the Palestinian population alone, ignoring Israel’s policy, is a futile exercise for anyone seeking to understand the upheaval of the first generation born and raised entirely under Israeli military occupation.

After an unimaginative and poorly documented chapter on the demography of Jordan, the last three chapters concentrate on Egypt. Chapter 5, on Nasser’s “soft revolution,” shows that under Presidents Nasser and Sadat the state was unable to achieve the announced objective of birth rate declines. According to Gilbar the regime lacked power to implement a family planning policy in the face of the hostility of religious groups and clerics, who were in daily contact with the population. Moreover, Nasser failed in his attempt at breaking the circle of external dependency in which the country’s economy had been trapped since 1860 because he was only able to build up a bureaucratic system where industries function as a “depository for surplus workforce.” The failures of family planning policy and economic policy were both rooted in the lack of a coherent ideology that would have assured the regime of a broad social base and permitted the emergence of a new collective consciousness (p. 92). It is regrettable that Gilbar treats demography and political economy separately, since the welfare state policy of capturing external resources and then redistributing them to the population could well be related to the persistence of large families.

Chapter 6, on “Population pressure and oil revenues,” traces the history of the tormented relations between Egypt and Saudi Arabia, from the Yemen war in 1962–67 to the suspension of Saudi financial aid to Egypt after the Camp David peace accord in 1978. Despite the title, “population” is almost absent from the chapter, which contributes little to the abundant literature on the relations between the
two leading Arab countries and even less to an understanding of “population dilemmas in the Middle East.” A population perspective would have emphasized the war of 1973: the Egyptian offensive against Israel led to the world oil battle launched by Saudi Arabia, resulting in a fourfold increase in oil revenues and massive labor migration to Arabia, particularly from Egypt. Moreover, one might seek a relationship between the subsequent increased economic welfare in Egypt, accompanied by unprecedented public subsidies to household consumption, and the increase in the Egyptian birth rate during the following decade.

Chapter 7 offers an instructive overview of the history of the family planning program in Egypt, largely based upon a review of newspaper coverage. The Nasser regime was able to make contraceptive devices available to the population but unable to convince them to use these methods because of failure to persuade the village and neighborhood imams to transmit the fatwas in favor of family planning issued by the religious authorities. The strengthening of Islamic opposition on the political scene pushed Sadat to a more cautious promotion of birth control. Only the Mubarak government dared confront the Islamic opposition (which was in any event never unanimous in condemning family planning) and adopted a firm but not coercive policy to promote contraception. Gilbar concludes that Egypt is the first example of a government succeeding in motivating a population to voluntarily alter reproductive behavior. This assessment overlooks the possibility that the contribution of the policy was minor in the larger context of economic and social change that drove fertility downward after 1985.

To form a book, this collection of articles would need a conclusion on the relationship between politics and demography in these two populations facing very different political situations: the case of Egypt with a self-determined political and administrative structure and the case of the Palestinians, in which the legitimacy of the externally imposed political-administrative structure is forcibly challenged. If Gilbar had not omitted this fundamental distinction, a comparison between these two populations could have contributed to a more general discussion of the relationship between civil, if not political, participation and demographic behavior.

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Notes


James L. Newman examines the nature of population dynamics on the African continent from the standpoint of a geographer. He defines “peopling” as population dynamics and traces the dynamics of African population to the origin of humans. In language accessible to the nonspecialist, he reviews the evidence for the African origin of Homo sapiens sapiens, evidence that is spread from Klasies River Mouth and Border Cave in South Africa to Laetoli in Tanzania and Omo in Ethiopia.

Early humans developed culture to compensate for a relative weakness in physical strength and speed. The emergence of three cultural acts is thought to have been critical in facilitating the first spurt in human population growth: cooperative living arrangements, oral communication, and the ability to use and make tools. But hunting, gathering, and scavenging supported only a slow population increase, and it took many centuries to add a fraction of a percent to the total population. As toolmaking traditions expanded and food-procuring and various raw materials were mastered, population settlements spread across the continent.

Africa is characterized by a great variability in its ecosystems. In prehistoric times people living within different ecosystems were subjected to different natural conditions that contributed to the variation observed among populations. Competition over natural resources motivated the search for land and prompted the original human populations to migrate. Population growth resulted in expanding kingdoms and empires, which resulted in wars of competition that led to increasing migration. These migrations are believed to have played a major role in population dynamics, involving ethno-linguistic changes, genetic differentiation, and diversification of cultural identity.

Two thousand years ago population growth and production were positively correlated. More people meant greater productivity and security. The magnitude of growth therefore reflected the natural resources available to support agricultural development. Increasingly, differences in population size and environmental conditions created opportunities for trade. Population growth accelerated in some places faster than in others, and fortunes grew and shifted accordingly. Trading relations gave rise to kinship networks that evolved into kingdoms and empires. The kingdoms and empires of Mali, Kongo, and Egypt existed alongside small bands of gatherer-hunters such as the San of southern Africa and the pastoralists in the more arid portions of the continent. These different states of governance and population size were not static or linear; they changed as conditions “waxed and waned.”

This is the Africa that Arabs encountered on their way to find new markets and to spread Islam as early as the twelfth century and that Europeans encountered on their way to wealth in Asia in the sixteenth century. Contact with Arabs and Europeans resulted in new markets and trade relations and created a demand for goods manufactured in Asia and Europe. Only the elite could afford these new goods, and the new markets and trade relationships transformed their positions of authority. Autocratic institutions of governance replaced those based on consensus. The Arab and European slave trades in Africans had “multifarious population
outcomes.” The resulting migrations redistributed the population and transformed the sex ratios. Newman’s discussion ends in the nineteenth century when the peopling of Africa becomes an international question.

Most of human demographic history has been governed by the ability of populations to manipulate and modify the environment so as to acquire increasing quantities of food and desired goods. In fact Ester Boserup’s theory states that under many circumstances population growth itself stimulates economic progress. This ability has made humans less dependent on ecological limitation; however, historically the environment played a significant role in the growth of African populations. Newman does an excellent job in documenting the importance of the environment in African population growth and economic expansion. Newman’s success suggests the need for more demographic analysis. His work draws on biology, genetics, archaeology, linguistics, history, anthropology, and geography. Unfortunately, the demographic side of African history remains relatively underdeveloped. Hence, the book has several gaps and glosses over what many readers interested in population dynamics might find issue with. Another weakness of the book is that Newman does not use footnotes or in-text citations. He does provide a cryptic bibliographic essay at the end of the main text for those interested in identifying key references. These shortcomings aside, The Peopling of Africa presents an informative summary of two very important demographic processes: the “beginning of peoples” and the “peopling of Africa.” It is enlivened with an ample array of informative maps, photographs of art and architecture, and sketches of artifacts.

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TUKUFU ZUBERI

SHORT REVIEWS

by John Bongaarts, Martin Brockerhoff, Joanna Busza, Geoffrey McNicoll

CHRIS BEYRER
War in the Blood: Sex, Politics and AIDS in Southeast Asia

With a lively narrative style reminiscent of travel writing, Chris Beyrer, an epidemiologist who has worked extensively in Southeast Asia, offers a personal view of an impressive range of factors molding the HIV/AIDS epidemic in Thailand, Burma, Cambodia, Laos, Malaysia, Vietnam, and Yunnan Province in China. Although perhaps not groundbreaking to an HIV/AIDS specialist, nor detailed enough for a program manager, War in the Blood is an informative, accessible, and thought-provok-
ing synthesis of the issues surrounding the complexities of the epidemic in South-east Asia.

The book is divided into three sections. The first offers a country-by-country overview of experience with HIV/AIDS. Data, whenever available, are situated within a wider political and sociocultural analysis that considers such factors as the country’s history, construction of sex/gender systems, and current state of civil society. The second section addresses vulnerable subpopulations including, among others, sex workers, regular partners of clients of sex workers, the incarcerated, and men who have sex with men. Cross-cultural comparisons of policy approaches demonstrate why and how certain interventions have succeeded or failed. The final section, entitled “Relativity and Culture,” pulls together the various thematic strands from the other chapters and weaves them into Beyrer’s main thesis: that the trajectory of the HIV/AIDS epidemic, past, present, and future, is inextricably linked to the wider issues of democracy and human rights.

As such, to counteract the disease is far more than an epidemiological challenge. Beyrer states, “At the last Asia–Pacific meeting on AIDS, a call was made to ‘de-politicize’ AIDS. Perhaps the precise opposite approach is called for: to recognize and attempt to respond to the crucial impact political and social realities have on the dynamics of this, and other, diseases” (p. 207). He suggests that any programmatic effort that does not take into consideration the broader political environment may be unsustainable at best and, indeed, potentially damaging in the long term by failing to address the root causes of the epidemic’s rapid spread.

At times, the organization of the book results in redundancy between the sections. Similarly, some accounts of specific conversations or personal encounters, while adding color to the narrative, appear superfluous. Yet Beyrer is clearly as comfortable discussing macro-level policy (such as directed against the global drugs trade) as he is reporting epidemiological minutiae, and he skillfully merges the two. War in the Blood is an intelligently passionate book that is a welcome addition to the literature.—J. Busza

CAROLINE H. BLEDSOE ET AL. (EDS.)
Critical Perspectives on Schooling and Fertility in the Developing World

Conventional wisdom now has it that, in the terms of the Cairo Programme of Action, “the increase in the education of women and girls contributes to greater empowerment of women, to a postponement of the age of marriage, and to a reduction in the size of families.” The eight studies collected in this report of the National Research Council’s Committee on Population suggest that things are not so simple. Even as a correlation, there are significant exceptions to a link between female education and low fertility, such as Jordan and Bangladesh. Where there is a link, there are multiple pathways of causation, some involving the content of what is taught, some the policies and administration of the school system, and some the joint determination of education and fertility within a social group. Fertility may even influence education, to the extent that pregnancy leads to dropping out of school. The majority of the chapters draw on econometric statistical
modeling. An outlier, by Anthony Carter, ponders “What is meant, and measured, by ‘education’?” —a critique of survey-based analyses of the relationship by an anthropologist. There is an introduction by the editors and a conclusion, “Fertility and education: What do we now know?” (a title echoing Susan Cochrane’s 1979 book), by Parfait Eloundou-Enyegue. The report can be read on-line, somewhat laboriously, through the publisher’s website, www.nap.edu. Index.—G.McN.

DONALD J. HERNANDEZ AND EVAN CHARNEY (EDS).
From Generation to Generation: The Health and Well-Being of Children in Immigrant Families

This study of wellbeing among immigrant children in the United States has three objectives: to (1) review relevant literature and present a demographic profile of these children; (2) examine critical risk and protective factors associated with their health status; and (3) assess data availability and needs to inform public policy and programs for immigrant children. As suggested by the title, the central aim is to identify changes in children’s conditions according to duration of residence in the United States. In the absence of longitudinal information that follows cohorts of immigrant children, however, the authors are forced to draw conclusions based on data sources that allow only cross-sectional comparison of three generations of immigrant households, and to infer that differences between generations indicate the extent of immigrant adaptation or assimilation to US society and to conditions of children in families of US-born parents. Unfortunately, this conventional approach undermines the objectives of this well-intentioned study: some of the background literature presented will be familiar even to nonspecialist readers, few of the findings regarding health outcomes are novel, and the plea made for greater collection of prospective data by the government (to allow monitoring conditions among specific groups of immigrant children, particularly as they relate to changes in public policy such as the 1996 welfare reform act) is well taken but obvious.

Readers who have not followed the growing literature on this subject may be surprised by some conclusions in the present volume. On many measures of health and wellbeing—such as nonexposure to smoking and alcohol during gestation, adolescent self-esteem, and early school performance—children of immigrant parents fare better than those of US-born parents. These differences are at odds with the higher poverty rate experienced by immigrant families and are attributed to protective features of “traditional” immigrant cultures. However, many of the positive characteristics and behaviors of first-generation immigrant children are not found among earlier generations of immigrants, implying—contrary to conventional wisdom—a detrimental socialization process in America. While immigrant children are more likely than others to draw on public assistance, this is not related to their immigrant status per se, but rather to the socioeconomic characteristics of immigrant parents. The key disadvantageous socioeconomic factor facing immigrant children is lack of English fluency among parents, even while the large majority of recent immigrant children are fluent. The authors rightly note that much more research, based on innovative data collection, is needed to understand
the factors that contribute to these conditions among immigrant children as well as to possibly diverse situations among immigrant children of different national backgrounds.—M.B.

NANA POKU AND DAVID T. GRAHAM (EDS.)
Redefining Security: Population Movements and National Security

The redefinition in the title refers to a shift from national security in its familiar connotation of defense of the state, especially against external aggression, to security seen as the absence of threats to a society’s wellbeing and values—from “conventional, narrow, military-political views” of security to a “less restricted, protean view,” emphasizing cultural, political, and environmental security. These latter concerns, coming to prominence in the post–Cold War era, are potentially affected by large-scale or illicit international migration. This collection of studies, mostly by geographers and political scientists, discusses such effects in a variety of national and international contexts. Unassimilated or unincorporated immigrant populations may challenge a nation’s cultural identity or even pose irredentist threats to its integrity. Refugees are perceived as an economic burden and perhaps as harboring terrorists. Even the at first sight innocuous population movements entailed in travel and tourism impose environmental and health costs—and, it is argued here, may help to sustain repressive regimes. On the other hand, what one author calls the “securitization of migration”—the emphasis on this diverse array of actual and imagined negative effects—may itself undermine civil society and liberal tolerance. The chapters are individually interesting on the political dimensions of contemporary migration, but the volume is not as persuasive in drawing them together under a “security” umbrella. This term may yet be successfully “demilitarized,” but the cluster of substitute concepts does not thus far seem to make a coherent whole. Index.—G.McN.

JYOTI SHANKAR SINGH
Creating a New Consensus on Population

An insider’s view of the 1994 International Conference on Population and Development in Cairo, the events leading up to it, and the provisions of the Programme of Action that the conference adopted. The Programme covers many topics but is best known for its call for an emphasis on reproductive health and measures enhancing women’s rights and freedom of choice in reproduction and for its criticism of family planning programs seen primarily as means of reducing high fertility. This shift in emphasis is the “new consensus on population.” The book is a useful documentary source on details of the negotiations at the elaborate series of preparatory meetings within the United Nations, on the roles of nongovernmental organizations before and at the conference, and on the UN’s follow-up activities. Attention is also given to funding issues. The author was a senior UNFPA official and was Executive Coordinator of the Cairo conference. Index.
JAEL SILLIMAN AND YNESTRA KING (EDS.)
Dangerous Intersections: Feminist Perspectives on Population, Environment, and Development; A Project of the Committee on Women, Population, and the Environment
Cambridge, MA: South End Press, 1999. xxiv + 283 p. $40.00; $20.00 (pbk.).

The Committee on Women, Population, and the Environment, described here as “a loose but politically astute network of feminist scholars and activists,” was formed in 1991 with an initial aim of dissuading the Rio environment conference from linking environmental degradation to population growth. (In the event, Rio said little about population.) In a statement from that time CWPE wrote: “Blaming global environmental degradation on population growth helps to lay the groundwork for the re-emergence and intensification of top-down, demographically driven population policies and programs that are deeply disrespectful of women, particularly women of color and their children.” The committee is suspicious of the 1994 Cairo Programme of Action, despite the program’s rhetoric about women’s empowerment, seeing it as “an orchestrated consensus” through which “population control organizations were adopting and adapting the language of women’s rights without fundamentally changing their programs and policies.” Cairo is faulted for not adequately dealing with structural adjustment, free trade, militarism, consumerism, and corporate pollution. More recently CWPE has been working “to expose the racial and class politics behind the anti-immigration movement” in the United States, to oppose hazardous contraceptives, and to construct an alternative, explicitly feminist analysis of population, environment, and development issues. This last is the task taken up in this lively, take-no-prisoners collection of essays by CWPE members. Some selections: Betsy Hartmann attacks Robert Kaplan, T. F. Homer-Dixon, and Paul Kennedy and the move toward giving the environment a national security dimension. H. Patricia Hynes proposes to dislodge the P from I = PAT, and sees patriarchy instead as the villain in the environmental picture. Meredith Turshen absolves peasants from responsibility for economic and ecological decline in Tanzania; villagization and other homegrown strategies get some of the blame, externally imposed structural adjustment measures the rest. Meredith Tax and colleagues take equal exception to a world dominated by a Western commercial monoculture and to the continued practice of gender-based censorship by third-world elites “to obscure the real conditions of women’s lives and the inequity of patriarchal gender relations.” Marlene Gerber Fried decries the erosion of access to abortion services in the United States. Index.—G.McN.

MICHAEL S. TEITELBAUM AND JAY WINTER
A Question of Numbers: High Migration, Low Fertility, and the Politics of National Identity

In a readable set of short essays the authors take up some of the themes of their 1985 book, The Fear of Population Decline (see PDR 12 (3)) and add to them fears of immigration and loss of national identity. The format is the country case study, organized within three regional groupings. On Western Europe, they trace the development of Germany’s citizenship policies under the stresses of unification and asylum-seeking, showing “the inexorable way demographic issues bring moral
ones into public debate”; they recount l’affaire INED, the remarkable public controversy over the relative merits of period and cohort measures of population replacement between two prominent French demographers; and they describe the politics of immigration control in Britain. On Eastern Europe, the essays are concerned with ethnic politics and ethnic “cleansing” ("the course of atrocity, counter-atrocity, and retrospective justification") in Yugoslavia since the 1930s; with the internal debate over Russia’s low fertility before and after the collapse of the Soviet Union; and with the demographic policies of the Ceausescu regime. On North America, they review the US public debate on immigration and abortion; examine the politicization of the US census through its efforts to provide an ethnic breakdown of the population and by its inescapable involvement in Congressional redistricting; and discuss the history and demographic basis of Quebec separatism. Some final chapters on “transnational issues” cover international population politics, the refugee situation, and Islamic views on population control. The relatively new situation of low fertility combined with high international migration triggers varied political responses. “It is no longer possible,” the authors conclude, “to separate population policies from much wider considerations of national identity and international affairs.” Index.—G. McN.

United Nations Department of Economic and Social Affairs, Population Division
World Population Monitoring 1997

Unlike many previous issues of this series, World Population Monitoring 1997 is likely to remain for years the most enlightening and comprehensive source of information on its focal subject, international migration and development. A candid introduction notes that the three important elements of consensus on international migration that emerged from the 1994 International Conference on Population and Development (ICPD)—framing the issue in the context of development, respect for national sovereignty, and human rights—were in fact implicitly agreed upon at the 1974 and 1984 global population conferences and do not represent a more benevolent or informed stance of governments. The chapter offering a review of recent levels and trends of international migration is replete with fascinating statistics. Between 1985–90 and 1990–95, the percentage of population growth in more developed countries attributable to international migration (that is, resulting from an excess of immigrants over emigrants) increased from 27 to 45 percent, and to 84 percent in Western Europe. Yet, “foreign-born” persons comprised less than 5 percent of the total population in more developed countries in 1990 and international migration has had only a minor effect on population growth in less developed countries. In the aftermath of US immigration policy reform in 1965—aimed in part at facilitating family reunification—the female share of migrants to the United States has remained stable at 50 percent. Turmoil in the former Soviet Union since the late 1980s has led to far more migration between the successor states than to migration crossing the former Soviet Union’s borders. Ethnic conflict in Rwanda in 1994, while resulting in several hundred thousand deaths, also produced the largest and fastest refugee movement in history, with about 2.4 million
Rwandans fleeing to neighboring countries within a brief period of months. Nonetheless, Afghans, residing mostly in Pakistan and Iran, still constitute by far the largest refugee group in the world.

Subsequent chapters include a dry review of international migration policies, and more lively descriptions of, and conceptual frameworks for studying, the situations of documented and undocumented migrants and refugees and asylum-seekers. A chapter on “gender issues” simply reiterates themes presented in UN publications of the early 1990s (for instance, International Migration Policies and the Status of Female Migrants, based on a 1990 Expert Group meeting), and hence appears to genuflect to the ICPD Agenda. Most ambitiously, the final chapter provides a thorough overview of theories of international migration, and a description of the “proximate determinants” of international movement, that readers who seek a firm understanding of the subject would find highly instructive.—M.B.

ANTHONY YOUNG
Land Resources: Now and for the Future

The human species has massively transformed the nature of the earth’s surface. About 20 percent of the non-desert, non-polar land area is now used to grow crops, and 25 percent of the original forest cover has been removed. Moreover, degradation of these areas has reduced their productive potential by adversely affecting soils, water, forests, and grassland. About 5 percent of agricultural land in developing countries has been lost entirely to degradation while productivity has been appreciably reduced on another 25 percent of such land. This volume summarizes current knowledge about the present and future production potential of land resources in the developing world. Close attention is given to the environmental problems of land erosion, loss of soil fertility, deforestation, and desertification.

One of the more interesting chapters reviews recent estimates of the prospects for feeding growing populations. Available assessments differ sharply, ranging from quite optimistic to very pessimistic. The author presents his own rather somber assessment, which is based in part on his extensive first-hand knowledge of the many and serious limitations of available statistics on land use and resources. His argument is familiar: the rise in demand for food from growing populations and increases in per capita consumption will have to be met by a corresponding rise in supply through some combination of higher yields on existing agricultural land and of more land brought under cultivation. The prospects for meeting future demand are limited by the marginal nature of much of the unused but potentially arable land and by the anticipated increasing difficulty of raising yields on existing cultivated land. The task is seen as difficult but not hopeless, provided concerted action at the international and national levels is taken. Recommended policies include improved land resource surveys and evaluations, efforts to combat degradation, and stronger links between research and agricultural extension services. Efforts to slow rapid population growth are also considered essential.

Overall, this is an authoritative, comprehensive, and highly informative review of a critical global environmental issue aimed at a nonspecialist audience.—J. Bongaarts
The Council of Economic Advisers on Work and Retirement Among the Elderly

The 1999 Annual Report of the US Council of Economic Advisers (a document of some 450 pages, formally an Annex to the Economic Report of the President Transmitted to the Congress February 1999, Washington, DC: US Government Printing Office) addresses some of the questions an aging population raises for the American economy. (Aspects of this topic were also discussed in earlier Council reports; see the Documents section of the March 1996 and June 1997 issues of PDR.) Chapter 4 of the 1999 report is titled “Work, Retirement, and the Economic Well-Being of the Elderly.” The excerpts from this chapter reproduced below provide a summary of the expected future changes in the age distribution of the US population—a result of improving life expectancy and low fertility—and the concomitant marked changes that will characterize the racial and ethnic composition of the elderly. The report notes recent declines in the rate of disability among persons aged 65 and older and discusses changing patterns of retirement and their causes. Despite long-term improvements in health and longevity, the retirement age has fallen rather than risen during the twentieth century. The report suggests, however, that this trend has now run its course, as influenced by the increasing dominance of physically less demanding service-sector jobs, more flexible work schedules (including availability of part-time employment), and changes in pension arrangements.

Just 50 years ago, the baby boom was getting under way, and about 1 out of every 12 Americans was 65 or over. Today, about one out of every eight Americans is elderly, and the oldest baby-boomers are preparing for retirement. As the baby-boomers continue to age, the elderly population will rise dramatically. It is projected that by the time the youngest baby-boomers hit age 65, in 2029, almost 20 percent of Americans will be elderly—about 2 1/2 times the proportion in 1950.

As America adjusts to this phenomenal demographic change, it is important to assess the economic well-being and work decisions of the current and the soon-to-be elderly. . . . Population aging, life expectancy, and health status

As we approach the 21st century, the confluence of a reduction in fertility and improvements in longevity is causing the share of older people in the population to rise. The total fertility rate—the number of children that an average woman will bear over her lifetime—has declined substantially since the turn of the century. This decline was not a steady, uninterrupted one, however: a substantial increase in fertility was associated with the baby boom of 1946–64. The total fertility rate increased from 2.3 in 1940 to 3.8 at the peak of the baby boom in 1957. It then fell to 3.2 by the end of the boom, and today the total fertility rate is about 2.0.
Life expectancy has risen throughout the 20th century. Americans today are more likely than their parents and grandparents to reach old age, and having reached that threshold they live a greater number of years thereafter. In 1900, 65-year-old men and women had similar remaining life expectancies, at 11.4 years and 12.0 years, respectively (Figure 1). These figures had risen by mid-century to 12.8 years for men and 15.1 years for women. The 1950s and 1960s saw substantial gains in life expectancy for older women, but stagnation for older men. Since the 1970s, however, strong life tables indicate that 65-year-old men and women today can expect to live an additional 15.7 years and 19.2 years, respectively. And projections imply that life expectancy will continue to increase in the next century.

The anticipated transition of the baby-boom generation into old age has drawn attention to the aging of the population. The baby-boomers, who are currently between the ages of 35 and 53, will begin to reach age 65 by 2011. Figure 2 shows this bulge in the population, which swelled the number of children and adolescents 30 years ago. This group will reach retirement age over the next 30 years. Although the growth rate of the elderly population will be very low between 1995 and 2010 as a result of low fertility in the 1930s, that rate will more than double in the following 20 years. Also as a result of the baby boom, different age groups among the elderly will peak at different times: those between 65 and 74 will peak at 38 million in 2030, and those 75 to 84 will peak at 29 million 10 years later.

The "oldest old," those aged 85 and over, are of particular concern because of their high rates of poverty and institutionalization, described below. This group will grow both in number and as a share of the population, from about 4 million today to 18 million by 2050. Accounting for about 1.5 percent of all Americans today, the oldest old are projected to make up 23 percent of the elderly population and about 5 percent of the overall population 50 years from now.

At the same time that the size of the elderly population is increasing, its racial, ethnic, and gender composition will also change. In 1998 the non-Hispanic white population accounted for the largest proportion of elderly, and their number is projected to nearly double to 52.0 million by 2050. But the proportion of non-Hispanic whites in the elderly population will decline as the numbers of el-

**Figure 1  Life expectancy at age 65**

The number of years that Americans can expect to live after the age of 65 has increased throughout the 20th century and is expected to continue increasing.

![Graph showing life expectancy at age 65](image_url)

**Source:** Data prior to 1998 from Department of Health and Human Services; 1998–2040 projections from Social Security Administration.
derly persons or other racial and ethnic groups grow even faster, causing their proportion of the elderly population to double (Figure 3). The elderly Hispanic population, for example, is expected to grow to 13.8 million in 2050, or eight times what it was in 1998. In 1994, elderly women outnumbered elderly men by a ratio of 3 to 2 overall, and by 5 to 2 among those over 85. About half of elderly women were widowed, more than three times the percentage for elderly men, who were nearly twice as likely to be married.

Population aging is not just an American trend but a major global phenomenon—

FIGURE 2  Population of the United States by age
Baby-boomers created a bulge in the population of children and adolescents 30 years ago and will move into retirement ages over the next 30 years.

SOURCE: Department of Commerce (Bureau of the Census).

FIGURE 3  Projections of the population aged 65 years and over
The share of the elderly population that is white, non-Hispanic is projected to fall by about one-fifth between 1998 and 2050.

SOURCE: Department of Commerce (Bureau of the Census).
a natural result of better health and nutrition and lower fertility and mortality rates worldwide. Never before have so many people in so many societies lived for so long. Yet as much as population aging is a natural result of the benefits of increased longevity and survival among all age groups, it also represents a fundamental shift in social structure that affects labor markets, family structures, and the social contract among generations.

Increasing life expectancy does not automatically imply that health status has improved. In fact, despite improvements in mortality at older ages in the 1970s, some studies claim that the health status of the elderly worsened during that period. But since 1980 the evidence points to a decline in chronic disability among the elderly. In 1994 the number of people aged 65 and older who were disabled (that is, who had functional problems lasting 90 days or longer in dealing with various normal activities of daily living) was 14.5 percent (or 1.2 million) lower than would have been expected if the age-specific chronic disability rates observed in 1982 had persisted. This decline was found to have contributed significantly to reducing the rate of institutionalization between 1982 and 1994. However, many older Americans still require long-term care.

Although disability rates have declined they are much higher in lower socioeconomic groups. In 1993, for example, persons aged 50 and over who had not graduated from high school tended to perform much worse on four measures of physical functioning than did those who had attended college.

**Older workers and retirement**

Retirement patterns have been changing over time in response to changes in institutions and in the preferences and practices of employers and workers. These changes are reflected in changing long-term trends in the labor force participation of the elderly (that is, the proportion of the older population who are either employed or looking for work), particularly the decline in labor force participation rates of older men during most of this century. Recent years, however, have seen a leveling off of this decline. Since the mid-1980s, 55- to 64-year-olds in each year have been just as likely to be in the labor force as those in the preceding years. They have been more likely to work part time and less likely to work full time, however. This section reviews these changing patterns of retirement and their causes. It turns out that a variety of factors influence the timing of retirement, such as the rules governing pensions and Social Security benefits, characteristics of jobs held by the elderly and accommodation made to impaired elderly workers, and health insurance coverage. The section concludes with a discussion of unemployment, job loss, and tenure as experienced by the elderly.

**Long-term trends in labor force participation at older ages**

Labor force participation rates for men 55 and older have declined during most of the 20th century. For example, the participation rate of men aged 55–64 fell from 89.5 percent in 1948 to 68.1 percent in 1998 (Figure 4). These trends in labor force participation are the result of two factors: trends in retirement age and trends in longevity. The average retirement age depends on the retirement rate at each age, and retirement rates have been increasing at younger ages and decreasing at older ages. Consequently, the estimated median age of retirement (defined as complete withdrawal from the labor force) for men declined, from 66.9 years in the 1950–55 period to 62.1 years in 1990–95.

Early in this century, most men worked until they died or became disabled, and both death and disability tended to occur at much younger ages than today. Today more men live longer after retiring than they did in earlier decades. Over the 1950–95 period, male life expectancy at age 65 rose by 20 percent. This helped to reduce over time the participation rate of men 65 and older, by increasing the denominator (the total number of men in this age group). Therefore, the participation rate of men aged 65 and over has declined even more than the decline in average retirement age might suggest.

Meanwhile the labor force participation rate for women aged 55–64 has actually increased since 1948—in fact it has more than doubled, from 24.3 percent to 51.2 percent (Figure 4). This has happened despite a decline
in women’s median retirement age, from 67.7 years in 1950–55 to 62.6 years in 1990–95, because more recent cohorts of women have been more likely to be in the labor force during most of their adult lives (Figure 5).

In the face of long-term improvements in health and longevity, why has the retirement age fallen, not risen, during the 20th century? Rising wages are a large part of the answer. As their earning power has risen, men have enjoyed both more income and more time for activities other than paid work. They have taken some of this additional time in the form of leisure at the end of life, as well as shorter workdays and workweeks and more holidays during the year. The growth of Social Security and employer pensions since the 1930s has also facilitated

FIGURE 4  Labor force participation rates of older men and women
Labor force participation by older men generally declined until the mid-1980s but has since leveled off; that of older women has increased since 1948.


FIGURE 5  Women’s labor force participation rates at each age
Increases in the labor force participation of women across birth cohorts have offset the decline in labor force participation as women age.

earlier retirement, by increasing lifetime wealth for the early cohorts in the Social Security system and by providing income in old age. Even though earnings were rising from generation to generation, many individuals might not have saved enough to retire without these sources of income. For these reasons the average length of retirement has risen faster than the average male life expectancy at age 55; hence, the average male retirement age has fallen.

Recent changes in the labor force participation of older men

There are signs that this long-term trend toward earlier retirement may have abated. Since the mid-1980s the decline in labor force participation rates for men in the older age groups has leveled off (Figures 4 and 6). Other evidence indicates that an increasing proportion of male pension recipients are continuing to work. For example, in March 1984, 37 percent of men aged 55–61 who had received pension income in the previous year were working. By March 1993 this number had climbed to 49 percent.

Rather than withdrawing from the labor force completely, many older men are leaving long-term career jobs but continuing to work, often part time or part year. Many are becoming self-employed. Figure 7 shows, for example, that between 1985 and 1997 the fraction of men aged 60–61 who worked full time, year round declined from 55.1 percent to 51.8 percent, while the fraction working part time increased from 5.7 percent to 10.4 percent. Increases in part-time work also occurred among men in other age groups. In 1997, 16 percent of employed men aged 55–64 and 30 percent of those 65 and over were self-employed.

The use of “bridge jobs” between a full-time career and complete retirement is not a new phenomenon. Evidence from the 1970s indicates that even then about a quarter of older workers took such transitional jobs. More recent evidence suggests that a somewhat higher percentage may be taking such jobs since 1985.

What accounts for the apparent stalling of the decline in male labor force participation at older ages? It is not yet clear whether the leveling off since the mid-1980s is a short-term, cyclical phenomenon or a new long-term pattern. And in any case, older men’s hours of work are still falling, even if the percentage of older men working is not, because of the shift from full-time to part-time work seen in Figure 7.

The recent increase in work by pensioners may stem from a need for income by those who were displaced during the reces-
sion of 1990–91. Some elderly persons cannot afford full-time leisure, but can finance part-time leisure by working part time. Pension recipients’ need for income may also have grown in recent years because of rising health care costs. Not only have these costs risen in general, but many employers have stopped providing health insurance to their retirees or have reduced their benefits, as discussed below. The increase in early retirement buyouts may also have contributed to increased work by pensioners. More workers now than in the past are able to spend their pension funds for other purposes, in advance of or at retirement. The shift to defined-contribution pension plans (discussed below) means that benefits are more often received in the form of a lump-sum distribution upon termination of a job, instead of as an annuity, as is typically the case in defined-benefit plans. Many workers spend these lump sums instead of rolling them over into another retirement account, thus reducing the funds available to them in retirement.

The rise in work among older persons may also be related to changes in the demand for labor. Employers may be becoming more willing to hire older workers, as the “baby bust” that followed the baby boom leads to labor shortages. Since 1980 the part-time wages of older men have risen relative to those of younger men. This has made part-time work more attractive to retirees.

If the long-term decline in the labor force participation rate among older men has indeed run its course, it could indicate a limit to the desire for more years of complete leisure at the end of life. Older people may want to continue using their skills, or to try something new, when they leave a career job while still relatively young and healthy (and to earn some income in the process). The growth of the service sector, where jobs are less physically demanding and schedules more flexible than in manufacturing, makes work at older ages more attractive today than in the past. Changes in pensions and Social Security rules, discussed below, have also removed many of the incentives to retire abruptly and completely.

If rising lifetime wages have been driving the long-term decline in labor supply of older men, we might expect that supply to level off in the coming decade, as the cohorts born after 1945, who came of age as wages stagnated in the 1970s, start turning 55. In other words, not only may their labor force participation rates remain more or less con-

FIGURE 7  Full-time and part-time work among men aged 60–61

The fraction of men aged 60–61 who were working was the same in 1985 and 1997, but there was a shift from full-time to part-time work.

![Bar chart showing the percentage of men aged 60–61 who were working in 1979, 1985, and 1997, with a shift from full-time to part-time work.]

The Hague Forum on
the Implementation of
the Cairo Program of
Action

To ascertain progress in the implementation of the Program of Action adopted at the 1994
International Conference on Population and Development (ICPD), and to discuss needed fu-
ture action toward realization of the goals set by that conference, the United Nations Popu-
lation Fund convened an intergovernmental Forum that met in The Hague, hosted by the
government of the Netherlands, 8–12 February 1999. The Hague Forum was preceded by
related meetings of nongovernmental organizations, representatives of youth groups, and of
parliamentarians. Excerpts from the Report of the Hague Forum, sections V and X, with the
original paragraph numbers retained, are reproduced below. The first of these sections sum-
marizes recent positive and negative developments in the field of reproductive health and
notes demographic changes that require special attention. The section on mobilization of re-
sources—the concluding section of the Report—describes resource flows, international and
domestic, for population and reproductive health programs during the last few years. Al-
though donor funding (a key issue discussed at the Forum) has increased, it falls short of the
goals specified by ICPD. The Report enumerates actions proposed for remodifying deficiencies
in mobilizing resources and for increasing the efficiency and effectiveness of their use.

V. Findings and proposed
actions

Background

20. The Hague Forum was convened during
8–12 February 1999 to conduct an opera-
tional review of the implementation of the
Programme of Action of the ICPD. The
Hague Forum was immediately preceded by
three other international gatherings on ICPD
also held in The Hague: the Parliamentarians’
Forum, the NGO Forum and the Youth Fo-
rum. These meetings have included many
stakeholders—government officials, parlia-
mentarians, non-governmental organi-
sations, youth and private foundations—and
have led to a sharing of the lessons learned
during nearly five years of experience in

stant, but so may the share of these workers
working full time, year round. Alternatively,
an increase in labor force participation may
combine with an increase in part-time, part-
year work. Much will depend on employers’
demand for older workers, as reflected in the
wages, fringe benefits, and working condi-
tions offered to them, and on the incentives
built into pension and Social Security rules—
pension incentives being a reflection of em-
ployers’ demand for older workers.
implementing the ICPD Programme of Action. As the Programme of Action defined objectives and goals and a strategy for achieving these ends for the twenty-year period following its adoption in 1994, and since the Programme is being implemented in a dynamic environment, it is necessary to take stock periodically in order to adapt activities to evolving circumstances.

21. Considerable progress has been made in policy, programme redesign, increased partnership and collaboration directed toward implementation of the ICPD. Many countries had made policy, legislative and/or institutional changes in the areas of population and development and reproductive health and rights. In the countries with economies in transition there has been particular progress in the area of reproductive health and rights. In addition, in many settings, democratization and improved transparency in governance, expanded activity of voluntary associations, improvements in communications and legal and policy modifications have advanced the prospects for the participatory approach which is at the centre of successful implementation of the Programme of Action.

22. A review of progress over the last five years on the scope of collaborative efforts with civil society provides a basis for optimism. The devolution of public responsibilities, decentralization of public administrations and other institutional changes have also greatly accelerated and have created new opportunities and challenges for development activities. In addition, major strides have been taken in procedural areas, such as positive changes in the concept of participation and the processes for consultation; recognition of the enhanced role of civil society; increasing acceptance of innovative development approaches; and improved partnership among United Nations organizations and bodies.

23. Since 1994, however, the world has also faced a series of adverse occurrences and developments that have had major impacts on the implementation of the Programme of Action. These have included: the severe financial crises in many countries that began in Asia in mid-1997 and now affect many other areas including the Russian Federation and other countries with economies in transition and Latin America; a series of natural disasters, including prolonged drought in sub-Saharan Africa, devastating storms in Central America and the Caribbean and large-scale floods in Asia; continued economic stagnation and financial crises in many poor countries, including several with on-going structural adjustment programmes; a steep drop in the prices of oil and other commodities; and social instability and civil and sub-regional wars and conflicts in all regions. All of these have had major consequences for health and development, in particular women's health.

24. Global population has doubled since 1960 and 97 per cent of future projected growth will occur in developing countries where the exercise of reproductive rights is in many places far more precarious. As people have been given greater choice, rates of population growth have continued to decline. However, the world is still growing by 77 million people a year and population stabilization will not be reached for fifty years at the earliest. Later this year, on 12 October, the world population will reach 6 billion people.

25. At the approach of the new millennium there are over 1 billion young people between the ages of 15 and 24, the largest cohort at these ages ever. The sexual and reproductive health needs of these young people are not yet adequately addressed. Many do not have access to information and services to protect their health and make choices freely and responsibly. Young women are particularly vulnerable to unwanted pregnancy, sexual violence and susceptible to infection with sexually transmitted diseases (STDs), including HIV/AIDS. Young women, especially those under age 18, are at the highest risk of maternal mortality and morbidity. The choices the young make about the timing and spacing of their children will determine the pace of future population growth. The education and opportunities they are given from a young age will determine the quality of their lives.

26. The number and proportion of older persons throughout the world is increasing because of mortality and fertility reductions in the past four decades. Yet in many countries policies and programmes to provide the
services they need or reinforce family and community support do not exist. Women make up the highest proportion of older people, particularly the very old, and many carry the burden of a history of poverty, illiteracy, ill health, gender violence, and discriminatory treatment.

27. Mortality decline has been uneven. In some countries there have been reversals of gains in life expectancy. In countries with economies in transition in Eastern Europe, life expectancy has particularly declined in the context of increased social stress, poor nutrition and deteriorating health services. Countries most severely affected by the HIV/AIDS pandemic, such as in parts of sub-Saharan Africa, face significant decreases in life expectancy and severe losses among young adults in their peak productive years. Maternal mortality is also a critical area for attention and action. It takes the lives of almost 600,000 women each year.

28. As the demand for smaller families has increased and the access to safe and accessible contraception has improved, fertility levels have declined. Over 150 million couples still have an unmet need for contraception. Other unmet needs for reproductive health, including family planning and sexual health, services remain extremely high, including the need for infertility services. In countries where significant increases in contraceptive access and acceptance have been effected, recourse to abortion has declined dramatically. However, recourse to unsafe abortion still remains a serious problem.

29. International migration and its impact on society have taken on greater importance and are drawing increased attention from the international community. The multi-faceted aspects of migration, which include issues related to the integration of documented migrants, trafficking of people, and refugee movements, have prompted Governments to undertake a series of actions to address the phenomenon. Among actions designed to address the situation of migrants are assistance to refugee women and children, promotion of the integration of migrants and specific sanctions to combat illegal migration. The remaining challenge is to understand the root causes of migration in order to fully address the linkages between migration and development.

30. The contexts for implementation of population and development programmes are varied. The Programme of Action recognises the need to take fully into account the economic, social, religious, cultural and environmental diversity of conditions in each country, as well as the shared but differentiated responsibilities of all people to forge a better common future. The discussions at the Forum reaffirmed both the common threads and the variety of national experiences and provided an opportunity for information exchange and the rediscovery and reaffirmation of shared perspectives.

X. Mobilizing and monitoring resources

Background

109. To implement the ICPD Programme of Action, Governments need to commit themselves at the highest political level to achieving the goals of the ICPD. The Programme of Action specified the financial resources, both domestic and external funds, necessary to implement the population and reproductive health package over the next twenty years. It estimated that in the developing countries and countries with economies in transition, the implementation of programmes in the area of basic reproductive health, as well as programmes that address the collection and analysis of population data, would cost (in 1993 $US) $17 billion by the year 2000, $18.5 billion in 2005, $20.5 billion in 2010 and $21.7 billion in 2015 (ICPD para. 13.15).

110. Up to two thirds of the projected resources required in developing countries and in countries with economies in transition will continue to be met in the countries themselves and in the order of one third, or $5.7 billion, will be needed from external sources. The Programme of Action called upon the international community to achieve an adequate level of resource mobilization and allocation, at the community, national and international levels, for population programmes and for other related programmes. The Programme of Action noted that additional resources would be
needed to support programmes addressing population and development objectives in those areas not specifically costed in the Programme of Action.

111. The Hague Forum took special note of the recommendations of the Parliamentarians', Youth, and NGO Forums, which strongly supported the mobilisation of adequate resources for population and development.

Progress made

112. Donor funding has increased since the ICPD. International assistance for population activities increased significantly between 1993 and 1995, from a total of $1.3 billion in 1993 to an annual average of $2.0 billion per year during 1995–1997. For 1998, it appears that there has been a slight decrease in donor funding.

113. The percentage of ODA earmarked for population is at its highest level. Preliminary figures for 1997 show that donor countries contributed approximately 3.1 per cent of their total ODA to population. While the volume of ODA is declining, the percentage earmarked has increased. This figure is the highest percentage ever recorded.

114. Developing countries are mobilizing domestic resources for population activities. Very rough estimates of the global domestic resource flows for population activities provided a crude global figure of just under $8 billion for domestic financial resources for population activities in 1997.

115. The private sector, including private foundations and NGOs, is playing an increasing role in the mobilization of resource flows. A number of large private foundations have announced plans to increase funding for population activities.

Issues and constraints

116. Resource flows have levelled off. While funding for population activities has increased since the ICPD, it has not increased at a rate which would ensure mobilizing the required $17 billion by the year 2000. The momentum generated by Cairo appeared to have diminished by 1996, when international assistance remained at the 1995 level of around $2 billion. Preliminary data for 1998 indicate a decrease in level of funding to about $1.9 billion. Overall, external sources have met 33 per cent of their ICPD commitment.

117. Total ODA is decreasing. Although the increase in percentage of ODA that was earmarked for population activities is encouraging, it should be noted that total ODA has declined from $56.5 billion in 1993 to $47.6 billion in 1997.

118. Most domestic resource flows originate in only a few large countries. In aggregate, developing countries have met 68 per cent of the ICPD commitment. Most developing countries, however, are unable to generate the necessary resources from domestic sources to cover the cost of national population programmes.

119. Difficult economic circumstances and political instability in a number of countries are impeding efforts to mobilize the domestic resources required to implement national population policies and programmes.

120. Shortfalls in resource mobilization require heightened attention to improvements in the efficiency and effectiveness of resource utilization. In order to maximize scarce resources, cost-effective organizations and programmes, appropriately sensitive to equity and quality concerns, must be identified and utilised.

121. The HIV/AIDS epidemic has progressed faster than previously projected, requiring additional resources.

122. Youth needs for sexual and reproductive health are still inadequately addressed. Additionally, youth participation in the design, implementation and monitoring of programmes is rarely accommodated.

Proposed actions

Mobilization of resources

123. Urge donor countries and developing countries to fulfill their financial commitments. Levels of resource commitments to ODA need to be increased. Countries should make every effort to reach the nominal 0.7 per cent of GDP allocation to ODA. In this context, countries should reach, at a minimum, the nominal commitment of 4 per cent of ODA to population activities and consider increasing the minimum to 5 per cent with due regard for the broader definition of population and reproductive health programmes adopted in the ICPD Programme of Action.
124. Urge donor countries and developing countries to increase levels of funding to UNFPA. As was requested by many developing countries and countries with economies in transition, countries are urged to substantially increase their voluntary contributions to UNFPA so it will be in a better position to help countries, including many countries where it is the only source of population assistance, to meet their population and reproductive health challenges.

125. Give appropriate priority to HIV/AIDS prevention. Since the HIV/AIDS epidemic has made deeper inroads than were originally projected, special attention to promptly meet, at a minimum, the entire $1.3 billion for HIV/AIDS prevention in the year 2000 called for in the Programme of Action (13.15c) is required, with particular attention to young populations.

126. Mobilize additional resources for the broader population and social sector objectives. Additional resources are required to support programmes addressing population and development objectives in those areas not specifically costed in the Programme of Action. The 20/20 Initiative, which includes reproductive health and other basic social service components, should be considered as an instrument of resource mobilization efforts.

127. Redouble advocacy efforts. Advocacy efforts should be increased between countries and within countries to ensure that the necessary additional resources are mobilized. Parliamentarians should undertake measures to increase support for population and reproductive health programmes through legislation, advocacy and expanded awareness-raising and resource mobilization as noted in The Hague Declaration of Parliamentarians on ICPD Review.

128. Ensure that population and reproductive health concerns receive the necessary allocations in integrated and sector-wide programmes.

129. Increase the role of private sector institutions in the mobilization of resource flows. There is a need for the private sector, including private foundations and NGOs, to make available additional funding for population activities. Multinational Corporations (MNCs) should be encouraged to consider making contributions to finance population and reproductive health programmes as part of their social obligations. Mobilization of private sector resources within countries should also be further developed, including dialogues with local pharmaceutical companies and international firms. The private sector should be required to abide by ethical standards in the research and development of sexual and reproductive health technologies and drugs, and encourage affordable prices.

130. Support core funding for NGO activities to implement the ICPD Programme of Action. Donors should provide support to NGO activities to supplement their local resource mobilization efforts. Particular attention should be given to providing core support (e.g., funding sufficient to cover true overhead expenses), including long term support as necessary. Such support should be provided in ways which do not compromise the autonomy of the NGOs, but within a context of good management and accountability. Local NGOs should be supported. Support should be given for capacity-building for NGOs including appropriate training institutions addressing their managerial and technical skills and operational needs.

131. Support countries least able to mobilize domestic resources. Countries least able to generate domestic resources for population and reproductive health programmes—including the least developed countries, countries in emergency situations, countries suffering from economic crises, and countries with economies in transition (especially in order to initiate integrated reproductive health programmes)—need special attention from external donor sources.

132. Increase resource flows directed to meeting adolescent reproductive health needs. At least 20 per cent of donor allocations to reproductive health programmes should be earmarked to meet the information and service needs of adolescents. These programmes should involve youth in their design, execution and monitoring.

133. Donor allocation decisions should use indicators that take full account of the ICPD Programme of Action recommendations. Donor countries should recognize a range of selected performance indicators, both qualitative and quantitative, that take into account the perspectives of current and potential beneficiaries of programmes.
Efficiency and effectiveness in the use of resources

134. Improve the efficient and effective use of available funds. In view of the limited resources, there is a need for both donors and developing countries to ensure that resources are used as effectively and efficiently as possible. Duplication in national programmes may lead to waste of financial and human resources and should be minimized. Strategic planning approaches are encouraged. The use of management systems linking programme resource decisions to outcomes should be explored.

135. Meet the needs of poor populations. Government and donor resources should be directed to promoting access to information and services for people who are unable to pay.

136. Increase accountability. There is a need for technical and managerial capacity-building and more transparent information systems on resource allocations and expenditures to increase accountability at all levels and for all partners.

137. Coordinate financing policies. Donors should coordinate financing policies and planning procedures to enhance the impact and effectiveness of contributions to population programmes. Greater flexibility in donor policies and management approaches and efforts to harmonize donor processes and initiatives will be needed.

138. Strengthen mechanisms to coordinate national reproductive health programmes. There is a need for developing countries to enhance the coordination of national reproductive health programmes.

New mechanisms to generate additional resources to meet ICPD goals

139. Explore additional mechanisms to increase resource mobilization. Additional means to increase funding for population activities could include the selective use of user fees, social marketing and other forms of cost recovery. Innovative financing approaches such as new forms of taxation on financial transactions should be considered.

140. Support expanded South-South cooperation and information exchange. Efforts to increase cooperation and technical assistance among developing countries and countries with economies in transition, such as the Partners in Population and Development, should be encouraged and appropriately supported by the international community. There is also a need for greater exchange of information on cost-effective strategies in national programmes and the exchange of “best practices” among all partners in public and civil society institutions.

141. Strengthen partnerships to mobilize resources. Enhanced partnerships in international assistance, including special initiatives directed to particular issues and/or regions could be used to provide additional resources for population activities. These efforts should involve commitments to specific time-frames for programmes of activity, to the extent possible.

142. Utilize more efficient mechanisms to reduce the burden of external debt in order to encourage allocations to population and reproductive health programmes. Debt cancellation and debt relief should be further explored and mechanisms created to expedite consideration and implementation. Agreements involving debt swaps for basic social service investments, particularly in the area of population, health and education, should also be given serious consideration.

143. Advocate for increased funding for population and reproductive health from international financial institutions. Donor countries and loan recipients should ensure that lending agreements include adequate allocations for population and reproductive health programmes. There is a need to be proactive with Ministries of Finance and in joint donor and lending institution consultations with finance and planning officials to ensure adequate support to population and reproductive health concerns. Regional development banks should also be involved in policy discussions to increase their lending to support population and reproductive health efforts.

Monitoring resource flows

144. Improve monitoring of resource flows for the costed integrated population and reproductive health package. Necessary methodological research for improved monitoring of international and domestic resource flows should be supported, including operational research.
Resource flows need to be monitored by levels of poverty and by gender.

145. Monitoring of supportive social sector expenditures. Financial flows to the non-costed portions of the Programme of Action need adequate monitoring, especially those addressing gender concerns and population and environment interactions. Appropriate costing exercises should be considered by institutions with relevant expertise and institutional mandates.

146. Technical review of the costed package. Technical discussions to evaluate the cost projections in the Programme of Action should be given appropriate higher priority while efforts to increase resource mobilization should continue. In this connection, the area of safe motherhood requires special attention. Further analyses should be undertaken which examine costs of services at different system levels, the benefits of safe motherhood programmes, and the costs that would be avoided (to families, communities and society) by their successful implementation.
Family Demography, Social Theory, and Investment in Social Capital

NAN MARIE ASTONE
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The analytic models used by family demographers would be strengthened by the concept of social capital, placed in the context of social exchange theory. Using that concept to designate resources that emerge from social ties, the authors advance five propositions: 1) social capital is a multidimensional attribute of an individual; 2) the dimensions of social capital are the number of relationships a person has, their quality (strength), and the resources available through those relationships; 3) group membership and interaction facilitate the development of social capital; 4) the structural properties of groups influence the development of social capital; and 5) the acquisition and maintenance of social capital is a major motivator of human behavior. The formation of sexual partnerships, the birth and rearing of children, and both intragenerational and intergenerational transfers constitute major forms of investment in social capital in virtually all societies.


JAMES LEE
WANG FENG

This article summarizes major recent findings on Chinese demographic behavior and outlines their relevance for the Malthusian model of comparative population dynamics and Chinese population in particular. Specifically, it considers four distinctive and persistent features of Chinese behavior during the last 300 years—high rates of female infanticide and abortion, high rates of bachelorhood, low marital fertility, and high rates of male and female adoption—and discusses the origins and implications of such a demographic regime for Chinese economic and social development. Contrasting Chinese demographic behavior with European demographic behavior, the article argues the existence of a demographic system and a demographic transition different from current Malthusian and neo-Malthusian models, and the existence of a system regulating collective demographic behavior in ways distinctly different from Western experience.

The Bangladesh Fertility Decline: An Interpretation

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BARKAT-E-KHUDA
BRUCE CALDWELL
INDRANI PERRIS
PAT CALDWELL

The claim has been made, notably in a 1994 World Bank report, that the Bangladesh fertility decline shows that efficient national family planning programs can achieve major fertility declines even in countries that are very poor, and even if females have a low status and significant socioeconomic change has not occurred. This article challenges this claim on the grounds that Bangladesh did experience major social and economic change, real and perceived, over the last two decades. This proposition is supported by official data and by findings of the authors’ 1997 field study in rural southeast Bangladesh. That study demonstrates that most Bangladeshis believe that conditions are very different from the situation a generation ago and that on balance there has been improvement. Most also believe that more decisions must now be made by individuals, and these include decisions to have fewer children. In helping to achieve these new fertility aims, however, the services provided by the family planning program constituted an important input.
The Effect of Household Wealth on Educational Attainment: Evidence from 35 Countries

DEON FILMER
LANT PRITCHETT

The authors use household survey data from the Demographic and Health Surveys (DHS) from 44 surveys (in 35 countries) to document different patterns in the enrollment and attainment of children from rich and poor households. They overcome the lack of income or expenditure data in the DHS by constructing a proxy for long-run wealth of the household from the asset information in the surveys, using the statistical technique of principal components. There are three major findings. First, the enrollment profiles of the poor differ across countries but fall into distinctive regional patterns: in some regions the poor reach nearly universal enrollment in first grade, but then drop out in large numbers leading to low attainment (typical of South America), while in other regions the poor never enroll in school (typical of South Asia and Western/Central Africa). Second, there are enormous differences across countries in the “wealth gap,” the difference in enrollment and educational attainment of the rich and poor. While in some countries the difference in the median years of school completed of the rich and poor is only a year or two, in other countries the wealth gap in attainment is 9 or 10 years. Third, the attainment profiles can be used as diagnostic tools to suggest issues in the educational system, such as the extent to which low attainment is attributable to physical unavailability of schools.


E. A. Wrigley

In 1799 Malthus spent six months in Scandinavia. There he witnessed the extreme deprivation, misery, and mortality that were once the common accompaniments of a bad harvest. On his return to England he found that the topic of the day was the exceptionally high price of bread, which threatened both political turmoil and human suffering. In the event, suffering even among the very poor was far less than in Sweden, though the increase in the price of the chief bread grain was greater. Malthus was intrigued by this apparent paradox. In An investigation of the cause of the present high price of provisions, published in 1800, he resolved it using arguments similar to those developed recently by Amartya Sen in his exposition of the concept of “entitlements.” In spite of his principled opposition to the poor laws, Malthus conceded that their effectiveness in transferring purchasing power to those most in need was a major reason for the limited impact of the dearth.

Marital and Fertility Careers of Russian Women Born Between 1910 and 1934

Sergei Scherbov
HARRIE VAN VIANEN

Women born in Russia in the early decades of this century grew up in a period characterized by profound societal changes. Their lives were affected by often devastating events, in particular World War II, that ravaged society when they were entering their childbearing years. This note presents a detailed demographic analysis of the marital and fertility careers of women born between 1910 and 1934 based on individual retrospective life histories, collected in the most recent (5 percent) 1994 microcensus of the Russian Federation. It assesses the influence of external events on age at first marriage, widowhood, divorce, childlessness, parity, and age at birth. A comparison with younger cohorts shows that the societal disturbances had strong temporary effects. However, the final outcomes were not influenced very much: completed fertility continued its slow, secular decline.
Démographie de la famille, théorie sociologique et investissement dans le capital social

NAN MARIE ASTONE
CONSTANCE A. NATHANSON
ROBERT SCHOEN
YOUNG J. KIM

Les modèles analytiques utilisés par les démographes de la famille pourraient bien être renforcés par le concept de capital social, lorsqu’ils sont placés dans le contexte de la théorie de l’échange social. Utilisant le concept du capital social pour définir les ressources provenant des liens sociaux, les auteurs nous présentent cinq propositions : 1) le capital social est un attribut multidimensionnel d’un individu; 2) les dimensions du capital social se mesurent selon le nombre de relations d’un individu, la qualité de ces relations, et les ressources qu’elles lui procurent; 3) l’appartenance à un groupe et l’interaction facilitent le développement du capital social; 4) les propriétés structurales des groupes influencent le développement du capital social; et 5) l’acquisition et la préservation du capital social constituent un facteur motivant important du comportement humain. La formation de rapports sexuels, la naissance ainsi que l’éducation des enfants et les transferts intra- et intergénérationnels constituent des formes importantes d’investissement dans le capital social dans pratiquement toutes les sociétés.

Modèles malthusiens et réalités en Chine : nouveau regard sur le système démographique chinois, de 1700 à 2000

JAMES LEE
WANG FENG

Le présent article résume les principales conclusions les plus récentes sur le comportement chinois en matière de démographie et souligne leur pertinence quant au modèle malthusien de la dynamique des populations comparatives et de la population chinoise en particulier. Plus particulièrement, le présent article examine quatre éléments distincts et persistants du comportement chinois au cours des 300 dernières années — les taux d’infanticide des filles et d’avortement élevés, les taux de célibat élevés, le taux faible de fécondité des mariages, et finalement les taux élevés d’adoption de filles et de garçons — et discute des origines et des répercussions d’un tel régime démographique sur le développement économique et social chinois. En comparant les comportements chinois et européen en matière de démographie, le présent article allège l’existence d’un système et d’une transition démographiques différents des modèles malthusiens et néo-malthusiens courants ainsi que d’un système réglementant le comportement collectif en matière de démographie qui diffèrent sensiblement des réalités du monde occidental.

La baisse de fécondité au Bangladesh : une interprétation

JOHN C. CALDWELL
BARKAT-E-KHUDA
BRUCE CALDWELL
INDRANI PIERIS
PAT CALDWELL

Il a été prétendu, particulièrement dans un rapport de la Banque mondiale de 1994, que la baisse de fécondité au Bangladesh démontre que les programmes de planification familiale efficaces à l’échelle nationale peuvent provoquer des baisses de fécondité importantes, même lorsque les pays sont très pauvres, que le statut des femmes est très faible et qu’un changement socio-économique significatif n’a pas encore eu lieu. Le présent article récuse cette assertion en arguant qu’au cours des deux dernières décennies, le Bangladesh a subi de changements sociaux et économiques majeurs. Des données officielles et des conclusions révélées par une étude effectuée par les auteurs en 1997 dans les régions rurales du sud-est du Bangladesh, appuient cette proposition. Il y est démontré que la plupart des Bangladéshis estiment que les conditions ambiante sont très différentes de celles qui prévalaient pour la dernière génération et que, tout compte fait, il y
Les conséquences de la richesse des ménages sur le niveau d'instruction : observation de 35 pays

DEON FILMER
LANT PRITCHETT

Les auteurs utilisent les données des enquêtes auprès des ménages, tirées de 44 Enquêtes démographiques et sanitaires (EDS), dans 35 pays différents, pour documenter les différentes tendances observées dans l’inscription et le rendement scolaires des enfants provenant de ménages riches et de ménages pauvres. Les auteurs compensent pour le manque de données sur les revenus ou les dépenses dans les EDS en effectuant une approximation de la richesse des ménages sur une longue durée à partir des données sur les biens et en utilisant la technique statistique des composantes principales. Trois conclusions principales ont ainsi été dégagées. Premièrement, les profils d’inscription des pauvres diffèrent tout en formant des tendances régionales particulières : dans certaines régions, l’inscription scolaire des pauvres à la première année est pratiquement universelle, pour ensuite décrocher en grand nombre et atteindre un niveau d’instruction faible (typique en Amérique du Sud) ; dans d’autres régions, les pauvres ne s’inscrivent même pas à l’école (typique en Asie du Sud ainsi qu’en Afrique de l’Ouest et en Afrique centrale). Deuxièmement, on retrouve des différences considérables dans les pays où règne le «wealth gap», c’est-à-dire la différence entre les riches et les pauvres en matière d’inscription scolaire et de niveau d’inscription. Alors que dans certains pays, la différence dans les années médianes scolaires réussies chez les riches et les pauvres n’est que d’une année ou deux, dans d’autres pays, le «wealth gap» dans le niveau d’inscription atteint 9 et même 10 ans. Troisièmement, les profils de niveau d’instruction peuvent être utilisés comme outils diagnostiques suggérant des solutions pour le système éducatif, par exemple, à quel point un niveau d’instruction faible est imputable à l’inexistence d’écoles.

Mâis et crise : réflexions de Malthus sur le prix élevé des denrées

E. A. Wrigley

En 1799, Malthus a passé six mois en Scandinavie où il a été témoin du taux extrêmement élevé de privation, misère et mortalité, ce qui avait toujours été attribué aux conséquences d’une mauvaise récolte. A son retour en Angleterre, il a remarqué que le sujet du jour était le prix excessivement élevé du pain, ce qui risquait de causer des troubles politiques et des souffrances pour la population. Or, les souffrances observées même chez les plus pauvres étaient bien moindres qu’en Suède, même si l’augmentation du prix des céréales panifiables était plus élevée. Intrigué, il a solutionné ce paradoxe dans An investigation of the cause of the present high price of provisions, publié en 1800, au moyen d’arguments semblables à ceux qui avaient récemment été élaborés par Amartya Sen dans son exposé sur le concept de la «recevabilité». Malgré son opposition raisonnée aux lois sur les pauvres, Malthus a admis que leur efficacité à transférer le pouvoir d’achat à ceux qui en ont le plus besoin constituait une raison majeure pour laquelle les répercussions de la pénurie étaient limitées.

Statut marital et taux de fécondité chez les femmes russes nées entre 1910 et 1934

SERGEI SCHEBOV
HARRIE VAN VIANEN

Les femmes nées en Russie au cours des premières décennies du présent siècle ont grandi durant une période marquée par de profonds changements sociétaux. Leur vie a été affectée par des événements dévastateurs, en particulier par la Seconde guerre mondiale qui a ravagé leur société alors qu’elles entraient dans leurs années de procréation. Le présent article présente une analyse démographique détaillée du statut marital et du taux de fécondité des femmes nées entre 1910 et 1934, à partir d’une étude rétrospective sur les cycles de vie d’individus recueillis dans le mi-
cro-recensement le plus récent (5 pour-cent) de la Fédération de Russie. On y évalue l’influence des événements externes sur l’âge des femmes lors de leur premier mariage, de leur veuvage, divorce, infécondité, parité et de leur âge lors de la naissance de leurs enfants. En établissant une comparaison avec les cohortes plus jeunes, il ressort que les troubles sociétaux ont eu des effets temporaires sérieux. Toutefois, l’aboutissement final n’en a pas été grandement influencé : la descendance finale a continué de baisser lentement sur une longue durée.

Demografía de la familia, teoría social, e inversión en capital social

NAN MARIE ASTONE
CONSTANCE A. NATHANSON
ROBERT SCHOEN
YOUNG J. KIM

Los modelos analíticos que usan los demógrafos de la familia serían reforzados con el concepto de capital social, ubicado dentro del contexto de la teoría de intercambio social. Usando ese concepto para precisar los recursos que surgen de lazos sociales, los autores sugieren cinco proposiciones: 1) el capital social es un atributo multidimensional del individuo; 2) las dimensiones del capital social son el número de relaciones que una persona tiene, su calidad (firmeza), y los recursos disponibles a través de esas relaciones; 3) ser miembro de un grupo e interactuando en él facilita el desarrollo de capital social; 4) las propiedades estructurales de los grupos influyen el desarrollo de capital social; y 5) la adquisición y el mantenimiento de capital social es un motivador importante del comportamiento humano. La formación de uniones sexuales, el nacimiento y el criar de los hijos, y las transferencias tanto intrageneracionales como intergeneracionales son en práctima todas las sociedades formas importantes de inversión en capital social.

Modelos maltusianos y las realidades chinas: El sistema demográfico chino, 1700–2000

JAMES LEE
WANG FENG

Este artículo resume importantes hallazgos recientes sobre el comportamiento demográfico chino y se delinea su pertinencia para el modelo maltusiano sobre la dinámica comparativa de la población y para la población china en particular. Específicamente, se examinan cuatro características distintivas y persistentes de comportamiento chino durante los últimos 300 años — altas tasas de infanticidio femenino y abortos, altas tasas de celibato masculino, baja fecundidad matrimonial, y altas tasas de adopción masculina y femenina — y se examina el origen y las inferencias de tal régimen demográfico para el desarrollo económico y social de China. Contrastando el comportamiento demográfico chino con el comportamiento demográfico europeo, se sostiene en el artículo que existe un sistema demográfico y una transición demográfica diferente a los modelos actuales maltusianos y neo-maltusianos, y que existe un sistema que regula el comportamiento demográfico colectivo en forma marcadamente diferente a la experiencia Occidental.

El descenso de fecundidad de Bangladesh: Una interpretación

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BRUCE CALDWELL
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PAT CALDWELL

Se ha afirmado, señaladamente en un informe del Banco Mundial de 1994, que el descenso de fecundidad de Bangladesh demuestra que programas nacionales de planificación familiar eficientes pueden lograr descensos de fecundidad significativos aun en países muy pobres e incluso si el status de la mujer es bajo y no se ha producido un cambio socioeconómico importante. Este artículo cuestiona esta afirmación notando que Bangladesh, a través de las dos últimas décadas ha experi-
mentado importantes cambios sociales y económicos, reales y percibidos. Esta proposición se apoya en datos oficiales y en los hallazgos de un estudio de campo en 1997 de los autores en el Bangladesh sudeste rural. Ese estudio demuestra que la mayoría de los Bangladeshis creen que las condiciones son muy diferentes de aquellas de hace una generación y que, mirándolo bien, han habido mejoras. La mayoría también cree que ahora hay más decisiones que el individuo debe tomar, y que éstas incluyen la decisión de tener menos hijos. En su contribución al logro de estos nuevos objetivos de fecundidad, los servicios proveídos por los programas de planificación familiar han sido, sin embargo, un factor de importancia.

El efecto de la riqueza del hogar sobre los alcances educacionales: Evidencia de 35 países

DEON FILMER
LANT PRITCHETT

Para documentar los diferentes patrones de inscripción escolar y los alcances educacionales de hijos de hogares ricos y pobres, los autores usan datos de encuesta de hogares de las Encuestas Demográficas y de Salud (DHS) de 44 encuestas (en 35 países). Para superar la falta de datos sobre ingresos o gastos en el DHS los autores construyen una aproximación para la riqueza a largo plazo del hogar, de información sobre bienes en la encuesta, usando la técnica estadística de componentes principales. Hay tres hallazgos importantes. Primero, el perfil de inscripción de los pobres difiere a través de los países pero cae dentro de patrones regionales distintivos: en algunas regiones la inscripción de los pobres es casi universal en el primer curso de primaria pero luego dejan de asistir en gran número lo que conduce a un bajo alcance educacional (típico de Sud América), mientras que en otras regiones los pobres nunca se inscriben en la escuela (típico de Sud Asia y América Occidental/Central). Segundo, hay enorme diferencia a través de los países en la «brecha de riqueza», la diferencia en inscripción y en alcances educacionales de los ricos y pobres. Mientras que en algunos países la diferencia en la mediana de años escolares completados de los ricos y pobres es solamente de un año o dos, en otros países la brecha de riqueza en cuanto a alcances es de 9 o 10 años. Tercero, los perfiles de alcances pueden usarse como instrumentos diagnósticos para sugerir problemáticas en el sistema educacional, como ser hasta que punto pueden atribuirse los bajos alcances educacionales a la falta de disponibilidad física de escuelas.

Granos y crisis: Malthus sobre el alto precio de comestibles

E. A. WRIGLEY

En 1799 Malthus pasó seis meses en Escandinavia donde presenció la extrema privación, miseria, y mortalidad que acompañaban en aquel tiempo una mala cosecha. Al volver a Inglaterra, el tópico del día era el excepcionalmente alto precio del pan, una amenaza tanto de tumultos políticos como de sufrimientos humanos. En ese caso, el sufrimiento aun entre los más pobres era mucho menor que en Suecia aunque el aumento de precio del principal grano para hacer pan era mayor. Esta paradoja aparente le intrigó a Malthus. En An investigation of the cause of the present high price of provisions, publicada en 1800, él la resolvió empleando argumentos similes a los que Amartya Sen desarrolló recientemente en su exposición del concepto de «dar derecho». Pese su oposición, basada en principios, a las Leyes de los pobres, Malthus reconoció que su eficacia en transferir un poder adquisitivo a los más necesitados fue una razón principal del impacto limitado de la carestía.

Curso matrimonial y de fecundidad de mujeres rusas nacidas entre 1910 y 1934

SERGEI SHERBOV
HARrie VAN VIANEN

Las mujeres nacidas en Rusia en las primeras décadas de este siglo crecieron en un período caracterizado por profundos cambios sociales. Sus vidas se vieron a menudo afectadas por eventos arrolladores, sobre todo por la Segunda guerra mundial que azotó la sociedad cuando ellas estaban comenzando
los años de procreación. Esta nota presenta un análisis demográfico detallado del curso matrimonial y de fecundidad de las mujeres nacidas entre 1910 y 1934 basado en historias de vida retrospectivas individuales, recolectadas en el micro censo más reciente (5 por ciento) de 1994 de la Federación de Rusia. Se evalúa la influencia de eventos externos sobre la edad al contraer el primer matrimonio, la viudez, divorcio, infecundidad, paridez, y edad al nacimiento. Una comparación con cohortes más jóvenes muestra que los trastornos en la sociedad tuvieron grandes efectos temporales. Sin embargo, los resultados finales no fueron mayormente influenciados: la fecundidad completada continuó su lento descenso secular.
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