SOCIAL UPHEAVAL AND FERTILITY DECLINE

John C. Caldwell, Demography and Sociology Program, Australian National University

Introduction

A persistent, but little researched, theme in demographic transition theory is that of transition, especially fertility transition, lagging for cultural reasons behind changes in material circumstances. A sub-theme is that of the lag time being shortened by social upheaval challenging the cultural retardants and thus causing demographic behaviour to catch up with economic reality. This paper examines the apparent demographic impact of deeply traumatic events in societies nearing or experiencing fertility transition to determine whether there is a close relationship.

The cultural support for high fertility, even if not wholly or any longer economically rational, was central to Notestein’s theory. Some of his followers were to speak of cultural ‘props’. Notestein (1945, pp. 39–40) in a key passage in his seminal paper, ‘Population — the long view’ wrote: ‘Any society having to face the heavy mortality characteristic of the premodern era must have high fertility to survive. Their religious doctrines, moral codes, laws, education, community customs, marriage habits, and family organizations are all focused toward maintaining high fertility. These change only gradually and in response to the strongest stimulation’. He described a population evincing fertility decline as one ‘increasingly freed from older taboos and increasingly willing to solve its problems rather than accept them’ (pp. 40–41). At a 1952 conference he argued that ‘These arrangements [i.e. the cultural props]… are strongly supported by population beliefs, formalized in religious doctrine, and enforced by community sanctions. They are deeply woven into the social fabric and are slow to change’ (Notestein, 1953 p. 16) Clearly, however, some circumstances were likely to be more propitious than others in hastening change.

Caldwell (1999), examining what he regarded as the surprisingly late fertility decline in Victorian England, concluded that the advent of the decline had been postponed both by an inability of partners to discuss contraception and by the related failure to invent and market suitable contraceptives, a situation brought about by an adherence to what was perceived as Christian family morality. Admittedly, doctors’ warnings based on inadequate science played a role but this was merely another cultural prop and, in most cases, arose from the same religious stance. Eberstadt (1994, p. 150), in his paper on ‘Demographic shocks after communism’, wrote, in explanation of steeply declining birth and marriage rates (and some rising death rates) during Eastern Europe’s withdrawal from Communism in the 1990s: ‘the transition to a liberal market order might be expected to entail far-reaching, often traumatic adjustments’. Standing (1996, pp. 230–231) charged that this had been the international agencies’ deliberate policy in that they fostered ‘shock therapy’ for previously ‘overprotected populations’.

Marwick (1977, 1988a) concentrated on the social and demographic change resulting from wars and their often accompanying revolutions, focusing on the impact of two world wars on Britain, France, Germany and Russia. He argued that ‘total war’ rapidly changed societies because of their destruction, economic stresses and challenges, the subjection of individuals to new social experiences, and the psychological impact of being caught up in such an enormous social convulsion (Marwick, 1988b, pp. xv ff.). He reported that such wars were for many, especially those in refugee streams, traumatic (Marwick, 1988c, pp. 121–122). He had argued earlier that, as a result of the First World War, ‘The world, and women, had changed’ (Marwick, 1977, p. 163), and that war had changed British sexual and reproductive morality. There was a new understanding of
premarital sex when the male partner was headed for the front (p. 119). The government agreed and by late 1914 it was prepared to recognize for the purposes of allowances to combatants’ dependants, not only wives and legitimate children, but unmarried female partners and their children by the combatants if a home had been kept (p. 37). The result was that ‘In various ways the war marked a loosening of the standards of conventional morality. In February 1918 the National Council for the Unmarried Mother and her child was founded. After the war, Marie Stopes and her disciples set up [Britain’s] first birth control clinic’ (p. 163). The ideas of props and lags underlie some of the central themes of contemporary family planning demography with its resort to concepts of ‘the crystallization of contraceptive demand’ and the related ‘unmet need’.

The issue has been brought back into the limelight by a recent article in Population by Rudolph Binion (2001), which claims to be able to show scientifically that the world’s first two fertility transitions were initiated by the dissolution of materially irrational supports for high fertility in the furnaces of the French and American revolutions. Binion’s article provides the mainspring of this paper and it and the French Revolution are discussed below in some detail. This is the starting point for an investigation of a wider range of social upheavals to find their relations to demographic change. Two points might be noted. The first is that both Binion (2001, pp. 170–174) and Marwick (1988b, pp. x–xi) charge that social historians and demographers are so committed to showing that demographic change is driven by long-term, especially economic, movements that they recoil from suggestions that short-term human experience could play a significant, even a triggering role. The historians and demographers seek to show that their disciplines are scientific, with interpretations unmarred by capricious change and unforeseeable events. The second point is that the focus is on secular fertility decline and ignores the impact of social crisis in low-fertility societies in changing factors which may ultimately raise fertility: such as the argument that the First World War produced younger marriages in Britain (Marwick, 1977, p. 163); and that in the West, particularly in English-speaking countries, the Second World War fostered, especially in its aftermath, younger and more universal marriages which made a major contribution to the ‘Baby Boom’ (Caldwell, 1982, pp. 248–250).

To select the appropriate cases of social upheaval we used standard global and European histories, as well as the works of ‘upheaval’ political scientists, especially Zimmerman (1983), who described these periods as being ‘crises of legitimacy’, and Goldstone (1991) who uses the term ‘state breakdown’. Goldstone has strong demographic interests but his approach (like that of Boserup, 1965) is of ‘independent movements of mortality’ leading to increased population growth and population pressure on resources which in turn produce both social upheaval and greater fertility control (Goldstone, 1991, pp. 24–29). Through this process we selected for study: (1) England, 1642–1666 (civil war, republican Commonwealth and early Restoration), (2) France, 1789–1804 (revolution and early Napoleonic period), (3) Russia 1914–1922 (war, revolution, civil war and external intervention), (4) Germany 1914–1924 (war, revolutionary circumstances and early Weimar Republic), (5) Austria, 1914–1924 (war and, dissolution of the Austro-Hungarian Empire), (6) Germany, 1939–1950 (war and occupation), (7) Japan, 1939–1954 (war and occupation), (8) Portugal, 1974–1985 (revolution and aftermath), (9) Spain, 1977–1985 (Franco’s death and move to democracy), and (10) Eastern Europe, late 1980s and 1990s (from Communism to a market economy). We have omitted the American Revolution, 1775–1783, because of lack of fertility data and scepticism about the validity of the Binion thesis of social revolution.

Binion and the French and American revolutions

The French fertility experience over the last 220 years is of central importance to fertility transition theory and accordingly a great deal of effort has been put into its reconstruction even though fully published vital registration data are available only from 1806 and nationally standardized censuses
only from 1831. Bourgeois-Pichat (1951) used these data and less certain earlier census and registration statistics to construct a national estimate starting from 1770. The analysis of parish registers in research at INED (the French Institut National d’Études Démographiques) (1975) centring on Louis Henry allowed reconstruction to begin in 1740 (Henry and Blayo, 1975). Van de Walle (1974) reconstructed the female population from census data at the département level from 1831. This was done as part of the Princeton University Office of Population Research’s European Project (his estimates form the French segment of the final statistical compilation, in Coale and Treadway, 1986) and allowed the Princeton indices, overall fertility (I\(_f\)), marital fertility (I\(_g\)) and proportions married (I\(_m\)) to be calculated every five years from 1831 until 1901. Thus, for the first time there was a whole series attempting to separate the different components of fertility: age-specific female fertility levels and the proportions of females married at each age. Weir (1994, p. 312) drew on INED (1975) data and the lessons learnt from ‘the flurry of methodological discussion that followed the publication of the Population History of England [Wrigley and Schoffeld, 1981]’ to produce a series of all Princeton indices from 1740 to 1911. Bonneuil (1997) reconstructed overall fertility, placing a different stress on mortality data and assumptions, to produce an I\(_f\) series from 1806 to 1911.

The Weir series provide the only comprehensive picture of the components of fertility from the high and fairly stable fertility of the mid-eighteenth century to the low fertility of the early twentieth century, and accordingly were eagerly seized on for interpretation by Binion (2001) and others. Before we examine Binion’s interpretation we should add some cautionary notes, about the extent to which the figures represent underlying reality, and about the patterns observed in them.

For 1831, the date when overall fertility can first be compared between van de Walle, Weir and Bonneuil, Bonneuil estimates I\(_f\) as .369, Weir as .318 or 14 per cent lower, and van de Walle as .297 or 20 per cent lower. Not surprisingly the three series diverge more as one moves earlier in time. These differences are not insignificant, given that Weir’s I\(_f\) falls only 16 per cent in the first 20 years after the Revolution and little more over the first 40 years. When we turn to marital fertility (taken by the Princeton project to be the real measure of fertility transition), we are in greater difficulties because of the quality of the marriage data and accordingly, even from 1831, there are only two series to compare. For that year Weir’s I\(_m\) (.471) is eight per cent below that of van de Walle (.514), and his I\(_g\) (.627) is 17 per cent higher than van de Walle’s (.537).

When van de Walle (1974) was published, it appeared to show that the French had experienced not one fertility decline but two, with marital fertility in 1841 (I\(_g\) = .526) level with that of 1886 (I\(_g\) = .527); between was a dip and a recovery, the latter so prominent in parts of France as to be described as a ‘ski jump’ (van de Walle, 1974, p. 180). Using this analysis, Caldwell (1981, p. 18) wrote that what had happened between the late eighteenth and nineteenth centuries ‘was probably distinct from what was to occur towards the end of the century, when France fully participated … in the general fertility transition …’. Wrigley (1985a, b) exhaustively and elegantly argued that the French fertility transition was best treated as two distinct declines (as opposed, he noted, to the conclusions in Knodel and van de Walle, 1979), and that ‘nuptiality and fertility must have been sensitive … to each other’s trends, and jointly sensitive to mortality change’, and that higher numbers of surviving children must have encouraged stopping behaviour, and possibly spacing (Wrigley, 1985b, pp. 165–167).

The picture presented by Bourgeois-Pichat (1951, p. 654; 1965) was of high pretransitional fertility (a total fertility rate above five), falling consistently from around 1770 to 1910 with a steepened decline only during the 1790s and a somewhat slower fall between 1850 and 1875. Weir’s (1994) I\(_g\) series remained constant between 1744 and 1788, fell rapidly between 1788 and 1801 (19 per cent at an annual linear rate of 1.5 per cent), more slowly between 1801 and 1872 (24 per cent at 0.3 per
cent per annum) and then more rapidly between 1872 and 1911 (38 per cent at 1.3 per cent per annum). His \( I_f \) trends were closer to Bourgeois-Pichat’s because of marriage changes did not affect the picture of marital fertility transition. The new interpretation appeared to show that the start of the marital fertility decline began no earlier than the Revolution, and that in the period between the first and second steep declines there was a slower but continuing decline.

A possible interpretation is that high fertility was a modest problem in the late eighteenth century and was brought more into line with economic reality by the challenge, during the revolutionary years, to old customs and especially to institutional religion; that the subsequent slower decline showed that the French had learnt the lesson of controlling family size to conform with modest socio-economic change; and that France, like other Western countries, felt the full force of more rapid change, especially the move towards universal schooling, from the 1870s. Certainly France fully participated in the general Western fertility decline, with its \( I_g \) falling 33 per cent between 1881 and 1911 compared with 31 per cent in England during those years. The ability of France to sustain such continuing fertility declines is partly explained by its pre-Revolutionary levels when its \( I_g \) at over 0.8 was 20 per cent higher than England’s at around 0.675, the latter stable back from 1881 to 1851 and presumably about the same level in the eighteenth century (Weir, 1994, pp. 330–331; Teitelbaum, 1984, p. 115). Indeed, France’s level of marital fertility did not fall below that of England until after 1820, well after the end of the Revolutionary decline. There were, then, suitable data here for Binion (2001) to grasp.

But is the same true for the United States? It could easily be argued that there was a war of independence rather than a revolution, and that the social revolutionary experience was largely confined to New England in the 1770s. Certainly, Christianity and other moral foundations were not attacked. The more serious argument is that we simply do not know the levels and trends of American marital fertility in the nineteenth century. Binion relies on a single source, Coale and Zelnik (1963, p. 36, Table 2) which attempts a total fertility rate estimation of the white population from 1800 onward, without an explanation of how the estimates earlier than 1855 were obtained (except that they were close to those of Thompson and Whelpton (1933) which were based on the reverse survival of 0-4-year olds in the censuses); and no estimate at all of marital fertility, for which good national data were not available until the twentieth century. Smith (1987), an important source for the thesis of an early American marital fertility decline, and an important influence on Binion, also drew his evidence solely from Coale and Zelnik (1963) although he referred to ‘the consensus among demographers and family historians’ on this issue (Smith, 1987, pp. 74–75). While in Europe there was a close connection in the movement between overall fertility and marital fertility, this was not true in English-speaking countries of overseas European settlement as frontier conditions, with very high proportions of women married, passed into history. Coale and Zelnik (1963, pp. 27–31), Jones (1971, pp 301–338) and Caldwell (1999) have all drawn attention to the extraordinary similarity between various fertility measures for the United States and Australia where data exist for both countries. For earlier years Australia’s \( I_g \) was stable up to 1881, in spite of steeply falling \( I_f \) and \( I_m \) indices, and a substantial urban-rural \( I_g \) differential. This suggests that we have no evidence for declining American marital fertility in the late eighteenth and much of the nineteenth century and that studies of the demography of nineteenth-century northeastern American urban areas do not provide an adequate picture of national fertility trends.

The major problem is, however, Binion’s analytical method which cannot be justified. Having decided that the French and American marital fertility declines were the only two early national fertility transitions, he found that they had only one element in common and hence that it must be the sole casual factor:
Two almost identical and simultaneous historical trajectories, two radical changes to behavioural norms in the two revolutionary countries of the period, countries which saw themselves as belonging to a community of enlightened minds and sharing a belief in mankind’s ability to cast off the servitude of the past and recreate a world in which to live in happiness: those twin developments, expressions of the same transforming impulse, were at the bottom one and the same… (Binion, 2001, pp. 170–171).

This goes further than Shorter’s (1976, p. 14) claim that North American fertility control can be explained because its societies were ‘born free’. In the case of France, Dupâquier (1970, p. 169) much more carefully supported the argument: the Revolution ‘apparently contributed to accelerate (or even perhaps ignite) what is called, with some exaggeration, the demographic revolution’.

Can this be the whole story for France once we have relaxed the condition that causal factors must exist in common with the United States?

One possible additional factor is the mortality rate: France’s life expectancy at birth was five years less than that of England and Sweden in the 1780s but had caught up by 1820; similarly infant and child mortality were much higher in France before the Revolution than in Sweden or England but the gap had largely closed by the mid-nineteenth century (Vallin, 1991, pp. 48–57; Blayo 1975). The problem is that mortality and fertility fell together and it is hard to determine which was the driving force and which was most closely related causally to the experience of Revolution. Dupâquier (1960, pp. 159–162) concluded that the fall in child mortality could be explained by neither medical nor economic progress, but that ‘Everything shows that attitudes of adults toward children were changing: children were more welcome and subject to better care. These attitudes did not, however, exclude the beginning of the voluntary restriction of births — quite the contrary’. He cited Ariès (1962) as having the key to the mystery with his explanation that the family turned in on itself and became more interested in its children and the children’s progress. This was a process that could easily be accelerated by revolutionary times. Alternatively, in perilous times parents may merely have become more careful (see Doyle, 1989, pp. 405–406), although the Revolution made marriage easier (Reinhard, 1966, pp. 25–26) and \( I_m \) increased by five per cent over a decade (Weir, 1994). The result of countervailing movements in mortality, nuptiality and marital fertility was an extraordinary stability in the net reproduction rate (Wrigley, 1985b, p. 163). The balance of opinion is that the Enlightenment had encouraged better spousal and parental relations and that the Revolution had hastened the process without, however, gaining for women a more recognized place in the outside world (Traer, 1980; McManners, 1981, pp. 440ff.; Hufton, 1992). There is consensus that the demographic change was not the product of fast economic growth or early industrialization, neither of which was apparent (Rostow, 1960, p. 38; Fohlen, 1970; Markovitch, 1980; Morineau, 1970).

There remains the question of legal and institutional factors. One of the principal dicta of the Princeton European Fertility Project was that the communication of fertility control ideas, and consequently practice, halt on linguistic borders (Anderson, 1986, p. 305), and yet the project’s maps show that the French fertility decline occurred within its political boundaries, not even penetrating the Belgian border where there was no linguistic difference with Wallonia (Coale and Watkins, 1986, End Maps). Nor was Wallonia poorer, for its industrial revolution preceded that of France (Craeybeckx, 1970). The widely suggested answer is the enforcement within France, but not Wallonia, of partible inheritance laws threatening the patrimony, whether agricultural or urban businesses, with division, diminishing the worth of single properties and even causing their disappearance. Outside Europe this threat, in the great agrarian societies of Asia, is the only force that has substantially reduced family size, albeit in a way that yields a stability and not a continuing
progression to ever-smaller family sizes (Caldwell and Caldwell 2003). The move to universal partible inheritance in France was legislated in 1790 and 1793, to be largely sustained, although in a modified form, in Napoleon’s civil code of 1804 (Rose, 1994, pp. 178–179). The problem with this analysis is, according to Flandrin (1976, pp. 74–5) and Goody (2000, p. 103), that at the end of the eighteenth century partible inheritance existed only in southern France where the written or Roman Law prevailed, while fertility decline was to be just as conspicuous in the north. This objection is not necessarily insuperable because it may overstate the homogeneity of inheritance customs in the north. Howell (1976, pp. 116ff.) described unigeniture (the endowment of one son, not necessarily the elder) as having been most common there in open-field lands where a manorial system had developed, and Ladurie (1976, pp. 38ff), drawing on Yver (1966), described northern and central France as consisting of a patchwork of customary inheritance law, with most societies allowing, but not mandating, unigeniture. Wallonia had long practised primogeniture, and that institution seems to have survived the French annexation of Belgium, 1794–1814 (Ladurie, 1976, p. 53).

Whatever the institutional changes, Binion is probably right that the social changes wrought by the Revolution were so great that they made such sexual and reproduction change possible so as to accommodate marital fertility to both material change and new laws and institutions. Just how marital fertility was controlled is still debatable. Sauvy (1976, p. 362) thought that methods worked out among a licentious aristocracy around the premier court in Europe subsequently played a role in the larger community, although it is not clear what those methods were. Coitus interruptus is usually assumed to be the main method. Even van de Walle and Muhsam (1995, pp. 275–276) favour it as the main strategy within marriage, while believing other sexual practices probably predominated outside marriage. Sexual abstinence was probably also used: this is suggested by the facts that between 1740/90 and 1790/1820 women’s age at last birth declined by 2.6 years to 36.7 years (a decline paralleled in England at the same time), and that the average period from marriage to last birth declined to 10 years, a reduction of 3.3 years, compared with only 1.2 years in England (Flinn, 1981, pp. 128–129).

We will now turn to the other listed social convulsions involving successful revolutions, civil wars, or defeat in war and national dismemberment. None were quite as tumultuous as the French Revolution, and only the Russian Revolution involved a similar attack on religious belief and organization. We will look for parallels to the French demographic experience although none has been so intensively researched.

Fertility and the great social upheavals

Table 1 examines trends in fertility for ten major social upheavals for the period of greatest social disruption or change. Then, for periods of the same duration before and after that of upheaval, the fertility trend is calculated. The broadest comparison can be made by resort to crude birth rates, most of which are available in Mitchell (1998, 2003). Over the short periods examined this overall fertility measure is not greatly affected by age structure, but is sensitive to marriage change, the latter being almost inevitable in times of social upheaval. The selection of Eastern European countries is almost random, since all of them show similar fertility movements.
Table 1. The fertility experience of countries experiencing major social upheavals

<table>
<thead>
<tr>
<th>Country</th>
<th>Upheaval</th>
<th>Period$^a$</th>
<th>CBR (crude birth rates)</th>
<th>Change in CBR (%)$^b$</th>
<th>Annual linear decline during period (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Start of period</td>
<td>End of period</td>
<td>Before period</td>
<td>During period</td>
</tr>
<tr>
<td>England</td>
<td>Civil War, Commonwealth and early Restoration</td>
<td>1641–1666</td>
<td>32.4</td>
<td>26.8</td>
<td>−1.0</td>
</tr>
<tr>
<td>France</td>
<td>Revolution</td>
<td>1788–1804</td>
<td>38.8</td>
<td>32.9</td>
<td>+2.9</td>
</tr>
<tr>
<td>Russia</td>
<td>WWI and revolution</td>
<td>1913–1921</td>
<td>43.1</td>
<td>32.6</td>
<td>−4.2</td>
</tr>
<tr>
<td>Germany</td>
<td>War, revolution, defeat, inflation</td>
<td>1913–1924</td>
<td>27.5</td>
<td>20.6</td>
<td>−21.7</td>
</tr>
<tr>
<td>Austria</td>
<td>War, defeat, empire dismembered</td>
<td>1913–1924</td>
<td>29.7</td>
<td>21.7</td>
<td>−19.3</td>
</tr>
<tr>
<td>Germany</td>
<td>War, defeat, occupation</td>
<td>1938–1950</td>
<td>19.7</td>
<td>16.3</td>
<td>+0.5</td>
</tr>
<tr>
<td>Japan</td>
<td>War, defeat, occupation</td>
<td>1940–1955</td>
<td>29.4</td>
<td>19.4</td>
<td>−15.8</td>
</tr>
<tr>
<td>Portugal</td>
<td>Revolution</td>
<td>1973–1985</td>
<td>19.2</td>
<td>12.8</td>
<td>−21.6</td>
</tr>
<tr>
<td>Spain</td>
<td>Dictatorship to democracy</td>
<td>1976–1985</td>
<td>18.8</td>
<td>11.8</td>
<td>−8.7</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>Communism to capitalism</td>
<td>1986–1998</td>
<td>20.0</td>
<td>8.8</td>
<td>+11.1</td>
</tr>
<tr>
<td>Russia$^c$</td>
<td></td>
<td></td>
<td>17.0</td>
<td>10.2</td>
<td>−7.7</td>
</tr>
<tr>
<td>Poland$^c$</td>
<td></td>
<td></td>
<td>14.2</td>
<td>8.8</td>
<td>−28.6</td>
</tr>
</tbody>
</table>

Notes:  
$^a$ Beginning one year before upheaval.  
$^b$ Over same number of years as the duration of the upheaval.  
$^c$ Selected cases but typical of the region.


The most striking feature of Table 1 is that all periods of upheaval were associated with substantial drops in the birth rate, ranging before the 1990s from 15 to 37 per cent. The tumultuous political and social changes in Eastern Europe at the end of the twentieth century were responsible for greater fertility declines still, up to 50 per cent and even higher. A second feature is that the upheaval fertility declines were greater in every case than declines in equal periods before and after the crises. Indeed, in some cases there were in these comparable periods rises in fertility, which in the case of Russia in the 1920s completely offset the impact of war and revolution. Certainly, in all cases the fertility decline was substantial, and often, but not always, involved changes in levels of both marriage and marital fertility. The exceptions are the two earliest upheavals: the seventeenth-century English fertility decline is explicable almost entirely by delayed or forgone marriage, in
contrast with the French revolutionary period for which marital fertility decline supplies almost the whole explanation.

Table 2 allows the comparison of revolutionary France with the first German social upheaval as well as allowing separate measures of movements in marriage and marital fertility. It was originally intended to include Russia as well but the only index calculations available for it before the revolution are 20 years earlier.

**Table 2.** Fertility experience of two countries experiencing major social upheavals (Princeton Indices)

<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>$I_f$ Change (%)</th>
<th>$I_g$ change (%)</th>
<th>$I_m$ change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>During</td>
<td>After</td>
<td>Before</td>
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<td></td>
<td>period a</td>
<td>period a</td>
<td>period a</td>
<td>period</td>
</tr>
<tr>
<td>France</td>
<td>1788–1804</td>
<td>–1.4</td>
<td>–17.7</td>
<td>–0.7</td>
</tr>
<tr>
<td>Germany</td>
<td>1913–1925b</td>
<td>–16.4</td>
<td>–40.9</td>
<td>–15.1</td>
</tr>
</tbody>
</table>

Notes:  

- Identical periods.
- As close periods to those as in Table 1 as possible.

Sources: Weir 1994; Coale and Treadway 1986.

In France, between 1788 and 1804, marriage showed little variation, although it did change later. Thus the $I_g$ changes are similar to the $I_m$ changes and both can be compared with the movements in the crude birth rate shown in Table 1. By these measures the fertility impact of the French Revolution is less than most of those induced by the social upheavals: perhaps more evidence that fundamental family changes, those relating to the cost of children, were not yet under way in France. This contrasts with the situation during and after World War I in Germany where marriage change was substantial, although still not comparable with that of marital fertility, in engineering the fertility decline.

We can now proceed by briefly examining individual countries, with the exception of revolutionary France, which has already been treated.

**Notes on individual country experiences**

**England 1642–1666**

The crude birth rate declined by 17.3 per cent, double the fall found in Sweden, Norway and Finland during the same years. Reconstitution studies show a decline in cumulative marital fertility of only 1.6 per cent between the first and second halves of the seventeenth century (Wrigley and Schofield, 1981, p. 254), while the average age at last birth fell about one per cent (Wrigley et al, 1977, p. 388). The average age at first female marriage remained almost constant around 26 years from 1600 to 1750 (Wrigley and Schofield, 1981, p. 255). The decline in the birth rate in the 1640s and 1650s is almost entirely explained by a drop in the proportion of females ever marrying from around 78.6 per cent in 1636–40 to 75.9 per cent in 1666–71, although with a short-lived upswing in the early 1650s (Wrigley and Schofield, 1987, p. 260). This was the last of the identified upheavals in which marital fertility remained unchanged. Wrigley and Schofield (1981, pp. 469–
471) noted that the preventive check continued to work ‘but in a different way’. They were surprised that marriage was restricted and births fell while real wages were slowly rising. The answer may be that social upheaval changed attitudes if not to fertility then to marriage and the proper standard of living, as well as increasing the feeling of insecurity.

The English Civil War did not attack Christianity itself but almost all its separate tenets were challenged by some group or other. Hill (1975) called his account of radical ideas of the time The World Turned Upside Down. In a series of debates, 1647–1649, the Roundhead army camped around London debated the new world order bringing up almost every political issue of the coming centuries, and religious and political sects went further still (Woodhouse, 1950). The only significant subjects not mentioned were the problems of large families and the need to control their size. This may well have been because in an era when children were subject to high mortality with the survivors being put out to work early, they presented no burden. Nor, with primogeniture operating, did they represent a threat to the patrimony. The situation was not one of stationary population; indeed there had been a doubling over the previous 120 years, a situation which Stone (1972, p. 67) took to be the critical causative factor of social and political upheaval at the time. And the situation was not one where the family was unchanging. Bridenbaugh (1968, pp. 29–33), in Vexed and Troubled Englishmen, 1590–1642, stressed the changing nature of the family, propelled by the Protestant and Puritan emphasis on it being ‘a church’. Hill (1975, p. 306) attested that the concepts of the family being a spousal partnership, the abhorrence of chastity, and the attack on the sexual double standard all grew out of Puritanism.

Women, women’s issues and sexuality were not major concerns of the period, and are barely mentioned in such histories of the time as Woolrych’s (2002) Britain in Revolution. Nevertheless, such groups as the Ranters and the Quakers debated the questions of women’s freedom, even their sexual freedom (Hill, 1975, pp. 306–323). There were advocates of sexual freedom, but this ‘tended to be freedom for men only so long as there was no effective birth control. This was the practical moral basis to the puritan emphasis on monogamy’ (Hill, 1975, p. 319). Even these more sexually liberated groups did not raise the issue of marital fertility control, good evidence that there was little demand for it and little fear of large families even among the minority of parents who had an exceptional number of surviving children.

Russia 1914–1922

The Russian crude birth rate was fairly stable in the mid- to upper 40s before 1914. Then it progressively fell to near 30 in 1920, almost recovered its earlier levels by 1925, then moved downward in the 1930s (Mitchell, 2003, p. 108). Coale et al, (1979: p. 51) showed that by 1897 marital fertility had begun to decline in the urban population, while by 1926 this was also true of many rural populations. Nevertheless, for our specific period, they believed it purposeless to search for the determinants of this fertility decline because ‘it would be a study of pathological instances of reduced fertility rather than of the normal conditions under which fertility falls. There is the possibility, which we can only mention without judging its probability, that these prolonged traumata strongly influenced subsequent trends’ (Coale et al, 1979, p. 17). This perhaps also applies to the fertility decline in other cases examined in this paper.

Nevertheless, the revolution was, at least in its early years, one of ideas and innovations which were not easily reversed. Marriage, sexual activity and birth control were all matters for a flow of views during the hectic years of revolution, civil war and intervention. On the establishment of the Soviet Union in 1922 abortion was legalized and provision for it was made in all hospitals and public medical clinics. Contraception was stressed in educational campaigns (Lorimer, 1946, p. 126). In Moscow the number of abortions was only 21 per cent of the number of births in 1922 but by 1934
had risen to almost three times that of births as the city’s crude birth rate fell to 15 per thousand (Lorimer, 1946, p. 127). As Europe drifted towards war, the legal rights to abortion and easy divorce were cut drastically in 1936 and legal abortion fell by 93 per cent. The result was a rise in the country’s birth rate from 30.1 in 1935 to a peak of 38.7 in 1937, still only two-thirds of the 1913 level.

Thus the 1914–1922 crisis came at a time when the fertility transition was in its earliest stage. Births were reduced during the upheaval. This experience of a demand for fertility control probably merged with revolutionary beliefs to bring about legalized abortion and an impressive fertility decline over the next dozen years. The massive resort to abortion both accustomed people to small families and ensured that there was little experience with any form of birth control other than abortion. The result, foreshadowing the Romanian experience of the 1960s (Berelson, 1979), was that, when access to abortion was suddenly cut off, the birth rate rose, only to be followed by an almost immediate decline as a population accustomed to being able to control its fertility resorted to new methods of control.

Germany 1914–1924

Germany participated in total war from 1914 to 1918, followed by defeat, an insurrectionary period, the establishment of the Weimar Republic, and, in 1923, Government-induced inflation2 on an unprecedented scale putting renewed pressure on many families. The 1924 birth rate at 20.6 per thousand was 25 per cent below that of 1913, a linear fall over the period of 0.6 points per year. This should, however, be put in perspective: the annual linear fall during the fertility transition over the previous four decades had been 0.4 points, as Germany industrialized and infant mortality fell (Knodel, 1974, p. 181), and it would be 0.7 points over the next decade as Germany slipped into the Depression which was characterized by unemployment higher than in any of the other industrialized countries.

Wilke and Wagner (1981, pp. 129–135) presented evidence to show that in agricultural Germany children worked hard and probably imposed no net economic burden until World War I, as mechanization of agriculture hardly began before the 1920s. The War brought women into the workforce in greater numbers and gave them the vote in the insurrectionary period at the very end of 1918 (Koonz, 1987, pp. 21–26). The whole period of upheaval proletarianized and radicalized much of the middle class, especially the white-collar workers (Mommsen, 1988, p. 31). It was also characterized after the War by many unmarried young women, many young widows and others forming a surplus in a male-deficient marriage market. Up to World War I, the government of Germany, holding a ‘bourgeois idea of motherhood’ and concerned with defence, ‘sought by the suppression of knowledge and access to birth control methods, and by the active encouragement of mother and infant welfare measures, to reverse the rapid decline in the birth rate’ (Dasey, 1981, pp. 222–223). There was a degree of sexual puritanism. This was reversed under the Weimar Republic which was the great era of German sexual research. Indeed, the subsequent Nazi government was to charge that ‘unbridled sexuality’ had led to a falling birth rate and a weakening of the country’s moral fibre and manpower (Koonz, 1987, p. 100).

Austria 1914–1924

Austria was hard hit by the War. The Austro-Hungarian Empire was dismembered so that post-Versailles Austria was reduced to a small core area of 84,000 km² with a population of little more than six million, of whom almost one-third lived in the now disproportionately large capital, Vienna. Defeat in the war and the loss of most of the empire were not only psychologically shattering but materially disastrous. As Austria was cut off from most of its previous food supplies,
famine set in as early as 1917; unemployment, especially in Vienna, was very high because there was no longer an Empire to service; there was inflation and a chaotic economy (Jelavich, 1987, pp. 140ff., 162ff., 169–170; Brook-Shepherd, 1996, pp. 236ff.). There were widespread strikes but neither revolution as in Hungary, nor threatened revolution as in Germany.

Between 1913 and 1924 the birth rate fell 28 per cent from 31.1 to 22.5, with an annual linear rate of decline of 0.8 points, four times that of the previous four decades and somewhat higher than in the next depression-affected 13 years. Unlike the case of Germany, the government did not intervene to raise the birth rate during the 1930s and no revival came until 1939 following the Anschluss of the previous year.

**Germany 1939–1950**

Germany’s birth rate fell only moderately as a result of World War II, exhibiting a decline of 20 per cent from 20.4 in 1939 to 16.4 in 1950, back to where it had already been in the early 1930s. Thereafter, for the next 15 years it changed little in either West or East Germany. During this time, like other non-English-speaking developed countries, did not have a baby boom. In 1960 the crude birth rate was 17 per thousand (17.4 in West Germany and 17.0 in East Germany), a little lower than in France and the Netherlands, similar to that of Belgium, and higher than in Sweden and Austria.

Roseman’s explanation (1988, pp. 60ff.) for the smaller impact of the second than the first world war on Germany’s demography and society is that the Nazi government deliberately shielded the German population from social stress. The leaders were reluctant to test the society, recruiting only 46 per cent of women into the workforce, compared with 66 per cent in Britain. They succeeded in doing so by substituting slave labour from Eastern Europe and the Balkans. Roseman (1988, p. 75) claimed that this achievement made it ‘evident that “total war” is not an independent cause of social change’. The immediate post-war period differed also from that after World War I in that military occupation held potentially disruptive forces in check, while the Marshall Plan from 1948, in the shadow of the Cold War, helped rebuild the economy and achieve close to full employment.

**Japan 1939–1954**

Japan’s demographic history is one of a delayed reaction to the war and its aftermath. The birth rate was little lower in 1940 than in 1930, 29.4 compared with 32.5, and it then remained almost unchanged during the war and for five years after it. There was a parallel in the demographic behaviour of Japan and Germany in the 1930s when military-oriented governments intervened to keep the birth rate up, again during the war when the home front was shielded as much as possible, and after the war when occupation prevented social disruption and encouraged economic reconstruction. Nevertheless, social and psychological readjustment was not so easy. Although the birth rate fell by just over one point, namely by four per cent in fifteen years from 1940 to 1950, in the next five years it was to decline by 31 per cent, giving for the first time a hint that Japan might later be a leader in the new low-fertility world that lay ahead.

The Japanese fertility decline of the early 1950s was not primarily a reaction to economic growth. As measured by 1990 US dollars, Japan’s per capita income was around $1,700 in 1920 (half that of France, one-third that of USA), $2,900 in 1940, $1,555 in 1946 (one quarter of Britain’s and one third of USA’s), and not again surpassing its 1940 level until 1956 (Maddison, 2001). The demographic reaction may rather have been one to poverty. The huge economic growth came later, taking its per capita income by the end of the century past Western Europe, but still below the United States. A more relevant factor is probably mortality decline. Japan’s infant mortality rate
more than halved from 1940 to 1955 from 90 to 40 deaths per thousand births. Its expectation of life at birth climbed from 49 years in 1940, and probably no higher in 1946, to 61 years in 1950 and 65 years in 1954, catching up to the West in the 1960s.

After World War II, the government believed the country’s population was contracting. Then in 1949 statistics were published showing rapid population growth with projected populations becoming ever greater (Taeuber, 1958, pp. 71–72). In 1948 the 1940 Eugenics Protection Law was revised encouraging family planning, permitting abortion for health reasons and sterilization in the case of large families (Taeuber, 1958, p. 269). Then, in 1949, as public debate questioned whether Japan had already exceeded its carrying capacity, the law was amended permitting abortions on economic grounds, and again in 1952 allowing a single doctor to make the decision. The government made no reference to any of these measures reflecting population policies, but their enactment led to steeply falling birth rates after 1950, almost halving in the following decades. Between 1949 and 1950 the annual number of conceptions remained fairly constant at just under three million, but the proportion aborted climbed from 8 to 41 per cent (Taeuber, 1958, p. 276). The ready acceptance of abortion by the population was doubtless facilitated by an earlier history of abortion (and infanticide) with little popular disapproval (Caldwell and Caldwell, 2003). The willingness to abort was doubtless enhanced by a halving of the infant mortality rate between 1947 and 1955. Then the birth rate levelled of for 20 years before joining the global trend to much lower fertility.

**Iberia 1974–1987**

Until the Portuguese revolution of 1974 and Spain’s movement towards democracy following Francisco Franco’s death the following year, both countries had been isolated for decades from population policy trends in the rest of Western Europe. Catholic dictators had encouraged large families and had banned not only divorce and abortion, but the advertisement and sale of contraceptives. In both Portugal and Spain, the birth rates remained above or near 20 per thousand for three decades, even though by 1975 neighbouring France and comparable Italy recorded birth rates around 15 per thousand. Explosively after the revolution in Portugal and a little more slowly in Spain, public discourse, especially in the now- freed media, turned to divorce, contraception and abortion. Even in Spain the sale and use of contraceptives as well as sterilization were legalized in 1978, and abortion in certain circumstances in 1985 (Delgado and Martin, 1999, p. 78). Efforts by the left-wing and secular parties did not succeed in liberalizing Spain’s abortion law or achieving any rights to abortion in Portugal. Nevertheless by 1996 Spain recorded 51,000 legal abortions per year, and an abortion rate just below those of the Netherlands, Belgium and Germany, although only half those of France and Italy (Singh et al., 2003, pp. 28–29). The demand for fertility control was undoubtedly raised by steep infant mortality declines over the previous decades: Spain’s infant mortality fell by half and Portugal’s by two-thirds. The need for fertility control was also felt more strongly as a result of rapid economic growth: real per capita income had grown at almost six per cent per annum in both countries for a quarter of a century, the highest rates in Europe outside Greece (Maddison, 2001, p. 186); and Reher (1997, pp. 274ff.) points to steep rises in female education and workforce participation in the 1970s.

**Eastern Europe from the late 1980s**

Political change began in Eastern Europe in the late 1980s and the Soviet Union was dissolved towards the end of 1991. From the late 1980s to the late 1990s birth rates halved in all the ex-Communist states of Europe (except in Hungary where the fall had begun earlier) and the ex-Soviet Union’s trans-Caucasian republics. In contrast only a modest fall occurred in Yugoslavia with its different political history. By 2003 total fertility rates everywhere (except Albania) were in the
range 1.1–1.3, among the lowest in the world. This sudden decline was not explained by a steep fall in infant and child mortality which had achieved their major declines by 1970. Nor was the cause a new access to birth control, as nearly everywhere access to abortion remained unchanged as did its role as the chief means of fertility control. What had happened was a steep increase in the age of first marriage towards Western European levels, and in the control of marital births, especially after the first.

Eberstadt (1994, p. 150) points to ‘traumatic adjustments’, but it can easily be argued that what occurred was not an irrational reaction to fear but a rational reaction to huge changes in material circumstances (see Caldwell and Schindlmayr, 2003), although it must be emphasized that fertility reached the same low level irrespective of whether real per capita income fell or not, or whether unemployment levels were modest or huge. What did occur was a loss of guaranteed life-long employment, of subsidized purchases, and of social welfare benefits. Free medical and education services were replaced by relatively expensive medical services and education which could incur substantial costs. Sobotka et al. (2003) argued that at least in the Czech Republic material change was no more important than the social, psychological and behavioural changes that had propelled the West’s “second demographic transition” two decades earlier with such phenomena as increases in cohabitation, non-martial childbearing, and the social acceptance of both homosexuality and childlessness. Even in East Germany, apparently protected by the now pan-Germanic economic and social welfare systems, analysts are unsure of the balance of responsibility as casual factors between ‘crisis and adaption’ (cf. Kryenfeld 2003).

There was a universal surging feeling of insecurity and of not knowing what the future held. This is, of course, a standard reaction to liberal economics with its attack on continuing secure employment, but this was compounded in Eastern Europe by a profound distrust of the abilities of the new economies to grow. Certainly much of the population is waiting to see what the future holds. Much of this waiting is demographic in that marriage is being deferred as is childbearing within marriage. This may come to a halt if the economies begin to grow faster and to absorb more of the unemployed or if the populations become accustomed to insecure employment, short-term jobs and other aspects of liberal economics. Alternatively they may become accustomed to marrying and then having only one child, even if employment becomes more certain.

Conclusion

There are obvious omissions in our coverage: the American Revolution because of the lack of demographic data, the 1949 Chinese Revolution because there was not provable fertility change (except for the transient demographic reaction to the famine of 1959–61) until the 1970s, and the Asian economic crisis at the end of the twentieth century, when Indonesia was especially hard hit, because neither the economic fallout nor the demographic effect is yet clear. The Chinese experience is, nevertheless, instructive: one of the most marked economic and social changes in modern history occurred from 1949, but in spite of this and an accompanying steep decline in infant and child mortality, a pronatalist policy and a lack of access to birth control maintained pre-revolutionary fertility levels until birth-control policy and access changed, with a resultant steep decline in fertility.

What, now, can we conclude from our case studies?

First, every social upheaval except the Chinese Revolution was accompanied by marked fertility decline over a decade or longer. This was usually in contrast to the periods both before and after the upheaval. There were exceptions to this contrast, where there were preceding marked fertility falls, although none as great as during the crisis period: Germany and Austria before World War I, Japan
before World War II and Portugal before the 1974 revolution. In all these cases there was a fertility transition already under way but accelerated by the upheaval. Austria, Portugal and Spain also had marked subsequent falls as the fertility transition continued. Only Russia, rather surprisingly, had a full subsequent recovery of fertility, perhaps partly a catch-up effect. Indeed, in spite of access to abortion, the renewal of the Russian fertility decline awaited the 1930s and the reconstruction of the Russian economy.

Second, not only are individuals likely to change but so are governments and their legislative programmes. In France the demographic reaction was probably mostly indirect, and probably greatest in reaction to the universalization of partible inheritance. But in Russia in the 1920s and Portugal and Spain in the 1970s, liberalizing governments deliberately made access to birth control easier and ceased pronatalist pressures and rhetoric.

Third, society itself changed irreversibly. This was certainly true in the cases of seventeenth-century England, late eighteenth-century France and early twentieth-century Russia. It has also been true in Iberia of the 1970s and Eastern Europe of the 1990s. Less certain is the impact of the wars on central Europe, although World War II’s aftermath left Germany and Austria on the frontier of the Cold War, and may have produced continuing apprehension.

Fourth, material conditions changed adversely. Certainly a greater feeling of insecurity was a conspicuous feature of all those crises, except possibly the Iberian ones. Difficulties with living a normal life, retaining housing and being adequately fed were conspicuous features of Russia in and after the First World War, Central Europe after that war, and Eastern Europe after the fall of communism.

Fifth, the fertility declines were usually driven or assisted by other demographic changes usually not aimed at reducing fertility. Forgone and deferred marriages drove the seventeenth-century English fertility decline and marriage rates were not to recover for decades. Marriage delay has also been a major component of the recent Eastern European fertility decline. Preceding infant and child mortality decline was probably important in Iberia, as it was, probably interacting with the fertility decline, in France.

Finally, did mind-sets change and, if they did so, did this have a demographic impact? Mind-sets certainly changed in the English Civil War but it is hard to prove that this affected marriage. The convulsions of the French Revolution and the organized attack on the Church and Christianity should have had an impact and may have made it easier to adjust fertility to the situation created by inheritance changes. The nature of the family and the treatment of children may have changed sufficiently to reduce child mortality and make high fertility more difficult. In Portugal and Spain the popular desire to adopt the fertility control and marriage legislation of Western Europe (and that of Italy achieved without revolution) was certainly a factor, coupled with their own ideologies in the new governments’ moves in this direction. Central Europe found the wars less liberating, but the Weimar Republic was certainly not in social atmosphere the Germany of Wilhelm II.

What is common in all cases of upheaval is not the growth of material adversity but an increase in feelings of insecurity. In every case most of the people involved believed that what lay ahead was unknown and might be better known as time passed. There were excellent reasons for delaying marriage and family formation until it could be seen what the future was going to be like. This reaction cannot be measured by economic indices.

The analysis could be summarized as showing that pre-transitional social upheavals depressed fertility for at least a period while post-transitional crises accelerated the decline. That this was
partly the result of a weakening of the outdated props to high fertility is less obvious in the case of wars (the Marwick hypothesis) than in the case of revolutions (the Binion hypothesis). It is very clear that change in the individual outlook, philosophy or world view does not on its own depress fertility. What is effective is change in legislation or the economic and social systems which provide a different context for individual behaviour. Those changes are, in a sense, the result of the sum total of individual actions, but only a minority of the population provides the ideological leadership; perhaps only a minority supports the new social directions. What dominates most situations is a feeling of insecurity and a fear of being committed to new demographic acts before it is clear what the world will be like when those acts are consummated.

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Notes

1 Also the source for all other unreferenced birth rates in this paper.
2 To show that the agreed-on level of reparations was unrealistic, as Keynes (1919) had argued.

References


