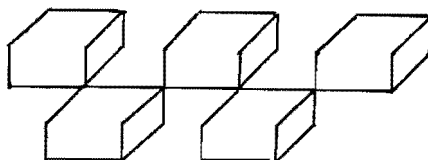


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**MOTIVATION AND LEGITIMATION:
LIVING CONDITIONS, SOCIAL CONTROL AND THE REPRODUCTIVE REGIMES
IN BELGIUM AND FRANCE FROM THE 16TH THROUGH THE 19TH CENTURY**

R. Lesthaeghe

Working Paper 1989-2



interuniversity programme in demography

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1. Introduction

This article gives an overview of the various ways in which the reproductive regime, i.e. nuptiality and marital fertility, has been influenced by material living conditions, strategies of property transmission, and by attempts of elites - often representing or using outside agencies such as church and state - to alter popular culture. We are essentially dealing with a triangular relationship: not only are we concerned with the economics or the sociology of the changes in the reproductive regimes, but we also wish to explore the basis of the triangle, i.e. the connections between living conditions and the politics of moral patronage. The starting point could have been E. Wolf's notion (1966) that a peasant society not only requires a "caloric" and a "replacement" fund to survive, but also a "ceremonial" one to achieve social integration at the village level, if it were not for the fact that the Western European peasantry was already strongly connected to national and international markets and functioning in capitalist societies with marked forms of social stratification. Hence, distinctions have to be made pertaining to factors such as the types of rural economies, rules governing property transmission, economic interests of social classes, the degree of penetration of popular culture by the new "civilitéé", linguistic zones acting as barriers to regional diffusion and functioning as symbols of particularism, and the varying political strength of the administrative centres.

The choice of the two countries, France and Belgium, is of course not fortuitous. The puzzle of the early French fertility decline has exerted great attraction among historians and demographers alike. There is no shortage of explanatory theses, and several will be discussed here. Belgium, on the other hand, is a typical example of much of the rest of northwestern continental Europe, with a fertility transition starting almost a century later than in France, and experiencing it during the nation's relatively early industrial revolution. Yet, both countries are remarkably heterogeneous with respect to their internal economic, demographic and cultural setting, so that the set of regions they contain forms a fascinating laboratory for research in historical demography. Furthermore, their comparison shows that there are many roads that lead to a marital fertility transition. This is perhaps the central theme of this paper. For too long have we exported the notion that fertility transitions can only follow as the byproduct of rising household income.

At the most general level, A.J. Coale (1973) coined the phrase that fertility transitions occur when populations are simultaneously "ready, willing and able". Readiness refers to the economic advantage at the household level or to the individual motivations for controlling fertility, willingness encompasses the moral acceptability or the legitimation of such behaviour, and ability pertains to the efficiency and safety of the available contraceptive methods. Coale reduces the degrees of freedom by stressing the simultaneity of the three conditions, but for the rest, many scripts fit the bill. To start with, motivation may stem from a large variety of preoccupations, each developing under particular economic,

demographic and institutional circumstances. E. Boserup (1985), for instance, has envisaged the possibility of a "crisis-led" transition in sub-Saharan Africa. Also in this paper we shall document that the French historical fertility decline did not occur in a period of rising real income, but instead in a period of deteriorating living conditions. Nor should the notion be entertained that legitimation follows automatically in the wake of economic motivation. One can, for instance, envisage an extreme scenario in which action stemming from one particular motivational set is not legitimized, so that the fertility transition is postponed to a politically or culturally more propitious moment, by which time motivations too have been totally altered. In such a case, opportunities for a fertility decline can be missed as a result of a cultural lag. Finally, it has also been argued that motivations for fertility control have always existed, but that the demographic outcome failed to materialize for lack of sufficiently safe and reliable methods of contraception. But this thesis raises the question why some populations persist in their attempts to use such methods and in pursuing a contraceptive breakthrough, while their neighbours do not. In other words, the ability issue remains connected to those of motivation and legitimation.

Last but not least, the point of measurement reliability and validity ought to be raised. The task of penetrating into individual motivations and of placing these in an economic and institutional context is tough enough in contemporary societies, despite the availability of the actors which can be interrogated in surveys, or in focussed in-depth interviews. In historical research, the task is even more daunting since peasants and ordinary townsmen did not record their thoughts and motivations concerning marriage and procreation. Almost all descriptive sources stem from elites and range in content from rare personal correspondence on such matters (e.g. the letters of Mme de Sévigné) to the more common moralist prescriptions (e.g. the codes of "civilité"), or to the treatise in political economy (e.g. Condorcet, Malthus). Such documents are undoubtedly highly valuable in elucidating particular points, but additional evidence is needed in the form of economic, social and cultural indicators which should document evolutions over time and patterns of regional differentiation. The social indicator approach is not without problems either. Indicators on wages, prices and standards of living, and the demographic measurement are apparently more reliable than cultural indicators, if these can be found, but all pose problems of validity and interpretation. For instance, what is the meaning of low illegitimacy in villages, if women pregnant with an illegitimate child are forced to emigrate to towns? What is the meaning of persistent regional contrasts in levels of natural marital fertility if we have no further information on coital frequency, fecundity, breastfeeding or postpartum abstinence? Or even more intriguing, what is the meaning of changes in the proportions marrying during Lent or Advent, when such an index measures the outcome of two opposing forces, i.e. the pressure from the Catholic church not to allow marriages during these closed periods and the pressure from the young adults or the widowed to engage in sex prior to marriage but to avoid an illegitimate child? Indicators of social control can be particularly ambiguous if they pertain to public events such as church marriages, dominical or Easter duty fulfillment. They are better, but also scarcer, if they reflect private matters (e.g. presence or absence of religious incantations in testaments) or expressions of political preference in secret ballots. As a result, the measurement of secularization can only be

attempted through multiple indicators, thereby eliminating indicator ideosyncracies. Moreover, the cultural indicators which provide time series from the 17th or 18th century onwards are typically of the "public" type, so that their meaning may change with time. In other words, one should be careful not to attach a single interpretation to such an indicator for which one possesses a convenient long term curve. The second problem with social indicators is that they may only be available for a specific year only. This is often the case for indicators of regional differentiation (e.g. prevailing system of inheritance, extent of endogamous marriage, degree of secularization). In such circumstances, one quickly encounters problems of causal interpretation if the presumed cause can only be measured at a date later than that of the presumed effect. The common solution for such a problem is the assumption that basic institutional or ideational features have a high degree of inertness in their regional patterning, and that the measurement for a later point in time is an adequate proxy for its unavailable measurement at an earlier point. Such an interpretation may occasionally be sustained if different indicators of the presumed underlying dimension (e.g. secularization), but measured at different times, show a high degree of statistical association. However, in many instances such tests cannot be performed and the proxy assumption remains a matter of faith.

With these caveats in mind, we shall now turn to specific issues and empirical measurements. First we shall discuss the basic features governing the daily life of the peasantry and the various sources of moral patronage in France and Belgium. For both countries this discussion can be connected with the index of marriages during Lent and Advent and this indicator of social control can, in its turn, be linked to the evolution of standards of living. The analysis for Belgium spans, furthermore, the entire period between 1600 and 1900, so that we have another chance to look at the preconditions for its marital fertility decline in the last quarter of the 19th century. The French analysis reviews the cases with a fertility decline prior to the French Revolution of 1789 and some of the explanatory theses. But the bulk of the analysis deals with the regional differentiation that came into existence at the time of the French Revolution itself, and which was maintained during much of the 19th century. Here, we shall heavily rely on the social indicator approach, and particularly on the data gathered by D. Weir (1985), H. Le Bras (1981, 1986) and E. Todd (1981, 1988). All of this will bring out how basic changes in reproductive regimes take place in very different economic, political and ideational contexts. The two case studies highlighten the need for a total rewriting of the hitherto too monolithic and simplistic "demographic transition theory".

2. Popular and elite cultures during the late Middle Ages and the Counter-Reformation

Since the 1930s historians have been increasingly engaged in studying the cultures of the aristocracy, bourgeoisie, townpeople and peasantry. Their effort went considerably beyond the mere description of cultures according to distinct social strata. Rather, it was the degree of mutual influence and interpenetration that was at stake. In other words, historians have been engaged in the study of cultural mobility, or, as N. Elias (1969) calls it, in the "sociogenesis of civilization". After the second World War, these interest developed further into the "histoire

nouvelle", which, incidentally, relied often quite heavily on the advances in historical demography (e.g. Flandrin, 1984). This process has not come to an end since challenging interpretations have surfaced during the 1980s with respect to the role of institutional factors in moulding kinship structures during the early Middle Ages (J. Goody, 1983) and the role of kinship relations in shaping reproductive regimes and even political preference during the modern times (E. Todd, 1983, 1988).

As just indicated, the core issue of this literature has been that of social control over popular culture. In this article we certainly cannot do justice to the voluminous work of historians on this topic, and we have to limit ourselves to an admittedly sketchy outline.

A classic starting point for the understanding of medioeval town and rural cultures are the imponderabilia of daily life and particularly the recurrence of epidemics or famines, the sequences of particularly harsh winters, or the passing of devastating armies (F. Braudel, 1979; R. Muchembled, 1978, J. Delumeau and Y. Lesquin, 1987). The outcome of these checks was that the French population oscillated from 1320 to 1720, i.e. over a period of a full 400 years, around 20 million. Such a system of marked physical insecurity had obviously left its imprints on a culture filled with real and imaginary fears. Sin and culpabilisation were firmly grafted onto it (see for instance, Delumeau, 1983), and there was a flourishing industry of pilgrimages to the sanctuaries of the plethora of "healer-saints". In addition to such christianized versions, the later Middle Ages still had a remarkable tolerance for magic beliefs. There was for instance no cleavage between the world of the living and that of the dead (see M. Vovelle, 1983) and festivities were commonly held in graveyards with people eating, drinking and joking on, and occasionally in tombs (R. Muchembled, 1978). The spirits of the deceased were not absent from village life as they could interfere both in positive and negative ways. As a result, the cemetery merriment was not considered sacrilegious. Rather it was an attempt to placate the higher powers (J. Delumeau, 1983).

The reactions to such settings of insecurity were manifold. First, both towns and villages were organized around what Muchembled has called "une sociabilité épaisse", referring to the layers of solidarity that existed in neighbourhood organizations, professional corporations, organizations of age groups, village unions or kinship groups such as the "frairies" in southern France. Secondly, the notion of time was still strongly based on the cyclical concept, with the present being dominant and the future a likely replicum of the past. The year was therefore organized as a series of cycles that signified the repetition of seasons, and hence the alteration of periods of greater and lesser activity. Directly connected to this was the Christian calendar and its division of the year in six cycles which regulated feasting and fasting. These cycles were spanning the periods around (i) Carnival and Lent, (ii) Easter and Whitsun, (iii) Saint John, (iv) Assumption, (v) All Saints and (vi) the Twelve Days from Christmas to Epiphany. Easter was the dominant Christian event, with more people observing their Easter Duty than attending Sunday Mass (R. Muchembled, 1978), and both Lent and Advent were periods during which celebrations were banned, at least in principle. All the others contained periods of celebration with a much more profane and even plainly pagan content. Especially Carnival, just before the start of Lent, the rites of May (Easter to Whitsun), Saint John and the Twelve Days were outstanding in this respect in the Burgundian Low Countries and 15th and 16th century

France. The May rituals and Saint John festivities, for instance were characterized by sexual overtones, with groups of unmarried adolescents and young adults of both sexes provoking and chasing each other. All Saints was by no means a period of mourning or quiet remembering of departed dear ones, but a feast with an animist meaning. The Twelve Days and Carnival, falling in the middle of the winter, involved a popular rallying around "fêtes burlesques" and public theatre performances which especially mocked the local and national establishment. Villages, towns or clusters of them then elected mock kings, princes, bishops, admirals or captains who would reign during the week of the "donkeys", "idiots", "beggars", "have-nots" etc. There is hardly any need to spell out that these periods of public exhalation constituted a collective escape from the hardship and fears of daily existence and that they involved drink, sex and violence.

The late Middle Ages were also noted for their greater sexual tolerance. The local towns had prostitution houses, sometimes run by the city officials themselves; the clergy had not been brought under the church's complete control and many had concubines. Sexual offences were rarely prosecuted: in the city of Antwerp less than 1 percent of crimes were of a sexual nature between 1358 and 1387 (J.A. Goris, 1927, quoted by Muchembled, 1978). Moreover, witchcraft trials were rare prior to 1500. In short, both church and state did not have a firm grip on the populations of towns and villages, and popular culture was quite free to oscillate between Christianity and paganism depending on the occasion and the cycle of the year.

These matters changed considerably during the 16th, 17th and 18th centuries. During the 16th century, both the French kings and the Habsburg rulers of the Low Countries try to contain the festivities and especially the violence to persons and property. From 1550 onward, the Low Countries are in turmoil as a result of Calvinist and Anabaptist revolts culminating in the iconoclastic ransacking of churches and abbeys (1566), and followed by equally ferocious reprisals. At that time, Philip II of Spain, who had inherited the Low Countries from his father Charles V, sends troops to the southern Low Countries to eradicate Protestantism. This period is known as the Spanish Fury (1576) and it leads to the total devastation of the economy. Between 1560 and 1600, the population of the duchy of Brabant falls from almost half a million to about 370,000 and that of the county of Flanders from about 750,000 to 600,000 as a result of increased mortality and emigration to the northern provinces. Only 10 to 20 percent of arable land was left under cultivation, and the rent of land, expressed in days work, dropped from 14.3 in 1551-75 to 8.5 in 1576-1600 and 8.0 in 1601-25 (C. Vandenbroeke, 1984). During this period, the Catholic church and the state form a tight union in eradicating all forms of heresy, including those ingredients of popular culture which constituted direct violations of the rules laid down by the Spanish. Of all church inquests and judgements occurring between 1550 and 1794 in the diocese of Ghent, 55 percent take place between 1550 and 1599 (J. De Brouwer, 1971). Of these, 66 percent concerned sexual transgressions among laymen, and 14 percent concerned transgressions by the clergy, which were either of a sexual or of a financial nature.

The 17th century starts with the fall of the last two Protestant strongholds in the southern Low Countries and the pacification of the country under direct Spanish control and according to the rules of the Counter-Reformation. The Arch-dukes Albert and Isabella of Spain set the

Table 1 : Index of marriages during Lent and Advent in Belgium during the 17th, 18th and 19th centuries

	villages										rural parts of arrondissements				
	pre 1650	1650 1674	1675 1699	1700 1724	1725 1749	1750 1774	1775 1789	1790 1799	1800 1824	1825 1839	1841 1847	1851 1856	1860 1865	1870 1876	1881 1884
A. <u>Coast & Polders</u>															
<u>X MLA-index</u>	12	24	34	26	51	46	27	39	-	-	16	29	27	35	39 ^{a)}
N of villages	15	15	15	15	15	15	15	15	-	-	-	-	-	-	-
B. <u>Sandy Soil</u>															
<u>East + West Flanders</u>															
<u>X MLA-index</u>	14	34	29	27	33	21	8	31	55	17	18	23	20	24	35 ^{b)}
N of villages	8	11	11	13	13	13	8	8	3	4	-	-	-	-	-
C. <u>Antwerp Campine</u>															
<u>X MLA-index</u>	29	58	73	55	33	11	6	13	-	-	12	28	22	17	29 ^{c)}
N of villages	3	3	3	3	3	1	1	1	-	-	-	-	-	-	-
D. <u>Brabant</u>															
<u>X MLA-index</u>	26	16	34	36	24	26	9	17	29	66	37	47	45	45	57 ^{d)}
N of villages	1	1	1	1	2	2	1	1	1	1	-	-	-	-	-
E. <u>Industrial areas</u>															
<u>Hainaut & Liege</u>															
<u>X MLA-index</u>	-	-	-	21	21	19	18	36	64	62	56	63	58	63	77 ^{e)}
N of villages	-	-	-	11	11	11	12	12	12	11	-	-	-	-	-
F. <u>Other Wallonia</u>															
<u>X MLA-index</u>	-	-	-	26	28	24	19	22	47	-	39	54	56	60	65 ^{f)}
N of villages	-	-	-	7	7	7	7	7	6	-	-	-	-	-	-

Notes: a) 3 coastal villages and 12 agricultural villages in the arrondissement of Veurne. b) 8 West-Flemish villages in arrondissements of Diksmuide, Kortrijk, Tielt and Roeselare, plus 6 East-Flemish villages in arrondissements of Aalst, Ghent and Dendermonde. c) 3 villages in arrondissement of Antwerp and 1 village in the arrondissement of Turnhout. d) 1 village in arrondissement of Brussels and 1 in arrondissement of Leuven. e) 10 villages in arrondissement Liege, 2 in arrondissement of Mons and 1 in arrondissement of Ath. f) 6 villages in arrondissement of Marche and 1 in arrondissement of Huy. The values for the rural parts of arrondissements are simply averages for the arrondissement concerned (towns omitted).

stage by subjecting all theatre performances to the approval by the clergy (1601), by insisting on the prosecution of witchcraft (1606), by closing inns and taverns during Sunday Mass and Vespers (1607), by reinforcing the regulations concerning public morality proclaimed by the Synod of Mechelen (1608), by limiting marriage festivities to a single day (1613), and by limiting the number of taverns (1616) (C. Lis et al., 1985). Furthermore, the Jesuit order got a free hand in the Spanish Low Countries. In 1586, there were 253 Jesuits in the Low Countries, in 1626 they numbered 1574 in the reconquered provinces. At that time there were only 2962 Jesuits in the whole of Spain (P. Carson, 1974). Also the nature of moral crimes judged by the ecclesiastic tribunals altered during the period 1600-1650, with a shift towards the reinforcement of marriage. Fornicatio simplex is no longer the main offense, but the lead is taken by adultery (16 percent), seduction with promise of marriage (15 percent), concubinage (14 percent) and, for the first time, prostitution (10 percent) (J. De Brouwer, 1971). Finally, the period between 1550 and 1650 is characterized by a fast rise in witchcraft trials, not only in the southern Low Countries but in France as well (see for instance R. Briggs, 1989). According to Muchembled (1978), there were only 20 cases between 1351 and 1500 against 268 between 1501 and 1700 in Northern France. As in the southern Low Countries, prices were rising rapidly in France between 1560 and 1590 and again between 1630 and the Frondes of 1648-1653. Muchembled sums it up as follows (1978, p.325):

"D'une manière générale, la communauté rurale s'affaiblit entre 1550 et 1700. Elle se détruit aussi de l'intérieur, par la lente dissociation de ses éléments, par le lent effritement de la conscience de l'intérêt collectif. Elle est déjà vidée de toute substance dans les terroirs de champs ouverts, de céréaliculture, de grande exploitation et de paupérisation massive de l'Île de France et de la Picardie".

From 1600 onward, we are also able to follow the proportion of marriages during Lent and Advent in Flanders and Brabant. The index is actually measured as the proportion of marriages in March and December, and by disregarding the annual variability of Lent. A finetuning by applying the correction factor accounting for the numbers of fasting days in March is not applied, simply because the index is aggregated over periods of 10 to 25 years. Furthermore, the index (abbreviated as MLA for marriages in Lent and Advent) takes the value of 100 if 2/12 of the annual number of marriages fall in these two months. As illustrated in Table 1, the index is at an expected low level in the period 1625-1649, i.e. during the Counter-Reformation. In the Polder villages along the North Sea Coast, the MLA-index is merely 12, and in the densely settled sandy soil areas of East and West Flanders, it amounts to 14. In Brabant and Antwerp, where the repression between 1560 and 1600 had been less severe, the MLA-indices are higher and come to 26 and 29 respectively. However, these figures are based on data for 4 villages only.

3. Social control from 1650 to the French Revolution

After 1650 and especially 1667, Spanish control over the southern Low Countries weakens and the initial zeal of the Counter-Reformation wears off. This is precipitated by Louis XIV's ambitions to take over from the Spanish. In 1667, Louis starts the War of Devolution against the alliance of the English and Dutch, then ruled by William III of Orange, who was

MLA- INDEX

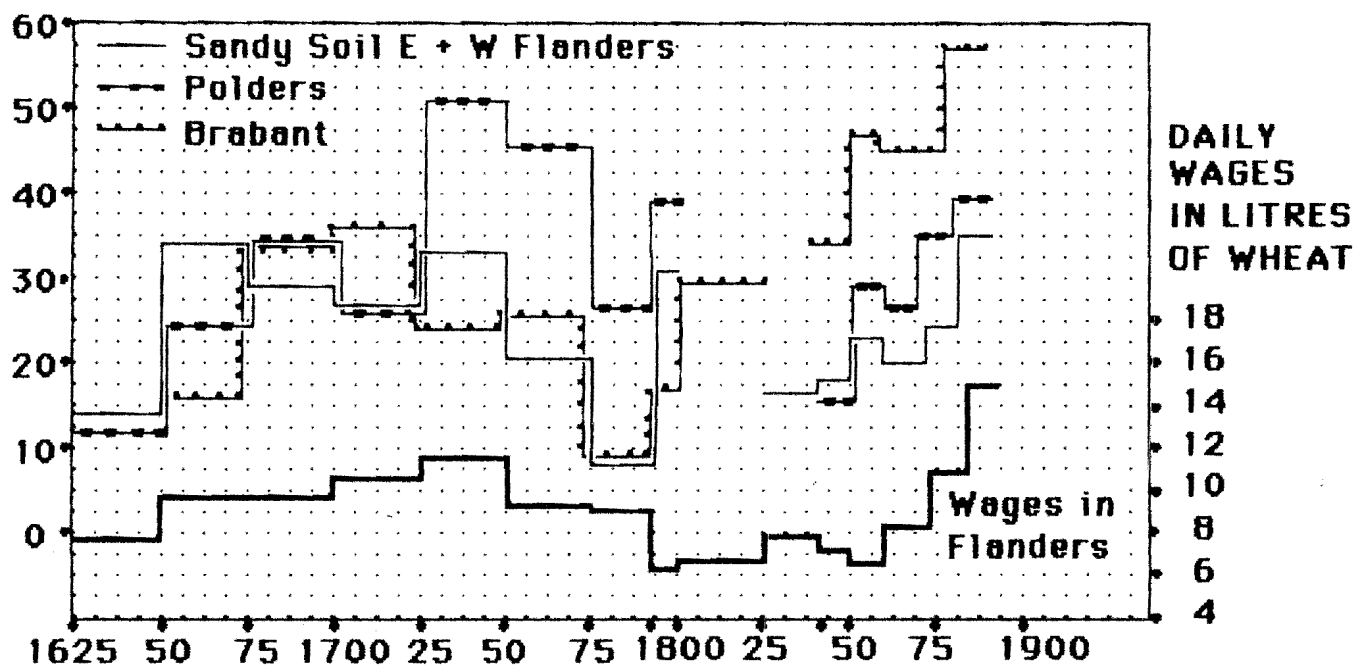


Figure 1: Evolution of index of marriages in closed period and of real wages, Flanders and Brabant, 1625-1890.

Table 2: Prices, Rent, Wages and Population in Flanders, 1690-1789

	<u>1690-99</u>	<u>1700-09</u>	<u>1730-39</u>	<u>1750-59</u>	<u>1780-89</u>
A. <u>Sandy Soil Flanders</u>					
- Price of land (index 1700-09)	126	100	134	257	1022
- Rent of land (index)	69	100	102	102	231
- Rate of return on land (%)	3.6	6.6	5.0	2.6	1.5
- Price of rye (index)	167	100	78	85	110
- Price of linnen (index)	113	100	79	128	196
- Daily wage in litres of wheat	7.0	8.5	11.5	10.0	8.5
- Wage of weavers in litres of rye per ell of linnen	2.8	4.1	4.5	6.0	4.7
- Population (index)	n.a.	100	116	n.a.	167
B. <u>Polders</u>					
- Rent of land (index)	111	100	130	107	189
- Price of wheat (index)	132	100	76	91	119
- Population (index)	n.a.	100	101	n.a.	130

Sources: F. Mendels, 1975; C. Vandenbroeke, 1984.

jointly king of England and regent of the United Provinces (i.e. the independent northern Low Countries). Louis' wars were to continue till 1713, and the allies (Anglo-Dutch, Germans, Bavarians) ruled the area till 1719, until they were assigned to the Austrian Habsburgers. But Louis XV of France soon started again, and it was only in 1748, in spite of the attempts of the Austrians to exchange the southern Low Countries against something better, that the area was definitively assigned to the Austrian Empire. Hence, from 1667 to 1748, i.e. for 80 years, state control faded in the region and the main demands on the local population took the form of levies required to maintain French troops or allied garrisons.

Concomitantly with this weakening of central government, a marked rise occurs in the MLA-index (see Table 1 and Figure 1). The rise is particularly obvious in the period 1650-1674 in the densely settled areas of East and West Flanders, and in the remote and much more isolated villages of the Campine region. From 1675 onward, the rise is generalized to the other areas as well (see Table 1). The earliest peak occurs in the Campine villages with MLA-values rising from 29 prior to 1650 to no less than 73 in 1675-1699. In fact, such high levels would not be encountered again in this area until the 20th century. In the Polders area, the index increases from 12 in the pre-1650 years to 51 in 1725-49. The rises are less marked in Brabant and the rest of Flanders, with maxima of respectively 36 and 33 around 1725. This trend obviously means that the Church was more forthcoming with the granting of dispensations to pregnant brides, and that it was resorting to a policy of "the lesser evil" when it was not backed by a strong state.

After 1750, the MLA-indices drop again in all regions and they reach a historical low during the reign of Emperor Joseph II (who was, incidentally, reknown for his prudery and his repression of the Flemish village fairs). In fact, in all areas except the Polders, dispensation for marriage in the closed periods were harder to get than a century and a half before, i.e. at the time of the Counter-Reformation. However, the period of Austrian control is also reknown for events other than the political ones, as indicated by the data on the economic situation.

Wages in Flanders had been rising in real terms from 1650 till 1730, but from that date onwards, the reverse holds. In 1720-29, the daily wage corresponded to 13 litres of wheat (a family would need about 5 litres of cereals per day). In 1750-1770, the wheat equivalent was only 9 litres (C. Vandebroeker, 1984). The downward trend in real wages from 1730 onward is also reflected in the increase of cottage industries, especially in sandy soil Flanders (J. Craeybeckx, 1963; F. Mendels, 1975; C. Vandebroeker, 1984). The extent of the deterioration of living conditions can be followed in greater detail in the data of Table 2 pertaining to prices and wages. On the whole, there is a connection between the MLA-index and the evolution of real wages between 1625 and 1789 as shown in Figure 1: social control over the peasantry and the proto-industrial proletariat succeeded particularly well during periods of economic hardship. The government of Namur had clearly come to a similar conclusion in 1733: "L'on n'y gouverne jamais mieux les hommes dans l'innocence des moeurs que lorsqu'on les tient dans les peines du travail" (cited by Vandebroeker, 1984, p.196).

The link also emerges in the cross-sections. As can be seen from Table 2, the economic deterioration was considerably less pronounced in the maritime Polder area with its extensive agriculture operating with

seasonally imported labour and its much lower population density and growth. In this region, the MLA-index peaks above that of sandy soil Flanders and Brabant from 1720 onward, and the Polders retain this particularity until after the French Revolution, even if the industrial towns of Hainaut and Liège are drawn into the comparison (see Table 1 and Figure 1).

The connection between firmer social control and economic hardship is also intimately linked to what is known from the historical literature on the spirit of capitalism, and more particularly to the emerging relationship between entrepreneur and labour; and to those between public authority and the destitute (for an international overview see especially C. Lis and H. Soly, 1980; and C. Lis et al, 1985).

The social control over the destitute is already an issue from the 16th century onward. The liber vagatorum, reprinted 32 times between 1510 and 1529 (once containing a preface by Martin Luther) depicted the monstrous world of the vagabonds. The humanists, such as Thomas More and Erasmus were convinced that beggars should be put to work. Between 1522 and 1545, more than 60 cities in Germany, the Low Countries, France, Switzerland and England regulated begging and poor relief: begging by the physically able was forbidden and all poor relief had to be centralized in order to facilitate the selection of the truly destitute (C. Lis et al., 1985). At the end of the 16th century the elites of Catholic and Protestant areas alike feared the effects of pauperization: vagabondage, criminality, heresy, immorality, and rebellion.

The social control over the landless and unemployed received a new impetus during the 18th century and particularly after 1720 when economic conditions were worsening and demographic pressure increasing. Also in France, the century starts with food shortages, famine and public protest. P. Goubert and D. Roche (1984) identify six such periods between 1725 and 1775, and the French response to it is the "enfermement" or the creation of labour prisons (M. Foucault, 1975), the "atelier de charité" and the "dépôts de mendicité". In contrast to the French response, which relied more heavily on repression and "enfermement", regions with proto-industrial activities also used a typically capitalist technique of labour market regulation through declining wages. Flanders, Wallonia and England provide ample examples of the latter type. To start with, industrial entrepreneurs and merchants had an entirely different notion of the value of time than peasants and wage earners. Benjamin Franklin sums it up in a pamphlet against the King of England's corn tax which was introduced to finance poor relief:

"In short, you (i.e. the King) offered a premium for the encouragement of idleness, and you should not now wonder that it has had its effect in the increase of poverty. Repeal that law and you will soon see a change in their manners. Saint Monday and Saint Tuesday will soon cease to be holidays. Six days shalt thou labour, though one of the old commandments long treated as out of date, will again be looked upon as a respectable precept, ..." (H.S. Commager, 1944, p.231).

The general principle of the system operated as follows: a day's wage was tied to the price of food, and if food prices were too low compared to wages, workers would not show up on Mondays or Tuesdays. If, by contrast,

wages could be kept low, absenteeism would vanish and discipline would reign. William Petty formulated it as follows:

"It is observed by clothiers and others who employ great numbers of poor people, that when corn is extremely plentiful.... the labour of the poor is proportionately dear and scarce to be had at all, so licentious are they who labour only to eat or rather to drink" (quoted by C. Vandenbroeke, 1984, p.172).

The problems besieging the French "ateliers de charité" set up by Turgot and the "aumône générale" in the southern Low Countries was that of financial inadequacy. Hence, the falling back on "enfermement". However, industrial towns had a use for abundant cheap labour and they could organize poor relief in a new capitalist context. This was for instance the case of Ath (1772), Kortrijk (1774), Bruges (1776), Ghent (1777), Tournai (1777), Antwerp (1779), Verviers (1782) and Lier (1787) which almost all had expanding textile industries (C. Lis et al, 1985). A corollary of this was the use of child labour and a decline in literacy. In Ghent, for instance, adult literacy fell by 32 percent between 1650 and 1789, despite the efforts of Maria-Theresia and Joseph II to promote education.

This section on social control prior to the French Revolution would be grossly incomplete without a review of the trends in education (for an extensive treatment, see Ph. Ariès, 1973). Until the 16th century, and among the common people throughout the 17th and 18th centuries as well, children grew up among adults and learned the facts of daily life (including those pertaining to sexuality) from an early age. In these matters, there was no clear cut intermediate period, and the concept of education as such was unknown. The notion of the interim phase between childhood and adulthood was promoted during the 16th and 17th centuries, not only by humanists, but especially by both Catholic and Protestant moralists. It was a reaction against what they perceived as "medieval anarchy" (Ph. Ariès, 1973). The Jesuit, Oratorian and Jansenist orders directed their attention particularly to this educational phase. In the process, they also defined a new parental responsibility with respect to the child's body and soul, and added a new moral dimension to the family (Ph. Ariès, 1984). The intermediate phase of schooling and discipline was cultivated further in the "collèges" and "petits collèges" which were set up all over France during the Ancien Régime (see P. Goubert and D. Roche, 1984, p.212 for a map), and discipline was modelled after the military during the Napoleonic period. However, as indicated earlier, these changes in education pertained only to the bourgeoisie and not to peasants and proto-industrial workers. On the eve of the French Revolution, most of them were still illiterate in France, and unable to sign their name. The map by F. Furet and J. Ozouf for 1789-1790 shows that more than 50 percent, and mostly more than 70 percent, of male adults were unable to sign their marriage contract in the départements south of the line that runs westward from Geneva to Paris and from Paris to the Normandy-Brittany border. To the north of this line, proportions unable to sign are commonly below 50 percent. The figures for Flanders fit the continuation of this area with proportions of males failing to sign between .45 and .40 in 5 of the 6 arrondissements (L. Van Parijs, 1982). These percentages were, however, much higher for women (59 to 87), male textile workers (93) and domestic servants (82).

Ph. Ariès concludes therefore that schooling not only produced a very different type of transition from childhood to adulthood, characterized by an interim phase of discipline, but that it also created a wide cultural gap between the bourgeoisie and the common people. Embourgeoisement, or the penetration of the new "civilité chrétienne" into the culture of the working classes had barely started - if at all - prior to the 19th century. Witness thereof are also the diametrically opposed notions of the value of time. The downward cultural mobility of the bourgeois model of morality and the family essentially occurred during the last quarter of the 19th century, in tandem with rises in real income, and especially during the first half of the 20th century (see M. Segalen, 1986; R. Lesthaeghe and J. Surkyn, 1988). But also the bourgeoisie itself had a long way to go in terms of child-orientedness between the 18th and the end of the 19th century. Witness thereof is that the "civilité chrétienne" did not prevent them from sending their children to be wetnursed which resulted in extremely high infant mortality (see P. Galliano, 1966; E. van de Walle and S. Preston, 1974; C. Rollet, 1978).

4. Impact of social control and standards of living on the French and Belgian nuptiality regimes during the 17th and 18th century.

In this section we shall attempt to establish a connection between the evolution of standards of living and changes in the mean age at first marriage for women, and further to the rise in premarital conceptions, the shifting position of the church towards premarital sexual behaviour and finally to the rise in illegitimacy. To do this, use is made of the appropriate time series for France and Flanders. The evolution of living conditions in Flanders can be followed through Vandembroeke's (1984) estimates of daily wages measured in litres of wheat and the rent of land expressed in hours of work. An international comparison can be attempted through his series pertaining to the daily wage of apprentice masons, equally expressed in terms of litres of wheat (see Figure 2). There is, of course, a debate among economic historians about the validity of the various measures of real income and purchasing power, but for our purposes we can accept that the measures just proposed are sufficiently adequate. The data on Figure 2 will therefore be referred to throughout this article. The time series pertaining to the indicators of nuptiality and the starting pattern of fertility for France and Flanders are brought together in Table 3.

The evolution of the female mean ages at first marriage from 1680 onwards tends to run in a parallel fashion in the two countries throughout the 18th century. Both experience a rise from levels below or around 25 in 1700, to values above 26 in 1770 and to a maximum around 1800. However, the trends diverge after 1820: ages at first marriage in France decline after this date, whereas the very late marriage pattern is maintained in Flanders until the end of the 19th century. Both countries have also parallel evolutions of illegitimacy: until 1780 fewer than 2 percent of all live births are born out of wedlock. But from 1780 onward illegitimacy rises, and reaches about 5 percent in 1800-09. This level remains typical for the whole of the 19th century.

The trend in legitimate births but stemming from premarital conceptions (measured as the proportion of all first births taking place within the first 8 months of marriage) equally starts from a low level in

**WAGES OF APPRENTICE
MASON IN LITRES OF
WHEAT, 1450-1900**

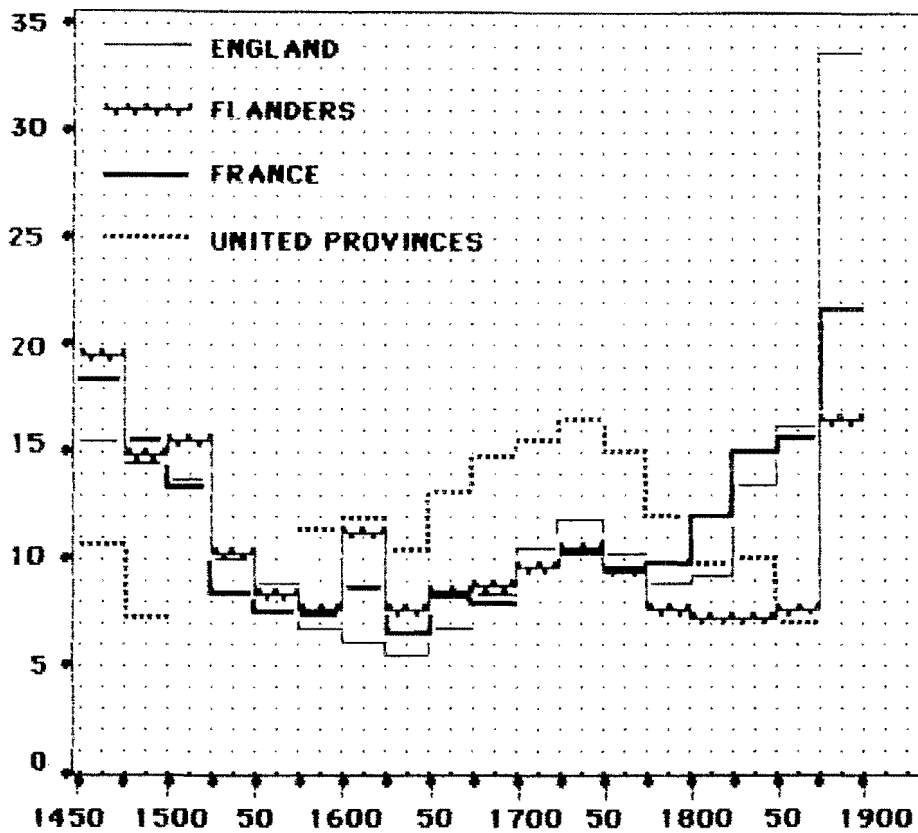


Figure 2: Evolution of wages of mason apprentices in England, France, United Provinces and Flanders, 1450-1900.

SOURCE : C. VANDENBROEKE, 1984

Table 3 : Indicators of the nuptiality regime and the evolution of real wages in France and Flanders, 1680-1879.

	Mean age at first marriage (women)		Illegitimate births as % of all births		Premarital conceptions as % of first births		Daily wage of apprentice mason in litres of wheat		
	France	Flanders	France	Flanders	France	Flanders	France	Flanders	
1680-89	24.5	25.4	-	1.6	-	12.5	}	8.1	8.9
1690-99	24.7	23.4	-	1.9	-	12.0			
1700-09	24.8	25.4	-	1.6	6.1	17.2	}	-	9.7
1710-19	25.2	25.7	-	1.4	6.2	17.0			
1720-29	25.4	25.6	-	1.1	6.3	15.5	}	10.6	10.7
1730-39	25.5	27.0	-	1.3	6.6	21.5			
1740-49	25.5	25.6	1.2	1.1	7.0	17.5			
1750-59	25.8	25.6	1.4	1.1	7.2	10.2	}	9.5	9.4
1760-69	25.8	25.9	1.6	1.3	8.7	13.3			
1770-79	26.2	27.0	1.8	1.3	10.0	18.2	}	9.9	7.8
1780-89	26.5	25.9	2.2	2.4	11.1	22.9			
1790-99	26.1	27.0	2.6	2.6	11.8	27.7			
1800-09	26.3	25.8	4.2(5.0)	4.7	12.4	29.3	}	12.2	7.3
1810-19	25.6	26.8	4.7(6.2)	3.3	-	25.8			
1820-29	26.0	25.8	5.5(7.1)	4.0	-	26.4	}	15.1	7.3
1830-39	25.6	26.8	-(7.4)	3.0	-	23.2			
1840-49	25.2	27.3	-(7.2)	5.1	-	23.1			
1850-59	24.9	27.6	-(7.5)	7.0	-	21.0	}	15.7	7.8
1860-69	24.5	28.8	-	3.6	-	20.5			
1870-79	24.3	27.3	-	5.0	-	24.0			

Notes: figures between parentheses are from E. van de Walle, 1980; figures on daily wages are for periods of 25 years, starting with 1675-1699; French first marriages occur prior to age 50.

Sources: L. Henry and J. Houdaille, 1978; Y. Blayo, 1975; E.A. Wrigley, 1985; C. Vandebroek, 1984, 1985.

1700, but it will be noted that the level in Flanders was much higher than those encountered in most French villages. Also the French départements of Nord and Pas-de-Calais, which belonged to the Spanish Low Countries until their annexation by Louis XIV, continue to exhibit the Belgian rather than the French pattern during the 18th century. Not only the levels, but also the evolution over time differs between the two countries. In France, there is a steady rise in premarital conceptions from 6 percent in 1700 to 12 percent in 1800. The data for Flanders show a rise at the beginning of the 18th century (from 12 percent in 1680-89 to 17 percent during the period 1700-1750) and a temporary dip between 1750 and 1770. Thereafter, premarital conceptions rise to about a quarter of all first births and this level is maintained throughout the 19th century.

At this point it is helpful to introduce the MLA-index again, as it will contribute to the clarification of the illegitimacy trends. From table 3, it can be seen that, especially in France, illegitimacy rises slightly later than the proportion of premarital conceptions. The data needed for this clarification stem from the set of 39 villages that constitute the "INED-sample" set up by L. Henry and colleagues. A typology describing the situation in these villages is offered on Figure 3 by crosstabulating the MLA-index with the percentage of premarital conceptions. First, there is a set of villages (cell C) in which the incidence of premarital conceptions is low (less than 10 percent) and dispensations for "shotgun" marriages during the closed periods are difficult to obtain (MLA-index less than 20). These are the instances of firm control as they combine an observant population with a vigilant clergy. Second, there are villages where the incidence of premarital conceptions is equally low, but where the local clergy and the diocese are more forgiving if such conceptions occur and if precipitated marriage is needed. The church chooses the strategy of the lesser evil and more dispensations are granted, presumably to avoid the birth of an illegitimate child (cell A). In both periods considered, i.e. 1670-1739 and 1740-1780, such villages were not exclusively, but still predominantly located in the south-west quarter of France (Lot, Dordogne, Tarn, Lozère, Charente Maritime, Haute Garonne). The others were in the more isolated regions (Haute Savoie, Alpes Maritimes, Jura). The third group consists of villages where the incidence of premarital conceptions is above the national average, but where the church remains strict with the granting of dispensations (cell D). In this group, there is obviously a tension between the behaviour of young adults or the widowed and the unyielding position of the clergy. Finally, in the fourth cell (B), we find the instances where both population and clergy were more "laxist". Such instances remained exceptional during the entire 18th century and were only found in a few northern villages of the INED-sample (e.g. in the Ardennes, Somme, Aisne départements). The most remarkable feature of these data is that they exhibit a clear evolution from 1670-1739 to 1740-1780. During the first period, the bulk of French villages (22 out of 37) is located in the "firm control"-box (cell C), whereas there are only 4 in the "repressive" box (cell D). During the second period, the number in the "firm control" cell has decreased considerably (now 14 out of 39), whereas that of the "repressive cell" has tripled (also 14 out of 39). Hence, the rising ages at first marriage produce more premarital conceptions, without this being met by any greater tolerance from the side of the church. Rather, the church reacts by adopting a more rigorous approach during the second half of the 18th century, and the outcome is more illegitimacy. It can also be

Figure 3: Index of marriages during Lent and Advent and the incidence of premarital conceptions in France, 1670-1780.

1. Typology

premarital conceptions as % of first births

		less than 10%	10% or more
Index of marriages Lent & Advent (MLA)	MLA 20 or more	A Church <u>tolerates</u> a low incidence of premarital conceptions and grants dispensations	B <u>Laxist</u> : incidence of premarital conceptions high and church grants dispensations
	MLA less than 20	C <u>Strong control</u> : low incidence of premarital conceptions and few dispensations granted	D <u>Repressive</u> : incidence of premarital conceptions high, but dispensations rare.

2. Villages: frequencies

1670-1739 (N=37)		1740-1780 (N=39)	
A	B	A	B
8	3	8	3
C	D	C	D
22	4	14	14

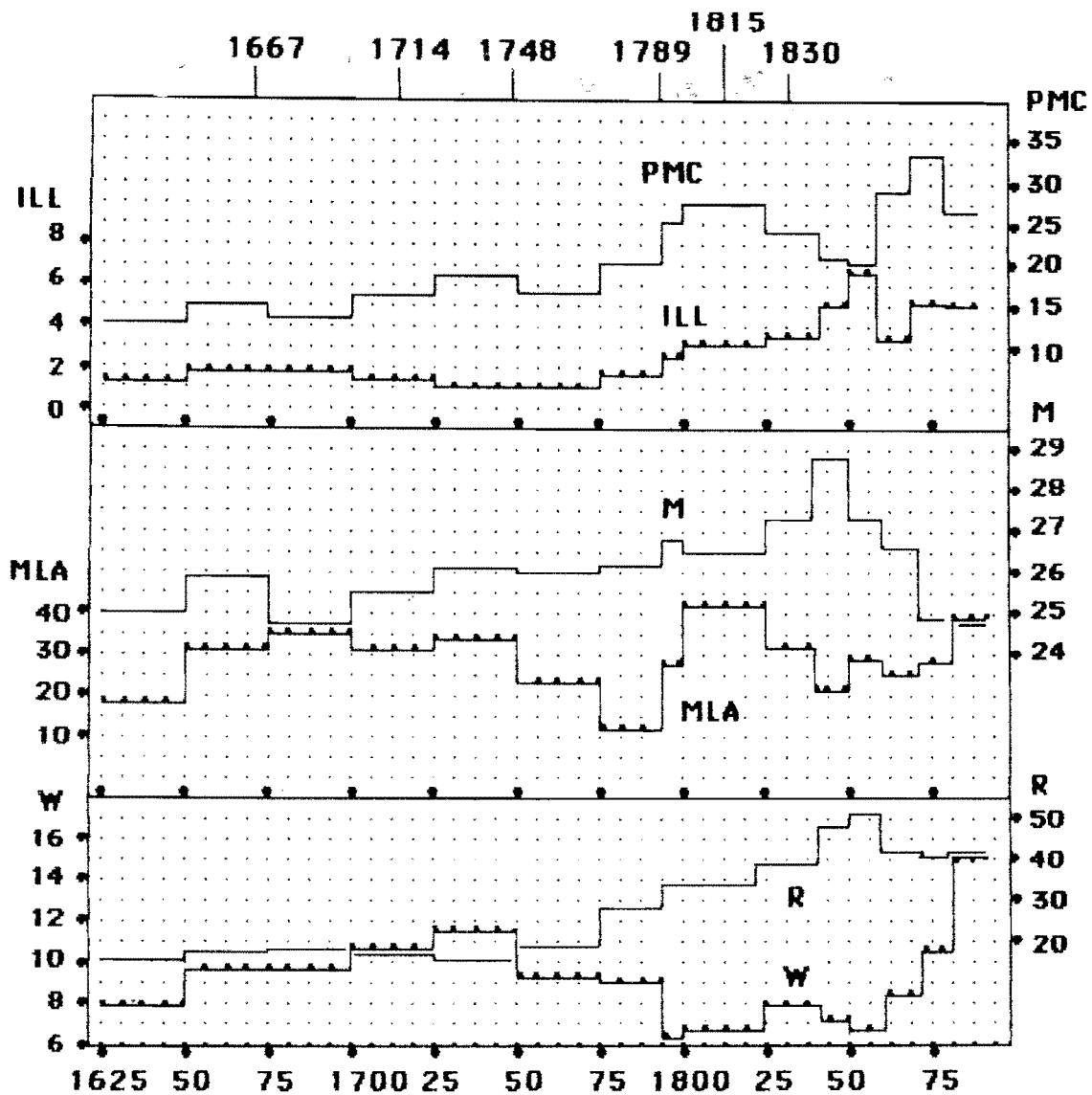
Note: Data pertain to the 39 villages of the "INED sample" studied by L. Henry, J. Houdaille (1972, 1973, 1978) and A. Blum (1987). The raw data were kindly made available by A. Blum.

seen from the evolution of real wages in Figure 2, that these events take place during a phase of deteriorating standards of living.

The evolution in Flanders is in many ways consistent with that of France. The time series of real wages, age at marriage, premarital conceptions, MLA and illegitimacy are shown in Figure 4 for easier reading. A possible explanatory chain runs as follows. First, the mean age at first marriage for women (M) rises above 26 from approximately 1725 onward, and this rise precedes the drop in real wages (W) or the rise in the rent of land (R). We shall discuss this anomaly in a subsequent section on proto-industrialization. From 1750 onward, however, high ages at marriage are maintained in tandem with deteriorating living conditions: real wages fall and the rent of land increases. The connections between marriage retardation and the two economic indicators is furthermore clearly maintained during the 19th century. Higher ages at marriage normally imply a rising incidence of premarital conceptions (PMC). This link holds well in Flanders for both the 17th and 18th century (compare M with PMC on Figure 4). From now onward, the "MLA-filter" helps in accounting for the evolution in illegitimacy. Until 1775, illegitimacy remains at a very low level (below 2 percent), but from 1750 onward, the church, like in France, strongly condemns premarital conceptions and expresses this by restricting dispensations for marriages during the closed periods. The MLA-index drops to a record low. The result is a small rise in illegitimacy prior to the French Revolution.

The demographic evolution in the 17th and 18th centuries with respect to marriage, premarital conceptions and illegitimacy is also mirrored in the type of cases judged by the ecclesiastic courts in Flanders and Brabant. These courts were at first not very much preoccupied by marriage, broken marriage promises, or adultery and concubinage of laymen. The first issue to be tackled was defloration during village festivities: 55 percent of the cases treated between 1550 and 1600 pertain to fornicatio simplex (see Table 4). From 1601 to 1700, the modal categories shift: they deal with the restriction of adultery and concubinage, and they now pertain to the sexual mores of married persons. From 1700 to 1750, the attention shifts again and focusses more on premarital behaviour: the modal category becomes seduction with marriage being promised. From 1650 to 1794, no less than 58 percent of cases dealt with broken marriage promises with or even without seduction. This means that the church was still trying to force seducers into marriage (see also Flandrin, 1984).

During the French period, the picture alters. First of all, the church's institutional authority weakens so that there is a vacuum for the prosecution of seducers. Secondly, the bourgeoisie was cultivating the idea that marriages of love were to be preferred over marriages of reason. For a short while the legal position of the illegitimate child improved, but it deteriorated again after this brief spell of revolutionary zeal. Moreover, the enlightened new morality was of little practical use for the bulk of the population which remained dependent on a small capital to establish a new independent household, and for whom the Malthusian marriage constraints remained fully operative. Such imprudent liaisons had very tangible repercussions for the unwed mother and her child. Hence, the French revolutionary period cultivated false aspirations and contributed to the ideological ambivalence concerning sex and marriage. From 1800 onward, both church and state seek their way out of this situation by unconditionally protecting the legitimate family.



PMC : PREMARITAL CONCEPTIONS IN PERCENT OF FIRST BIRTHS

ILL : ILLEGITIMATE BIRTHS IN PERCENT OF ALL BIRTHS

M : MEAN AGE AT FIRST MARRIAGE FOR WOMEN

MLA : MARRIAGES DURING LENT AND ADYENT ($2/12 = 100$)

R : RENT OF 1 HECTARE OF LAND IN DAYS WORK

W : DAILY WAGE IN LITRES OF WHEAT

Figure 4: Time series for economic indicators and characteristics of the starting pattern of fertility.

(SOURCE ALL INDICES EXCEPT MLA : C. YANDENBROEKE, 1984, 1985)

Table 4: Changes in the nature of moral cases judged by ecclesiastic courts in Flanders and Brabant, 1550-1794

Period	Fornicatio simplex	Abduction & elopement	Adul- tery	Concu- binage	Prosti- tution	Seduction with marriage promised	Broken marriage promise	Divorce	Incest	Other	N
1550-1600	55.3	4.2	12.9	5.8	0.0	9.7	1.8	1.8	2.4	6.1	1183
1601-1650	11.6	0.9	16.2	13.8	10.1	15.3	1.8	7.4	5.0	17.9	657
1651-1700	12.8	0.6	5.7	7.1	5.9	18.1	0.7	9.1	8.7	31.3	1284
1701-1750	5.4	0.0	1.3	1.6	0.5	33.5	12.1	11.2	1.1	33.3	1100
1750-1794	1.9	0.1	5.1	0.7	0.3	39.0	19.1	13.1	3.8	16.9	1484

Source: computed from J. De Brouwer (1971).

Note: totals per period sum up to 100%; combined data for the diocese of Ghent and Antwerp, and officialities of Mechelen and Brabant.

Subsequent to the French period, a bifurcation develops in Belgium with respect to the trends in illegitimacy and in legitimate births occurring during the first 8 months of marriage. As shown in Figure 4 (top panel), the former rises while the latter declines. Hence, premarital conceptions were increasingly channeled into the illegitimate slot rather than into the legitimate one via an emergency marriage. Simultaneously, there is a steep drop in the MLA-index during the Restoration and the first decades of Belgian independence (1830). The castigatio philosophy seems to reemerge. The rise in illegitimacy has undoubtedly its roots in the precarious economic conditions for a sizeable portion of the population and in the further rise of ages at marriage. But, one cannot escape the impression that moral controls were inefficient in preventing the consequences of late marriage, while being instrumental in converting a larger proportion of premarital conceptions into illegitimate births, and subsequently in ostracizing unwed mothers and their offspring.

The second issue pertaining to the evolution in nuptiality during the 18th century is the presumed link between proto-industrialisation and a decline in celibacy. Such a link was hypothesized by H. Medick (1981) and F. Mendels (1981). As indicated earlier, the proto-industrial phase was particularly marked in the densely settled areas of sandy soil Flanders, where smallholders and tenant farmers found additional revenue in the spinning of locally grown flax and weaving of linen. In 1678-1700 43 percent of inventories of household goods contained descriptions of spinning wheels or looms; in 1701-1720, this percentage had increased to 66. After a slight reduction in 1731-1750 to 54 percent, the numbers increased again after 1751 to 73 percent and by the end of the century, 79 percent of inventories contain such equipment (I. Vanden Driessche, 1982). In the period prior to 1750, real wages increased (see Figure 1) in tandem with the growth of the proto-industrial sector, but the mean age at marriage for both sexes is not being reduced below the pre-1700 levels. Rather, from 1730 onward, the male age at first marriage rises for the first time above 29 years, and that for women above 26. After 1750, even more households engage in proto-industrial activities, real wages fall and the age at marriage reflects the drop in standards of living by exhibiting a new increase: from 1770 onward the mean age for men is systematically higher than 29 years and for women a new maximum is reached in 1770-79 with a mean of 27 years. Hence, the proto-industrial period in Flanders is not characterized by the emergence of a new marriage regime in which individuals would marry earlier without regard for available resources. Nor is it characterized by the uprooting and emigration of a landless rural population as in England. Instead, the Flemish stayed firmly on their land and remained caught in the Malthusian "marriage trap", in contrast with the English experience where marriage ages fell nationwide as proletarianization advanced (D. Weir, 1985; E.A. Wrigley, 1985). Moreover, a finer regional breakdown, as used in Table 5, clearly shows that the index of proportions of married women (i.e. Coale's I_m) was particularly low for the proto-industrial areas of interior Flanders, whereas it was about .500 for the Polder arrondissements (Ostend, Veurne, Bruges). This situation would persist well into the 19th century when ages at marriages continued to follow the downward evolution of real wages until 1870 (R. Lesthaeghe, 1978). It is interesting to note that northern France (Nord, Pas de Calais) fits a similar description (E.A. Wrigley, 1985). A further corollary of proto-industrialisation was low literacy, as the data for 1785 show (Table 5). Also this situation would not be altered: the arrondissements that had

Table 5: Proto-industrialization, proportions marrying, prenuptial conceptions and literacy in Flanders

	Proportion active population in cottage textile industries, 1846	Index of proportions marrying (women), I _m , 1796	Proportions capable of signing marriage licence, 1785		Proportion of all first births in first 7 mths of marriage, 1751-1800
			men	women	
A. Areas with high proportion in cottage industries					
- arrondissement of:					
Roeselare	71	.473	43	25	6
Tielt	42	.478	41	13	7
Kortrijk	24	.477	37	16	18
Diksmuide	23	.449	55	28	9
- villages of:					
southern East Flanders	34 ^{a)}	.429	31 ^{a)}	12 ^{a)}	18 ^{a)}
area North West Ghent	} 26 ^{b)}	.431	} 46 ^{b)}	} 18 ^{b)}	} 17 ^{b)}
canton Lede		.434			
B. Areas with low proportions in cottage industries					
- arrondissements of:					
Bruges	11	.521	43	18	4
Ypres	8	.451	50	31	18
Ostend	5	.528	61	28	3
Veurne	1	.494	61	35	7

Source: I. Vanden Driessche, 1982; I. Callens, 1985.

Note: a) value for arrondissement of Oudenaarde

b) value for arrondissement of Ghent

undergone the proto-industrial phase during the 18th century still had the lowest levels of literacy in the whole of Belgium in 1910 (R. Lesthaeghe, 1978). Hence, not only 19th century proletarianization, but also that occurring in the 18th century can be credited with producing this effect.

5. Marital fertility in Belgium prior to the 19th century fertility transition

The next issue pertains to the evolution of marital fertility in Belgium before the onset of parity-specific control. The effects of enhanced moral control and of changing standards of living on marital fertility are much more difficult to trace than the effects on ages at marriage, prenuptial conceptions and illegitimacy. Moreover, it has often been argued that 17th and 18th century demographic regimes were predominantly governed through the nuptiality valve, while marital fertility, although exhibiting marked regional differences in levels, remains essentially unaltered. J-L. Flandrin (1976), however, offers a different hypothesis. He argues that postpartum abstinence during breastfeeding was common prior to 1600 and that men had other outlets since prostitution was tolerated (see also Flandrin, 1981, 1983). With the repression of prostitution, the growing stress on women being available for sexual duty in order to curtail male transgressions, the condemnation of masturbation (Flandrin, 1975), and possibly also high coital frequency within marriage after a longer period of celibacy, it would not be surprising to witness declining durations of breastfeeding, the disappearance of postpartum abstinence, a rise in wetnursing, and hence a rise in marital fertility. The problem with Flandrin's thesis is that he expects such rises in marital fertility to occur in France. But, as we have seen, the church becomes more repressive after 1750 only, and from about 1770 onward the populations of certain French villages were preparing an entirely different scenario.

Flandrin's thesis, however, is of considerable interest for Belgium, where the basic model of natural fertility applied much longer. But from the start, the reader should be warned about a major caveat pertaining to most of the Belgian village studies. These reconstitutions were made by individual historians who followed the Henry-Fleury handbook, but who did not systematically correct the birth stream for possible underregistration. Virtually all authors of village monographs are attentive to the general appearance of the quality of the data and start their reconstitutions when registrations appear in good shape, but more rigorous testing is likely to reveal omissions which, judging from the northern French data, may be of the order of 5 percent

A first description of the evolution of marital fertility data is offered in Table 6 by means of the distribution characteristics of 3 indicators in the sample of Belgian villages. These indicators are: the level of marital fertility in the age bracket 20-34, the total marital fertility rate from age 20 onward, and the ratio of marital fertility after age 35 to that before this age. The rise in medians and quartiles for the first two indicators from the 17th century to the first half of the 19th is in line with Flandrin's expectation, whereas the evolution of the third indicator shows that there were no signs of fertility control after the age of 35 throughout the entire period. At a first glance, it seemed that birth

Table 6 : Characteristics of age-specific marital fertility schedules, Belgian village reconstitutions, 1600-1850

	Marital fertility, ages 20-34			Total marital fertility rate, ages 20-49			Ratio of marital fertility 35-49 over marital fertility 20-34			Number of village reconstitutions
	Q3	Me	Q1	Q3	Me	Q1	Q3	Me	Q1	
17th century	6.3	6.0	5.5	9.1	8.6	7.1	.48	.41	.36	11
first half 18th	6.6	6.2	5.3	9.7	9.1	8.9	.46	.41	.37	16
second half 18th	7.0	6.4	6.0	10.4	9.5	8.5	.45	.43	.39	17
first half 19th	7.0	6.9	6.7	10.2	9.1	9.6	.43	.42	.41	7

Note: villages in the Dutch-speaking part are: Kalmthout, Elversele, Pajottenland villages, Geetbets, Wachtebeke, Velzeke, Schilde & Oelegem, Astene, Zeveneken, Ronse, Dentergem, Moerzeke, Anzegem, Avelgem, Wetteren, Poperinge, Hoboken; villages in the French-speaking part are: Wandre, Erezée, Beloeil, Wasmes & Warquignies, Tourinne & Beauvechain, L'église, Antheit, Fosse-la-Ville, Malonne, villages of Liège industrial zone.

Q3 upper quartile
 Me median
 Q1 lower quartile

Table 7 : Comparison of various estimates of the duration of breast-feeding in Belgian villages, 17th through first half of 19th century

	Estimate of \bar{X} length of breast-feeding from			
	Marital fertility rate 25-29 and $f = .25$	Average birth interval between 1st and 2nd child and $f = .25$	Difference between birth interval 1-2 and interval 0-1	Final estimate
<u>West Flanders</u>				
- 2nd half 18th	11	8	12	10
- 1st half 19th	-	7	9	8
<u>East Flanders</u>				
- 17th	17	15	17	16
- 1st half 18th	15	13	16	15
- 2nd half 18th	11	9	15	12
<u>Antwerp & Brabant</u>				
- 17th & 18th	16	14	15	15

f = monthly probability of conception (fecundity)

intervals were shortening, particularly during the 2nd half of the 18th and the first half of the 19th century.

More detailed information can be obtained from the estimation of the length of the postpartum non-susceptible period and the duration of breast-feeding. The results are reported in Table 7. All columns give the duration of breast-feeding computed from estimates of postpartum amenorrhoea using Bongaarts' empirical relationship (J. Bongaarts, 1981). The first column produces results based on the decomposition of the marital fertility rate in the age group 25-29, as proposed by J. Bongaarts (1976) and applied to Belgian and Dutch data by R. Lesthaeghe (1983). In this decomposition we assumed a monthly probability of conception of 0.25 (which is higher than the fecundity levels found in most French and English parishes - see J. Knodel and C. Wilson, 1981, C. Wilson, 1981, 1985), an infant mortality rate of 0.200, a proportion of primary sterility of 7 percent, a probability of spontaneous abortion of 0.20, a postpartum non-susceptibility of 1.5 months after a miscarriage and of 3 months after an infant death. The second column of Table 7 is based solely on the information of the first live birth interval, subtracting the mean waiting time to conception, additional time lost due to miscarriage, and the gestation period. The third column is based on the difference between the first-to-second live birth interval and the marriage-to-first birth interval (premarital conceptions omitted). The fourth column is simply the average of the three preceding estimates. The results indicate that the rise in marital fertility rates, shown in Table 6, corresponds with a possible decrease in breast-feeding in West Flanders by two months (2nd half 18th to first half 19th century), and a decrease of 3 months in the East-Flemish villages (from the first half to second half of the 18th century). The durations of breast-feeding inferred from the marital fertility rate 25-29 in the Walloon villages indicate a decline from 20 months for the 17th century to 19 and 16 months for the first and second half of the 18th century. The value for the first decades of the 19th century is lower still. Hence, we can assume that breastfeeding declined by about 4 to 5 months during the 18th century.

The main competing hypothesis is that fecundity was rising either as a result of increased coital frequency or as a result of better health and nutrition. The latter factor, however, can be ruled out since data on income and nutrition show a deterioration between 1700 and 1850. Flanders was, for instance, among the earliest in Europe which needed a shift to the consumption of potatoes (1700-1730), and annual per capita meat consumption declined from 15 kilograms in 1750 to barely 8 kilograms in 1800 (C. Vandenbroeke, 1984). As a result, the major source of protein remained milk and eggs, but a day's wage would only buy 23 eggs in 1820 against 52 in 1730. What would the outcome have been in terms of a rise in fecundity to account for the rise in marital fertility if duration of breastfeeding and overall postpartum non-susceptibility had not declined? An increment in the monthly probability of conception from 0.20 to 0.28, which is a considerable one given the observed range in Belgian, German, French and English village data (C. Wilson, 1985), produces a rise in the marital fertility rate for women 25-29 which is the equivalent of a drop in postpartum non-susceptibility by 2.3 months, given that the latter would be comprised between 6 and 15 months. A drop in breastfeeding from 16 to 12 months, as in East Flanders, corresponds approximately to a fall in amenorrhoea of 2.7 months, and this is the equivalent of a rise in

fecundity by more than 0.08. For the Walloon villages, a drop in breastfeeding by more than 5 months between 1680-1700 and 1800-1850, or a decline in postpartum non-susceptibility of about 3 months, is the equivalent of a rise in fecundity by more than 0.10. Such a rise is clearly impossible. Hence, Flandrin's hypothesis that postpartum non-susceptibility and breastfeeding were shortened during the entire 18th century is a plausible one for the Belgian villages. Even if there was some increase in fecundity, it is clear that the decline in postpartum non-susceptibility must have been preponderant in producing the rising marital fertility rates during the 18th and early 19th century. Whether this was directly linked to the new sexual code is difficult to establish, but in view of the historical evidence on the moral pressure, Flandrin's thesis gains credibility in the Belgian context.

To sum up, Flanders and Brabant fully developed a typical malthusian marriage and marital fertility regime during the 17th and 18th centuries: proportions marrying follow the declining trend in real wages from 1720 onward, and the growth of the proto-industrial sector fails to alter this outcome. If anything, the regions which benefited from this proto-industrial development between 1680 and 1730, also became those with the lowest proportions married after 1750 and they maintained this position, in tandem with low literacy, all the way through the 19th century. Stringent moral control on public morality displayed two peaks: one during the Counter-Reformation in the 17th century and another during the Austrian period in the 18th. These periods happen to coincide with decades of economic hardship. This link is probably not fortuitous: the literatures on the eradication of heresy and of peasant culture, on the content of formal education, and especially on the philosophy behind the reorganization of poor relief all point in this direction.

Four consequences are noteworthy:

- i) in both France and Belgium there was a growing incidence of premarital conceptions especially from 1770 onwards, presumably stemming from rising ages at marriage;
- ii) the church in both countries essentially reacts to this phenomenon by maintaining or adopting the philosophy of "castigatio" and by withholding marriage dispensations;
- iii) this climate contributes to a rise in illegitimacy during the last quarter of the 18th century, and in Belgium, to a further rise during the period of Restoration (1815-1850);
- iv) there are indications in Belgium that also the spacing pattern of marital fertility was under pressure during the period 1750-1850, resulting in higher marital fertility. However, a firmer conclusion on this issue cannot be offered since the series of marital fertility rates are seldomly corrected for possible changes in the degree of underregistration.

6. The French fertility transition: strategies and timing

There are various ways of establishing the departure from natural fertility and measuring the date of onset of deliberate parity-specific marital fertility control. These methods are based on different behavioural models, which has implications for answering the two questions raised in the title of this section.

The best known and most widely used method is the one developed by A.J. Coale and T.J. Trussell (1974) who related observed age-specific marital fertility rates ($f(a)$) to the standard age schedule of natural fertility ($n(a)$) by means of a level parameter (M), a standard age schedule of departure from natural fertility ($v(a)$) and a control parameter (m) which indicates the average degree of departure from natural fertility:

$$f(a) = M.n(a).e^{m.v(a)}$$

Marital fertility rates, however, exhibit a marked profile by marriage duration as well, and H. Page (1977) extended the Coale-model to incorporate these effects. Her model operates therefore on the basis of a set of marital fertility rates that are both age- and marriage duration-specific. Page found that the age profile extracted from such arrays of fertility rates reproduced the age profile of natural fertility (i.e. that of Coale's $n(a)$ -function) and that the marriage duration effects captured the extent of fertility control. The results of her application to the Swedish historical series therefore indicated that control proceeds indeed in a clear parity-specific fashion, given that marriage duration is a proxy for parity.

A second set of models operates on the basis of final parity distributions. The simplest method is the one developed by K. Wachter (1981) and D. Weir (1982) which uses the analogy with decrement tables for measuring the proportion of controllers at each parity and across all parities. The authors first establish the series of parity progression ratios for the population under study at a time when the proportion of controllers is assumed to be zero. If parity is taken as the equivalent of age in standard life table notation, then the probability of stopping at parity x (i.e. $q(x)$) is equivalent to the probability of dying. For each set of final parity distributions, the proportions progressing (or "surviving") to the next higher parity can be established ($S(x)$), so that the proportion controlling at each parity is:

$$C(x) = [S(x).1-q(x)] - S(x+1)$$

with the $q(x)$ being the probabilities of stopping at parity x under natural fertility conditions. Weir's application (1982) to the final parity distributions of women married at ages 20-24 in the INED-sample of French villages, covering the period 1740-1804, indicate a striking degree of parity-specificity of fertility control. In the marriage cohort of 1790-1799 the proportion of controllers rises rapidly as they approach parities 3, 4 and 5. From parity 6 onward, the proportions of subsequent controllers among the remaining women remain lower and reflect either a reduced aptitude or less willingness to control fertility. In the marriage cohort of 1800-1804, the proportion of controllers after parities 2 and 3 rises more rapidly than in the previous cohort, so that fewer women intending to control fertility have to make an effort at parities 7 through 10.

Two other authors, P. David and W. Sanderson (1979) had postulated from the start that parity distributions are a mixture of two underlying distributions for controllers and non-controllers respectively. Their model furthermore hypothesizes that these two groups are not gradually being differentiated as couples face each higher parity, but that they are different from the start with respect to the reproductive strategy. This implies that there are various categories of couples with different strategies of spacing and stopping. For instance, "pure spacers" would already space the first two births in order to alleviate subsequent pressure. Another category of couples, "stock adjustment spacers", would pause when they feel that the tempo of childbearing thus far has been too rapid, and proceed thereafter (P. David, T. Mroz, K. Wachter, 1984). However, since such stop-and-go pattern can be implemented at various parities or marriage durations, it is difficult to distinguish between pure spacing and stock adjustment spacing in populations with low contraceptive efficiency. Moreover, the David et al. statistical apparatus is a complex one and certainly cannot be applied to a set of final parity distributions of a single village. Final parity distributions can, in fact, only be compiled for women who have spent their entire reproductive life in the village, which also implies a selection bias. This bias is a resistant one, even if villages are aggregated. For instance, Weir retains only 277 women with known final parity distributions for the 1790-99 marriage cohort in the entire INED-sample of 39 villages.

The notion of the availability of different strategies is, however, an appealing one. If there is a strategy characterized by deliberate and anticipatory spacing at low parities versus a more abrupt stopping following a faster start, then such a difference must be noticeable in the form of different age patterns of departure from natural fertility for women with a given age at marriage. In other words, Coale's standard age schedule of fertility control (i.e. $v(a)$) would not be adequate for all populations. This possibility gains plausibility since Coale and Trussell based the calculation of the $v(a)$ -schedule on contemporary (1960s) marital fertility schedules and most of them pertained to populations of industrialized countries. It is therefore worthwhile to run a check against the data of the INED-sample.

The results of the check are presented in Table 8 and Figure 5. We have retained L. Henry's original division of the villages depending on the geographical quarter of France, but it should be noted that each of the four sets (North-West, North-East, South-West and South-East) still displays ample heterogeneity. We proceeded in the following fashion: first the age-specific schedules of departure from natural fertility ($v'(a)$) were calculated for all marriage cohorts by retaining only women married at ages 20-24 as

$$v'(a) = \lg [f(a)/M.n(a)]$$

and the average level of control was obtained as the ratio between the sum of $v'(a)$ in the age groups between 25 and 44 over -3.602, or the corresponding sum of $v(a)$ in the Coale standard. Then $v'(a)$ and $m.v(a)$ were compared via the difference $\epsilon(a) = m.v(a) - v'(a)$. These differences are reported in Table 8. With the exception of the South-West quarter, which is reknown for its birthspacing via long breastfeeding prior to the onset of fertility control, the fit between the observed and expected series is remarkable (see also Figure 5). There is no trace that the observed degree

Table 8: Differences between the expected age schedule of marital fertility control based on Coale's standard and the observed schedule in the 39 villages of the INED-sample, rural France 1720-1819.

		$\epsilon(a)$				fertility parameters	
Age groups:		25-29	30-34	35-39	40-44	\bar{M}	\bar{m}
A. North-West quarter							
marriage cohort of	1720-39	-.012	+.005	+.006	+.003	.996	.175
	1740-69	-.003	-.002	-.032	+.037	1.026	.188
	1770-89	+.009	-.063	-.055	+.083	1.043	.310
	1790-1819	+.033	-.026	+.022	-.027	1.022	.732
	\bar{X}	+.007	-.022	-.015	+.024		
B. North-East quarter							
marriage cohort of	1720-39	-.040	-.031	-.035	+.109	1.152	.146
	1740-69	-.026	-.030	-.023	+.080	1.143	.253
	1770-89	-.103	+.172	+.022	+.054	1.067	.211
	1790-1819	-.021	-.026	+.064	-.014	1.028	.612
	\bar{X}	-.048	+.021	+.007	+.057		
C. South-West quarter							
marriage cohort of	1740-69	+.068	+.044	+.015	-.127	.991	.246
	1770-89	+.125	-.013	-.108	-.004	1.054	.372
	1790-1819	+.051	+.056	-.014	-.094	.874	.291
	\bar{X}	+.081	+.029	-.036	-.075		
D. South-East quarter							
marriage cohort of	1770-89	-.051	+.054	+.030	-.034	.898	.088
	1790-1819	+.023	-.057	+.014	+.065	.926	.355
	\bar{X}	-.014	-.001	+.022	+.016		

Note: negative values of $\epsilon(a)$ indicate that the observed degree of age-specific control was lower than the degree expected on the basis of \bar{m} and the Coale standard age schedule; all data relate to women married between ages 20 and 25.

**RURAL FRANCE : VILLAGES IN INED-SAMPLE
WOMEN MARRIED AT AGES 20-24**

—○— $v'(a)$: observed schedule of fertility control
 - - - ● - - - $v(a)$: Coale's schedule of fertility control

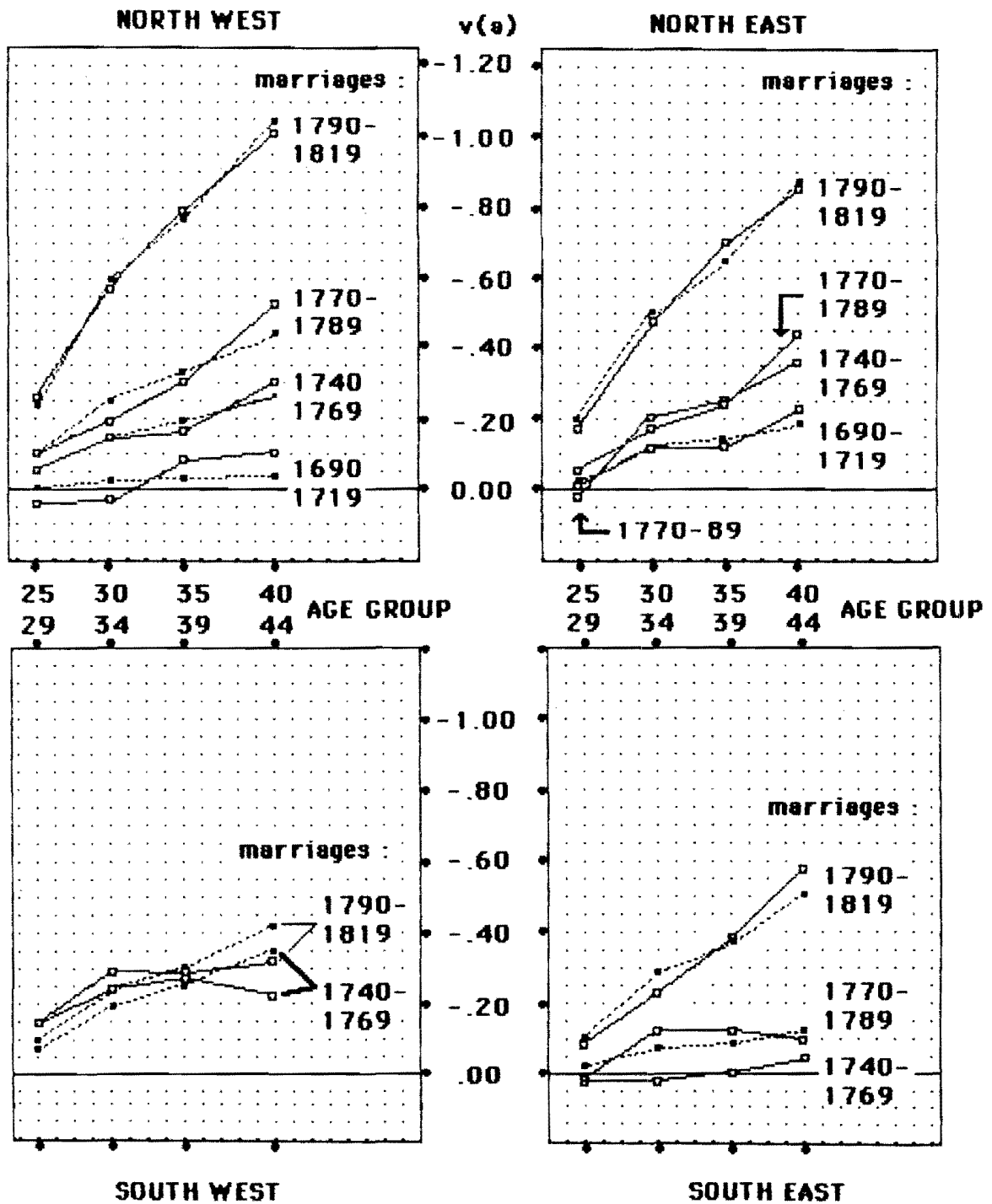


Figure 5: Age-specific patterns of deviation from natural fertility among 18th century marriage cohorts in rural France; comparison of observed schedules with schedules derived from Coale's standard age pattern of fertility control.

of control is systematically greater at the younger age groups (25-39, 30-34) than expected on the basis of Coale's schedule, which would be indicative of a marked pattern of anticipatory spacing. Rather, there is a slight tendency for the reverse to hold: the values of $\epsilon(a)$ tend to be negative in these age groups, which means that spacing is less adequate than expected, and they become positive in the age groups 35-39 and 40-44, which is indicative of more pronounced stopping than expected from the application of Coale's standard pattern of deviation. But, as already indicated, this conclusion does not hold for the villages of the South-West quarter of France. Here, the pattern fits the one hypothesized by P. David and colleagues with sharper departures from natural fertility at the lower ages than those expected from Coale's standard, and smaller departures at the higher ages (see Table 8 and Figure 5). It is, however, unfortunate that the INED-sample for the South-West quarter does not contain any villages in the lower Garonne valley, where an earlier fertility decline is suspected. On the whole, P. David and colleagues are right in pointing out that departures from natural fertility can be different depending on the degree of spacing at lower parities, but it is equally surprising that Coale's standard age schedule of control, derived from populations who lived almost two centuries later, fit the majority of French village data so well. Very much the same impression can be obtained from Figure 6 where we have plotted the results for other village reconstitutions. The area covered is essentially South-West Normandy and the Ile-de-France. The data presented in the left hand panel of Figure 6 are the averages of the observed and predicted schedules computed for each of the villages and towns separately, and the data in the right hand panel are the trimmed means (elimination of the two higher and lower outliers). They are computed for all ages at marriage confined. It is interesting to note that they too exhibit a slight tendency to have steeper age gradients of control than expected on the basis of Coale's standard (cf. the results for the two northern quarters in the INED-sample). At this point, it is dangerous to engage in overhasty conclusions, but it seems plausible that such a steeper gradient may be more typical of populations with late ages at marriage and without a marked tradition of childspacing and prolonged lactation.

The next issue deals with the dating of the onset of parity-specific fertility control. Here, there is conflicting evidence. Literary reports suggest that coitus interruptus (crime of Onan) was spreading during the first half of the 18th century (see for instance P. Chaunu, 1973, 1978, or J-M. Gouesse, 1973), whereas D. Weir's reanalysis (1982) of the demographic evidence claims that no traces of an efficient and noticeable application of contraception can be detected among marriage cohorts which terminated child-bearing prior to the French Revolution. I feel that the truth lies in between.

Catholicism has kept the institutions of confession and the secrecy of the confessional, but confessors were often in need of guidance and discussed the line of conduct to be adopted with colleagues, superiors and theologians (see for instance the "tribunaux de la pénitence"). Particularly confessors belonging to the missions are likely to reveal the emergence of a new pattern since they were much better trained than the local clergy in extracting information and because the public could trust them better than the parish priest in keeping the confessional secret (see T. Tackett, 1977). The system of tribunal de la pénitence was particularly well organized by the Eudistes mission in Normandy (J-M. Gouesse, 1973) and

**VILLAGES IN :
ILE DE FRANCE, SOUTH WEST NORMANDY**

degree of
fertility
control

$v'(a) = \bar{X}$ of observed schedules

$v'(a) = \text{trimmed } \bar{X}$ of
observed schedules

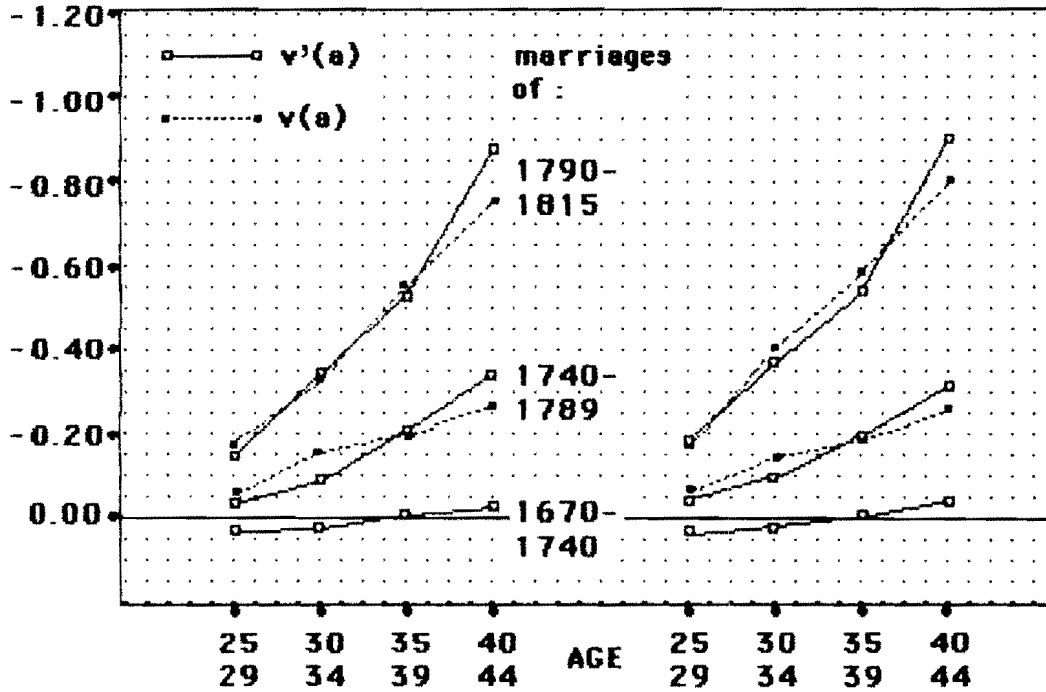


Figure 6: Age specific patterns of deviation from natural fertility among 18th century marriage cohorts (all ages at marriage) in the Ile de France and south-west Normandy; comparison of observed schedules with schedules derived from Coale's standard age pattern of fertility control.

the minutes of the meetings show a preoccupation with the spread of Onanism long before the French Revolution. But they also show an evolution from a laxist position to a more rigorist one, and hence, it is not clear to what extent the discussions about Onanism reflect a genuine spread of contraceptive practices or the evolution of the church during the 18th century to greater rigour and firmer moral control. We have also documented that this ecclesiastic evolution was by no means particular to Normandy, so that the frequency of the topic being discussed is not necessary an indication of a take-off of the fertility transition.

But the demographers too have problems. All methods of detection are susceptible to sample size, and village data often exhibit a period of very slight and unstable deviation from natural fertility before the genuine and unmistakable take-off occurs.

The diagnoses based on single villages are therefore to be considered with great caution given the large standard errors of measures of fertility control (see C. Wilson, J. Oeppen, M. Pardoe, 1988). Aggregation is necessary, but then, genuine heterogeneity is drowned, and estimates of the date of onset err on the conservative side. The aggregated data of Figures 5 and 6, together with the Coale parameters in Table 9 may help to clarify the issue.

First of all, it is clear that the marriage cohorts that terminated childbearing prior to the Revolution in the INED-sample villages of the southern half of France did not engage in demographically effective fertility control. For them, Weir's diagnosis is confirmed. For the others, the matter is not that straightforward. Before proceeding further, we need to point out that the estimation of the age-specific control pattern is dependent on the estimate of \underline{m} or the overall marital fertility level. If the observed marital fertility rate for the age group 20-24 is inflated by premarital conceptions, the departures from natural fertility in the subsequent age groups will all be overestimated and the overall level of control, \underline{m} , will equally give an erroneous impression of parity specific control. However, the age pattern of deviation will pick it up, and the values of $v'(a)$ then tend to follow a horizontal pattern rather than exhibiting a rise (in absolute value) with age which is typical for genuine control. Hence, it is advisable not to trust the summary parameter \underline{m} , but to inspect the entire age schedule of departure from natural fertility when applying Coale's technique. A typical example of an instance where \underline{m} indicates control ($\underline{m} = 0.246$), but where the values of $v'(a)$ are all of the same magnitude is a schedule for the marriage cohorts of 1740-69 in the South-West quarter. Another example is Flins, marriage cohort of 1740-64. The converse can also occur. Two examples of an underestimation of \underline{m} resulting in a set of positive values of $v'(a)$ are the marriage cohort of 1720-39 in the South-East quarter and the marriage cohort of 1640-1749 in the pays de Merlerault. Also schedules with highly unstable values of $v'(a)$, of which the marriage cohort of 1720-39 in the South-West quarter is a prime example, should be regarded as exhibiting no control.

The instances of pre-revolution marriage cohorts showing the first signs of control have been marked by a cross in Table 9. Of the 12 schedules thus singled out, 7 contain marriage cohorts who procreated largely after the Revolution and 5 who did so entirely or largely before the events of 1789. The latter are the marriage cohorts of 1720-39 in the North-East quarter, those of 1740-69 in both the North-West and North-East,

Table 9: Age-specific and summary parameters of deviation from natural fertility; marriage cohorts in French villages and towns

A. <u>Women married at age 20-24</u>		v'(a)				M	m
		25-29	30-34	35-39	40-44		
INED-sample	North-West 1670-89	-.040	-.001	-.133	-.151	1.000*	.090
	1690-1719	+.045	+.035	-.082	-.103	.913	.029
	1720-39	-.043	-.147	-.189	-.252	.996	.175
	1740-69 X	-.056	-.151	-.165	-.305	1.026	.188
	1770-89 X	-.107	-.189	-.297	-.524	1.043	.310
	1790-1819	-.264	-.570	-.789	-1.015	1.022	.732
North-East	1670-89	-.105	-.141	+.034	-.084	1.192	.082
	1690-1719	-.016	-.114	-.118	-.223	1.167	.131
	1720-39 X	-.006	-.087	-.118	-.316	1.152*	.146
	1740-69 X	-.054	-.176	-.242	-.440	1.143	.253
	1770-89 X	+.036	-.198	-.243	-.354	1.067	.211
	1790-1819	-.172	-.472	-.705	-.857	1.028	.612
South-West	1720-39	-.207	+.053	-.200	+.019	.944	.093
	1740-69	-.146	-.244	-.273	-.223	.991	.246
	1770-89 X	-.243	-.290	-.282	-.526	1.054	.372
	1790-1819	-.143	-.293	-.292	-.320	.874	.291
South-East	1670-89	+.025	-.114	+.080	+.435	.934**	-.118
	1690-1719	+.058	-.031	+.047	+.148	.900	-.062
	1720-39	+.029	+.016	+.022	+.095	.963	-.045
	1740-69	+.037	+.032	+.007	-.057	.870**	-.005
	1770-89	+.023	-.126	-.122	-.091	.898	.088
	1790-1819	-.089	-.232	-.386	-.571	.926	.355
<u>B. All women</u>							
Pays d'Arthies	1668-1719	+.081	+.003	-.031	-.164	.911	.031
	1745-69	-.088	-.136	-.296	-.209	1.080	.202
	1770-89 X	-.132	-.267	-.351	-.573	.937	.367
	1790-1804	-.193	-.491	-.560	-.989	.935	.620
Pays de Merlerault	1690-1749	+.018	+.088	+.010	+.026	.902	-.039
	1750-79 X	-.075	-.142	-.476	-.746	.937	.400

Table 9 - continued

		v'(a)				M	m
		25-29	30-34	35-39	40-44		
Suresnes	1735-59	+.046	+.014	-.026	-.119	1.226	.024
	1760-89 X	-.010	-.096	-.223	-.413	1.183	.208
	1790-1809	-.325	-.500	-.660	-.981	1.104	.685
Beauvaisis	before 1720	+.004	-.042	-.021	-.023	1.052	.022
	1720-49	-.050	-.094	-.139	-.265	1.133	.152
	1750-79 X	-.042	-.123	-.157	-.403	1.137	.201
Meulan	1660-1709	+.020	+.173	+.190	-.107	1.057	-.077
	1740-64	+.115	+.044	-.063	-.463	1.015	.102
	1765-89 X	-.038	-.140	-.448	-.486	1.120	.309
	1790-1814	-.202	-.471	-.642	-1.086	.941	.667
Verneuil	1740-64	-.196	-.063	-.031	-.041	1.241	.092
	1765-89	.000	-.076	-.130	-.153	.970	.100
	1790-1804	+.234	-.160	-.339	-.529	.976	.220
Est-Parisien	1740-64	+.119	-.040	-.032	-.109	1.198	.017
	1765-89	+.139	-.104	-.149	-.062	1.100*	.049
	1790-1804	-.161	-.078	-.339	-.869	1.045	.402
Flins	1740-64	-.205	-.186	-.172	-.222	1.265	.218
	1765-89 X	-.072	-.170	-.388	-.346	1.065	.271
	1790-1814	-.161	-.443	-.660	-1.015	.826	.633

C. Schedules for comparison

Geneva bourgeoisie:

- husband born prior to 1650	-.014	-.044	-.136	-.235	1.002	.119
- husband born between 1700-99	-.264	-.714	-1.144	-1.218	.852	.927

Notes: * value of f(20-24) reduced to correct for obvious inflation by premarital conceptions;

** value of f(20-24) increased since it was lower than that of f(25-29);

X pre-revolution marriage cohorts with fertility control suspected.

$$m = \frac{\sum_{25}^{44} v'(a)}{\sum_{25}^{44} v(a)} \text{ or } \frac{\sum_{25}^{44} v'(a)}{-3.602}$$

and the marriage cohorts of 1750-79 in the pays de Merlerault and the Beauvaisis. Hence, Weir is also correct in rejecting the hypothesis of a pre-revolutionary breakthrough in a number of cases belonging to the northern half of France. But, a number of areas still remain for which an earlier onset is defensible. However, it should be noted, as the comparison with the Geneva bourgeoisie indicates, that the levels of control were still faint in these instances.

The conclusions from this section are:

- i) the observed age patterns of control can indeed deviate from Coale's standard pattern, with populations having earlier marriage and a tradition of prolonged lactation exhibiting stronger control at earlier ages and less control than expected at later ages. The converse seems to hold true for populations with late marriage and no marked spacing tradition. The majority of French marital fertility schedules gathered so far conform to Coale's standard to a rather striking degree.
- ii) the Revolution of 1789 marks the genuine take-off with respect to fertility control, but in contrast to Weir's thesis, we would not reject evidence on earlier declines in the northern half of France. However, the extent of control in these pre-revolutionary schedules is weak.
- iii) sufficiently detailed data for two areas, i.e. Normandy and the lower Garonne valley, where an early transition is suspected, are missing. The published Norman schedules cover periods which are too broad, and information is totally lacking for the Bordeaux regions.

7. The French fertility transition: the regional pattern

Detailed descriptions of the geography of the fertility decline in France have already been presented by other authors (e.g. E. van de Walle, 1974; E.A. Wrigley, 1985), so that they will not be repeated here. Instead, we wish to explore a set of explanatory hypotheses which account for levels of marital fertility and the speed of the fertility decline in the various regions of France during the period 1760-1831.

Explanatory hypotheses concerning regional leads and lags can again be derived from Coale's conditions concerning readiness, willingness and ability, using operationalization built along the lines used in earlier articles (R. Lesthaeghe, 1980; R. Lesthaeghe and C. Wilson, 1986). In these articles we had suggested that both readiness and willingness conditions would be different depending on the prevailing mode of production. By this, we meant that familial forms of production, such as smallholder agriculture or cottage industry, are characterized by a high economic value of children and by strong parental control. In such settings, the father is not only the pater familias but also the firm manager. Conversely, both the value of children and parental authority weakens in systems with proletarianization, i.e. with the growth of a wage-earning class employed outside familial sectors. The future life course of children is then no longer dependent on the inheritance of a familial enterprise, but on their own wage-earning capacity. The French example is of particular interest here since, broadly speaking, the country contains two types of rural economies, one based on

traditional peasant agriculture operating on a familial basis and redistributing surplus labour via domestic service, and another based on early rural proletarianization with a developed labour market producing manpower for large scale agricultural enterprises.

The most important empirical investigation into the determinants of the regional patterns of the French fertility decline at the time of the Revolution until now has been produced by D. Weir (1982). His micro-economic starting point is entirely in line with our earlier concentration on modes of production:

"The hypothesis advanced here [i.e. in Weir's doctoral dissertation] is that it is the relative value of family labour over the parents' life cycle, as a function both of the economic situation of the family and the labour market conditions of the community, that determine fertility". (Weir, 1982: 314).

Weir's empirical testing proceeds with the INED-sample of villages, in which he could measure the marital fertility levels of various marriage cohorts. The explanatory variables are mainly proxies which concern the dominance of a familial and traditional peasant agriculture versus that of a capitalist agrarian structure. They stem mostly from the agricultural census of 1851-52, so that we are facing the unavoidable problems of a substantial time difference in the dates of measurement of the independent and dependent variables. Furthermore, Weir uses both the information of Yver and de Brandt concerning the prevailing systems of inheritance. The main problems with these operationalisations are that they do not refer to the same time period (Yver's data pertain to the 16th century, de Brandt's to the late 19th century), that major shifts took place, and that inheritance systems could just as well be influenced by fertility levels rather than the other way around (D. Weir, 1982; also suggested by A. Hermalin and E. van de Walle, 1977). Finally, it should be stressed that the information on land usage in the agricultural census of 1851-52 is probably more reliable than that on the various socio-economic categories or professions (see for instance E. Todd, 1988, for examples of confusions in terminology).

The other main attempt to establish empirical links between the geographical patterns of the French fertility decline and socioeconomic or cultural indicators has been undertaken by H. Le Bras and E. Todd (Le Bras and E. Todd, 1981; H. Le Bras, 1986; E. Todd, 1983, 1988). Their analysis is based on the data for the départements and is often presented in the form of maps. Both authors point again at the importance of the various agricultural systems, but in contrast to Weir (1985) who treats cultural variables (such as secularization) as strictly endogenous, Le Bras and Todd do not succumb to the micro-economists' solution of convenience. Instead, a great deal of attention is paid to patterns of political control, moral patronage by the church and secularization, and to forms of paternal authority in conjunction with rules of inheritance. In fact, Todd's central hypothesis is that authoritarian family structures with unigeniture are not only of relevance for understanding late marriage and the postponement of a fertility transition, but also for explaining the appeal of authoritarian political parties during the 19th and 20th century (1983). With respect to the present article we do not need to follow Todd on his global theory of authoritarianism but we can certainly make profitable use of the insights that both authors have offered on the French fertility decline. Their

Table 10 : Correlation coefficients between indicators of the marital fertility decline and selected agricultural, socio-economic and cultural variables, France 1790-1831.

INED-sample of villages (D. Weir)			Départements (E. van de Walle, E. Todd, H. Le Bras)	
Correlates in 1852	marital fertility of marriage cohort 1790-1819 (I) _g	Change in marital fertility from mar. cohort 1690-1769 to mar. cohort 1790-1819 (decline I) _g	Correlates (various dates)	period marital fertility in 1831 (I) _g
<u>A. Mode of production</u>			<u>A. Mode of production</u>	
i) indicators of familial, peasant economy.			i) indicators of familial peasant economy	
- percent fallow land	.04	-.31	- small holders and/or peasant farmers (versus journaliers & métayers), 1852	.46
- percent common land	.30	-.46	- servants in households (domestiques), 1856	.33
- percent owner-cultivators	.27	-.48	- inegalitarian inheritance, 1900	.40
- impartible inheritance (de Brandt)	.32	-.56		
ii) indicators of labour-market oriented agriculture			B. <u>Cultural indicators</u>	
- percent artificial meadows	-.28	.58	- clergy refusing revolut. oath, 1791	.46
- percent absentee-landlords	-.08	.46	- marriages in Germinal, year X	-.11
- percent "rentiers"	-.32	.44	- priests among army recruits, 1825	.31
- price per hectare of first quality arable land	-.19	.40	- vacant vicariates, 1885	-.52
			- patois or language other than French, 1863	.40
			- adults reading, not writing, 1872	.55
<u>B. Cultural indicators</u>			C. <u>Marriage regime</u>	
- marriages Lent & Advent, 1793-1824	n.a.	.23	- index of proportions married women (Im), 1831	-.73
			- index of illegitimacy (Ih), 1831	-.30
			- endogamy (cousin marriage), 1911-13	.47

Sources: D. Weir (1982); raw data départements: H. Le Bras and E. Todd (1981), H. Le Bras (1986), E. Todd (1988), E. van de Walle (1974).

Note: correlates in Weir's analysis are measured at the level of arrondissements, except for marriages during Lent and Advent.

Table 11: Definition and source of variables used in the analysis of regional reproductive regimes in 19th century France

Ig	Index of marital fertility (1831, 1851, 1876)	E. van de Walle, 1974, pp.226-467
Im	Index of proportions married (1831, 1851, 1876)	E. van de Walle, 1974, pp.226-467
Ih	Index of illegitimate fertility (1831)	E. van de Walle, 1974, pp.226-467
Rise Ig 1851-76	Ig 1876 - Ig 1851	
Endogamy	Rankorder of departements according to percentage cousin marriages among all marriages in 1911-13 (grouped from 0 = lowest to 11 = highest)	H. Le Bras & E. Todd, 1981, pp.215
Age diff. marriage	Husband-wife difference in age at marriage, years 1861-65	H. Le Bras & E. Todd, 1981, p.440
Refusal revol. oath	Refusal of revolutionary oath by clergy in 1791 2 = more than 50 percent of clergy refused, 1 = 40 to 50 percent refused, 0 = less than 40 percent refused	E. Todd, 1988, p.64 (based on T. Tackett, 1986)
Priests among recrutes	Priests per 10,000 army recrutes in 1825	H. Le Bras & E. Todd, 1981, p. 430
Ordinations	Ordinations of priests per 100,000 pop., 1876	H. Le Bras & E. Todd, 1981, p.430
Vacant vicariates	Proportions of vicariates vacant in 1885; grouped values: 0 = less than 6 percent; 1 = 6-15; 2 = 15-21, 3 = 21+	H. Le Bras & E. Todd, 1981, p. 379
Sunday Mass attendance	Percent of population attending Sunday Mass, 1960-70	H. Le Bras & E. Todd, 1981, p.430
Reading without writing	Percent population 20+ reading only, 1872	H. Le Bras & E. Todd, 1981, p.454
Language	Persistence of patois or languages other than French in 1863. Grouping: 0 = all speak French; 1 = traces of patois; 2 = large proportion or entire villages do not speak French; 3 = more than 50 percent non-francophone	H. Le Bras & E. Todd, 1981, p.279
Agricultural system	Areas of large farms operating with journaliers and areas with métayage (14%+ métayers) (=1) versus areas with small holders or tenants (17%+ fermage) (=0)	E. Todd, 1988, p.84
Inheritance system	Inegalitarian system (=1) with primogeniture or other preferential treatment versus egalitarian system (=0)	E. Todd, 1988, p.32 (based on A. de Brandt, 1901)

position can be summarized as follows: fertility control and secularization both emerge in regions characterized by the existence of a large rural proletariat (i.e. journaliers or day-labourers, and métayers or sharecroppers) and by partible inheritance. This is congruent with Weir's micro-economic argumentation concerning the value of children versus that of hired labour, and also with Le Play's older view that partible inheritance fosters restriction of family size. Fertility control and secularization are both slowed down or halted in regions which have maintained a traditional peasant system with inegalitarian inheritance protecting the family capital from fragmentation, authoritarian family systems, more stringent moral controls on the behaviour of community members and young adults in particular, and cultural and linguistic particularism.

The statistical evidence concerning the relationship between marital fertility in the period 1760-1831 and the various indicators of the mode of production, intergenerational property transmission and cultural patterns is summarized in Table 10 in the form of correlation coefficients. The operationalizations used for the analysis of data by département are given in Table 11. On the left side of Table 10, we have reproduced selected results from Weir's analysis, which are the most clearly consistent with his thesis. The availability of fallow and common land, a high percentage of owner-cultivators, and the protection of the familial capital by impartible inheritance are typical for the areas in France which have maintained a traditional peasant system. These characteristics are associated with higher marital fertility for the marriage cohort of 1790-1819 in the INED-sample of villages. They are also negatively related to the speed of the marital fertility decline. On the other hand, the conversion of common or arable land to artificial meadows for cattle and horse raising, the presence of a capitalist land-owning group and a high market value of arable land are negatively associated with marital fertility levels and positively with the speed of the transition. Weir has, however, also produced similar correlation coefficients with other indicators taken from the agricultural census of the mid-19th century. Some of these do not conform to the picture just presented. The proportion of landless, i.e. journaliers and métayers, shows a positive association with marital fertility levels ($r = +.26$) and a negative one with the speed of the decline ($r = -.16$), meaning that rural proletarianization would have hampered rather than fostered the French fertility transition. Moreover, this is in conflict with the results computed from the data set for the départements, where the dominance of journaliers and métayers (following Todd's operationalization from the same agricultural census) shows the expected strong negative correlation ($r = -.46$) with marital fertility levels in 1831. Possibly Weir may have misinterpreted the meaning of certain occupational categories in some regions or some other form of error may have been introduced. The other odd result in Weir's correlation matrix is that the yearly earnings of a child relative to that of an adult labourer is negatively related to both the marital fertility level ($r = -.22$) and to the drop in I_g ($r = -.15$). The latter finding is consistent with theory as it indicates that a higher value of children produced a slower fertility transition. But, how does one establish the income from children working in familial enterprises? Presumably children in such settings would not be reported as receiving an income, so that the variable may measure exactly the opposite from what it was supposed to. But in this instance the originally consistent relationship with the speed of the fertility decline would no longer hold.

The results for the départements restore our confidence. As already indicated, Todd's dichotomy between smallholders mixed with tenant farming versus journaliers plus métayers performs as expected, and so do two other indicators of traditional peasant agriculture, namely the interfamilial exchange of surplus labour via domestic servants and the attachment to inegalitarian inheritance. Equally striking is that such systems use the marriage strategy to protect familial property and its transmission. A high degree of endogamy (cousin marriage) is rather typical for the regions that maintained smallholder proprietorship ($r = +.32$), so that there is also a positive link between endogamy and marital fertility ($r = +.47$). Arranged marriages and strong parental control over partner-selection implies the avoidance of "mésalliance" and hence a strong condemnation of illegitimacy. Hence, the regions with peasant agriculture had lower levels of illegitimate fertility ($r = -.58$), and lower illegitimacy is then associated with higher marital fertility ($r = -.30$).

The connections with the nuptiality regime hold further. Arranged marriages are sought for heirs (or for younger brothers if they can be matched to the "héritière" of a family with only surviving daughters). Even more importantly, the reduced or negligible inheritance for the other siblings means marriage postponement and often definite celibacy. As a result, the most striking relationship in the entire correlation matrix is the negative association between the index of proportions of married women (I_m) and the level of marital fertility (I_g) ($r = -.73$). On the whole, these findings indicate that the regions with traditional peasant economies had a stronger nuptiality strategy to protect their interests, and that they were therefore less inclined to use the alternative strategy, i.e. the one operating via marital fertility control. In essence, this brings us back to J. Goody's line of reasoning, and to the importance of the nuptiality system and the strategies of property transmission in the overall picture of the social organization of reproductive regimes. But, also the regions with more classic peasant agriculture eventually yielded to fertility control within marriage. In an earlier analysis of the nuptiality-fertility link in France (E. van de Walle and R. Lesthaeghe, 1973) we had noted that the relationship between I_m and I_g was strongest when I_m was lagged on I_g , indicating that the marriage restrictions were loosened once marital fertility was brought under greater control. The early decline of marital fertility in France partially accounts for the early point of inflection in the trend with respect to ages at first marriage during the 19th century (cf. supra). However, one element of the old marriage pattern remained highly visible all way through the 19th century: the incidence of consanguinous marriage. Le Bras and Todd (1981) comment on the high figures for 1911-13 under the suggestive heading: "inceste à la française".

There are also linkages between the nuptiality regime in the area of traditional peasant agriculture and the greater resistance to secularization. First, unigeniture or inegalitarian inheritance pushes younger siblings out of the system. They are disproportionately recruited as domestic servants, soldiers, civil servants or clergymen. Areas with inegalitarian inheritance tend to have an "overproduction" of clergy compared to areas with capitalist agriculture and partible inheritance, as can be seen from the correlation coefficients reported in Table 12. This does not mean that clergymen would predominantly be recruited among poorer peasants. The opposite is true as for instance shown by T. Tackett's

Table 12: Correlation coefficients between the dominance of peasant economy or inegalitarian inheritance and indicators of recruitment in the clergy, French départements.

	Clergy among army recruits 1825	Ordinations 1876	Vacant vicariates 1885
- Inegalitarian inheritance, ±1900	+ .33	+ .21	- .22
- Small-holders and/or tenants (versus journaliers/métayers), 1852	+ .41	+ .47	- .44

analysis for the Dauphiné (1977): parish priests are a local elite and originate from better off families in areas where impartible or inegalitarian inheritance remained the rule. Tackett's description of the recruitment into the clergy leaves little doubt about the link with intergenerational property transmission. Clergymen often received patrimonial titles in exchange for limiting future claims on the family fortune, and such titles were commonly written into the marriage contracts of older brothers and heirs. Tackett also finds that the Dauphiné clergy was overwhelmingly a corps of younger sons.

There were not only major regional differences with respect to the recruitment of the clergy, but also with regard to their economic and political position. On the whole, the clergy living in areas with capitalist agriculture benefited far more from the revenue of church owned estates in the form of tithes than the poorer clergy living in areas without such church land. The latter had to rely on the "portion congrue" or the equivalent of a salary. According to Tackett, about one third of the clergy in the kingdom were salaried, and in the north and west, this figure drops to 5 to 25 percent. Conversely, the salaried curés are mainly found in the south-east, where, at the time of the Revolution, they would largely contribute to those who accepted the oath of allegiance to the new revolutionary constitution of 1791. Many subsequently leave the clergy and marry (for the map of married clergy in 1806 see G. Cholvy and Y-M. Hilaire, 1985: 15).

Two indicators are available for measuring the departmental levels of secularization at the time of the French Revolution. The first is the MLA-index or a proxy thereof (such as the proportion of marriages during the month of Germinal in the year X for which we have the map composed by C. Rollet and A. Souriac (1978)), and the second is the percentage of curés which accepted the revolutionary oath of 1791, produced by T. Tackett. These two maps are consistent for the north-west of France but inconsistent in many other parts (e.g. the Massif Central). The correlation between them is only .08. On the other hand, the regional spread of the refractory clergy (i.e. those refusing the 1791 oath) and the regional patterning of 19th and 20th century indicators of secularization are highly consistent. For instance, dominical service attendance in 1960 (!) in the départements and the distribution of the refractory clergy of 1791 exhibit a correlation coefficient of +.68. From this, we must conclude that the indicator based on the revolutionary oath of 1791 is a better proxy for secularization than the MLA-index for a single year.

In accordance with Tackett's analysis for the Dauphiné, we have already singled out one determinant of the political position taken by the clergy after the events of 1789, namely their own economic position. But there must be many others. The local clergy, being sons of the region, confessors, confidants, match-makers etc., were closely connected with the parish population, and they were often facing the difficult choice between obeying Paris (and then accepting a salary) or remaining on the side of the local peasantry in areas that remained attached to the old order and faith. The defense of regional particularism against the incursions of the new central authority and the refusal of the revolutionary oath by the clergy are therefore connected. Not surprisingly, there is a correlation between the distribution of the refractory clergy and the prevalence of patois or languages other than French ($r = +.32$) and the proportion of adults who could read French, but not write it ($r = +.36$). But, the links with the

type of agriculture are stronger: Tackett's map of the refractory clergy and Todd's description of areas with traditional peasant agriculture exhibit a correlation coefficient of +.52. Finally, as can be seen in Table 10, the indicators of secularization (marriages in Germinal, year X; vacant vicariates in 1885) and those of resistance to it (refractory clergy of 1791, priests among army recruits in 1825, and ordinations in 1876) all have the expected association with the fertility levels in 1831.

On the whole, there is a clear connection between the "mode of production" variables as used by Weir or those advanced by Le Bras and Todd, and the regional pattern of secularization as it was emerging at the time of the Revolution. But the overlap is by no means perfect. For instance, in the areas with traditional peasant agriculture of southeastern France, the clergy opts overwhelmingly in favour of the new regime (as could be expected from the early secularization of the region described by M. Vovelle, 1973, 1988), whereas the priests of the Massif Central, another area of peasant agriculture, remain essentially loyal to King and Pope. Hence, the micro-economic approach is only able to squeeze out political and cultural variables by postulating a particular unidirectional causal model, which is too simplistic in the light of the complexity of revolutionary France. On the other hand, it has to be admitted that the testing of alternative and more complex models is seriously hampered by measurement inadequacies such as the reliance on ideosyncratic indicators and the violations of the proper temporal sequence in the measurement of dependent and independent variables. At this stage, it is advisable to use statistical techniques which do not hypothesize specific models of causation, but are directed at pattern recognition. This amounts to the elucidation of how the various elements of the system show a degree of functional consistency. The results obtained from an application of canonical correlation (Table 13) provide therefore an adequate summary. Canonical correlation analysis is related to classic regression, because it distinguishes between dependent (here, the demographic indicators) and independent variables (here the economic and cultural indicators). It is also related to factor analysis, in the sense that it identifies underlying dimensions (canonical variates) that capture the common information contained in each set of indicators. The analysis presented in Table 13 shows that in a first round, two canonical variates can be identified (Y1 and X1) which are strongly interrelated ($r = +.87$). The best indicators of X1 and Y1 are chosen as the variables that correlate with the respective canonical variates at a level of 0.40 or better. The demographic dimension (i.e. Y1) identifies the départements with late marriage, high marital fertility, low illegitimacy, and high endogamy. Moreover, it also identifies the départements which have a rise in marital fertility between 1851 and 1875 (see section 9). The explanatory dimension (X1) identifies regions with low secularization, peasant agriculture, inegalitarian inheritance and linguistic ideosyncrasy. A second canonical variate, which is unrelated (orthogonal) to the first one was also significant. The dimensions Y2 and X2 show a correlation of 0.72, and they respectively identify regions with high age differences at marriage between husband and wife and non-francophone regions with inegalitarian inheritance. The second pair of canonical variates points at the specificity of the southwest quarter of France where female ages at first marriage were fairly early and those for males higher than average. This particularly large age gap between the spouses separates the southwestern areas of peasant agriculture from the others.

Table 13: Association between indicators of the reproductive regime and socio-economic indicators in France, 19th century, 90 départements. Canonical correlation analysis results

First canonical variate: canonical correlation: .87 ($r_{X_1Y_1}$)
 Wilks lambda: .05
 eigenvalue: .76

Y1: Best indicators reproductive regime (r GT .40)

- proportions married women, Im 1831: -.86
- proportions married women, Im 1876: -.82
- marital fertility, Ig 1876 : .77
- marital fertility, Ig 1831 : .75
- illegitimate fertility, Ih 1831 : -.65
- rise marital fertility, 1851-1876 : .50
- endogamy (cousin marriage) 1911-13: .46

X1: Best indicators socio-econ. characteristics (r GT .40)

- Sunday mass attendance, 1960 : .90
- proportion pop. 20+ reading, not writing: .73
- refusal by clergy of revol. oath 1792 : .70
- priest ordinations per 100.000 pop. : .66
- small holder & tenant farming, 1851 : .68
- vacant vicariates, 1855 : -.61
- priests per 1000 army recrutes, 1825-35 : .59
- inegalitarian inheritance, 1900 : .53
- languages other than Franch, 1863 : .50

Second canonical variate: canonical correlation: .74 ($r_{X_2Y_2}$)
 Wilks lambda: .21
 eigenvalue: .54

Y2: Best indicators reproductive regime (r GT .40)

- Husband-wife age difference at marriage, 1861-65: .64

X2: Best indicators socio-econ. characteristics (r GT .40)

- inegalitarian inheritance, 1900 : .59
 - language other than French, 1863: .49
-

Another possibility to tease out information from a set of indicators is the use of Boolean algebra and the application of Boolean minimization (see C. Ragin, 1987). The purpose is to detect which particular combinations of independent variables produce a given effect, and to establish which predictors are non-redundant, necessary or sufficient. In the present application - which is illustrative, given the measurement problems - we have dichotomized the independent variables as follows:

- C : capitalist agriculture with substantial rural proletariat (journaliers and métayers)
 c : peasant agriculture with dominance of smallholders and/or tenants (1852)
 P : mainly partible inheritance (de Brandt's information)
 p : mainly inegalitarian or impartible inheritance
 F : french-speaking area (1863)
 f : patois or major non-francophone group
 S : secularized, with 50 percent or more of clergy accepting revolutionary oath of 1791
 s : non-secularized, with less than 50 percent of clergy accepting the oath.

The dependent variable is equally dichotomized and indicates whether a département has a marital fertility level in 1831 that was larger or smaller than the average for the 84 départements for which we have full information (mean $I_g = .56$). With four dichotomous predictors, one can inspect the outcome I_g for 16 different combinations, ranging from cpfs to CPFS. However, two combinations were missing: CFps and CFpS, or simply CFp. In other words, we encounter a case of limited diversity, which is highly common in the social sciences, given that systems have a certain functional coherence and therefore lack a number of "inconsistent" combinations. Boolean minimization allows us to combine two Boolean expressions that differ in only one condition, yet produce the same outcome, into a single new expression without that contrasting condition. For instance, if both cpfs and CPFS produce the same outcome, the contrasting element (c versus C) can be dropped and the two expressions can be simplified to PFS. Finally, in Boolean expressions, "multiplications" should be read as AND, and "additions" as OR.

Two types of outcomes are considered. First, we want to establish which combinations of conditions are associated with less than a quarter of départements in the 14 cells having I_g -values below the mean. The resulting expression for strongly lagging behind in the marital fertility transition, rewritten for ease of interpretation, is:

$$LAG = Fcps + Cpfs + Pjf$$

This expression describes the preconditions that prevail in 11 départements. It states that francophone départements (F) overwhelmingly failed to experience a significant fertility decline by 1831 if they combined this characteristic with three counterindicating conditions (peasant agriculture AND inegalitarian inheritance AND weak secularization). Similarly, départements with capitalist agriculture (C) also largely failed if the other obstructing characteristics were present. Furthermore, départements with partible inheritance (P) also failed if they

It is worth stressing that the secularization in France, although culminating during the first years of the Revolution, has a longer history. Diderot, Montesquieu, d'Alembert, Voltaire and Rousseau, although unequal in their attack on the church and heterogeneous in their philosophy, all have their prime productive time between 1750 and 1770. The Encyclopedia was a major commercial affair. But these references are merely the top of the iceberg. Recently, historians have been able to show the strength of the deeper roots, and M. Vovelle has summed them up in a recent short piece (1988: 36-39).

The first element that drew attention was the clear change in the stipulations and wording of testaments (see M. Vovelle, 1973, 1983, and P. Chaunu, 1978). This indicator is an important one since in many regions more than half the population drew up such a document. First in the Provence and Paris, and subsequently in numerous other areas the following shifts are noted:

- i) the baroque pomp of funerals disappears;
- ii) donations to religious confraternities shrink;
- iii) religious incantations to the Virgin Mary, saints or reference to the Passion of Christ are abbreviated and finally disappear;
- iv) stipulations for Masses to be said in the days following the funeral gradually vanish (it was commonly believed that the judgement of the soul would take a few days)
- v) church burial grounds are no longer in great demand.

Some of the orders of magnitude together with the timing are reported in Table 14 for Mediterranean regions, which constitute the site of Vovelle's initial investigations. The indicators reported here show that the turning point in the Provence is located between 1730 and 1750. Chaunu's large scale analysis for Paris, where the majority of testaments in the sample came from middle and lower social strata, dates this point near the beginning of the 18th century. Other converging indications are available. M. Agulhon, for instance, shows that the bourgeoisie, once the main patron of religious confraternities, moves to new forms of sociability, and is increasingly found in clubs and freemason lodges (quoted by Vovelle, 1988). The sense of religiosity had by no means entirely disappeared, but it was increasingly individualized, i.e. divorced from official doctrine and organization. Typical for such an evolution is that the traditional beliefs, such as the belief in hell, purgatory, damnation, salvation, protection by patron saints etc., are being eroded first. In Vovelle's words: "le ciel se dépeuple". This different concept of religion implies a different definition of sin and judgement. The more distant God leaves room for a personal morality. The culpabilisation strategy no longer functions as before. On the whole, the 18th century is still theistic in France, but this is the prelude to full atheism emerging during the 19th century among various segments of society.

Finally, also the literary tastes change during the 18th century (M. Vovelle, 1988). The publication of theological, moralizing and more popular religious literature (such as the narratives on the exemplar lives of saints) are being replaced by secular materials (arts, sciences, travel,

had predominantly peasant proprietors/tenants AND were non-francophone. If this last term would have been Pjfs instead of Pjf, the rule would have been quite simple: the effects of respectively F, C, and P (which on their own are propitious for a larger than average fertility decline) are neutralized if all three remaining conditions operate in the opposite direction. Note, however, that there is no term Scpf.

By contrast, which were the combinations of predictors with at least 75 percent of département achieving marital fertility levels below the mean?

$$\text{LEAD} = \text{CP}(s+F) + \text{S}(\text{Cpf} + \text{Fcp})$$

The first term describes the prevailing conditions in 21 départements, and the second relates to only 3 (Lot et Garonne, Dordogne, Creuse). Hence, the most frequently encountered conditions for success indicate the joint presence of capitalist agriculture and partible inheritance (CP). But these have to occur in tandem with either low secularization or francophone. For them, the combination CP is a necessary but not yet a sufficient condition. The second term spells out that secularization is a necessary but not a sufficient condition for the remaining three départements. Secularization has to be combined with capitalist agriculture, given that we are dealing with patois and inegalitarian inheritance (Dordogne, Lot et Garonne), or with being francophone in the absence of capitalist agriculture and partible inheritance (Creuse). The combination SFcp for Creuse is not really an essential one since this département is a borderline case with an I_g -level of 0.556 which is only fractionally below the average.

The main lesson to be drawn from this exploratory analysis is that the sole difference in agricultural mode of production is far from being a necessary and sufficient condition for leading in the marital fertility transition. When partible inheritance is added, the results are much stronger (see role of CP). Yet, cultural conditions do interfere and they are able to neutralize the effect of economic structure (see LAG) or, more rarely, foster leadership (see LEAD). Hence, both Weir and Todd hold a significant piece of the pie, but the story is not just reducible to the presence of capitalist agriculture or the existence of authoritarian family systems.

It is also of interest to know in which regions prophecy fails. To find out, a simple multiple regression of I_g in 1831 was run on the incidence of journaliers and métayers, patois and non-francophone, egalitarian inheritance, acceptance of the revolutionary oath, and on the percentage able to read French but not to write it ($R^2 = .39$). Residuals larger than one standard deviation of I_g were mapped. The regions that proved to be substantially ahead in the transition compared to their expected position are strongly clustered: the Norman départements of Eure and Calvados, and the Garonne valley départements of Gironde, Lot et Garonne, Gers, Tarn et Garonne. These are precisely the areas where a pre-revolutionary fertility decline has been suspected. The large residuals for Normandy emerge because of the contrast between low fertility and the relatively weak secularization. The large residuals for the Garonne valley may also be caused by the fact that the southwest region in France had comparatively low marital fertility to start with (prerevolutionary levels of I_g are commonly between .550 and .650). The only other département with a much greater lead than expected is Hérault.

The départements that lag much further behind than expected are located at the periphery of France. In the west, they contain the two Breton départements of Finistère and Morbihan, complemented by the Vendée. These three cases are hardly a surprise. In the north, substantial relative lagging is found for the Vosges, and in the southeastern corner, in the départements of Loire, Hautes Alpes, and Bouches du Rhône. When the index of proportions married (I_m) is added to the regression, R^2 increases to .58, but large negative residuals for I_m are still found for Eure, Calvados, Lot et Garonne and Gers, whereas the large positive residuals prevail in Finistère, Morbihan, Vendée, and Loire.

As indicated earlier, relatively little research has been performed on the specificity of the Garonne regions. But for Normandy, there is more. According to P. Chaunu, the ideosyncratic position of a part of Normandy relates to the doctrine of Jansenism and its predelection for perfectionism and ascetism, to the decline of cottage industries, and to the conversion of arable and common land into artificial meadows (P. Chaunu, 1972, 1973, 1978). The reactions to Chaunu's explanation are mixed, particularly with respect to the presumed influence of Jansenism, but it is worth stressing that his diagnosis combines factors that relate to legitimation as well as to motivation.

8. How valuable are the insights gained from regional cross-sections in accounting for the sustained fertility decline in France since the late 18th century?

The joint conditions of capitalist agriculture and partible inheritance, which played a major role in predicting regional leadership, should also be evaluated from a dynamic rather than static perspective. If we would furthermore follow Weir's assertion that inheritance rules are more endogenous than exogenous, the question can be formulated as follows: was there an expansion of the capitalist form of agriculture, both in terms of acreage or population engaged in it, that was strong enough to provoke a sustained fertility transition for more than half a century (say, from 1780 to 1850)? In other words, did the Revolution start a major and continuing process of land reform in the direction associated with enhanced fertility control?

The issue of revolutionary land reform, i.e. the confiscation of nobility and church property, and its relation to structural changes in land ownership, size of holdings and rural proletarianization has received an abundant treatment in the literature. On the whole, the following points emerge:

- i) the sale of "biens noirs" created an active market in land, but it benefited the bourgeoisie much more than anyone else;
- ii) the abolition of old manorial rights did little to improve the standard of living of the rural population since they became subject to heavy taxation instead. This was largely but not solely the result of the revolutionary and imperial wars;
- iii) after the Concordat of 1801, a substantial amount of former church property is restored to its pre-revolutionary owners;

- iv) the old physiocratic doctrine survives, with its concentration on wealth extraction from the capitalist sector of agriculture and its relative disregard for industry and commerce, despite the efforts during the Napoleonic period to stimulate these alternative sectors;
- v) agricultural technology and productivity did not change in any significant way and continued to lag behind that of France's northern and western neighbours;
- vi) the geographical demarcation between areas with capitalist and peasant agriculture or the proportion of population respectively dependent on them do not seem to have been affected in any significant way. The Marxist theory of land concentration and progression of rural proletarianization fails to hold. Areas characterized by the familial forms of production and smallholder proprietorship before the Revolution are still dominated by it during and after the Revolution. In fact, these distinctions remain quite stable during the entire 19th century.

We retain the following conclusion by A. Soboul (1983: 185):

"Si la Révolution avait modifié le régime agraire, si de nouvelles méthodes de culture étaient apparues, l'appareil de la production agricole ne différerait pas essentiellement de ce qu'il était avant 1789; certains éléments du système économique et social n'avaient pas connu de modifications susceptibles de permettre sa transformation... Si l'ancien système de culture persistait, c'est qu'il était cohérent avec un ensemble de données parmi lesquelles le niveau général des techniques, les possibilités d'emploi non agricole et l'importance de la population bénéficiaire des droits collectifs".

And the overall conclusion by A. Soboul is (1983: 186):

"Aussi, paradoxalement, la rupture révolutionnaire aboutissait en France à une position conservatrice quant aux structures de l'exploitation agricole, position qui ne fut d'ailleurs, jusqu'à nos jours, jamais explicitement remise en cause".

The conclusion with respect to the fertility transition is that there was no major and steady shift in the geography and population engaged in the various types of agricultural production. The variable that does well in the regional cross-section is, at most, of minor importance for explaining the fertility trend between 1780 and 1850. We clearly need other driving forces to account for the latter. The literature on the French fertility transition contains a set of possible candidates.

First, there are theses that stress the growing importance of investment in child-quality rather than quantity. The best known is without doubt A. Dumont's theory of social capillarity: parents invest in the education of the next generation to promote upward social mobility. A. Sauvy (1960) offers an explanation along similar lines and refers to the fertility transition as an altruistic one. P. Ariès (1973, 1980) considers the transition as a breakthrough of child-orientedness and connects this to the emergence of the "nouvelle civilité" during the 18th century. The problem with the child-quality argument is that it becomes of major

significance during the second half of the 19th century and accounts much better for the portion of the French fertility transition which France shares with its neighbours after 1875 than for the initial half of the fertility decline in the period 1780-1850. At the time of the Revolution and during the decades of Restoration, education remained largely restricted to the bourgeoisie (admittedly including some of its lower echelons during the Napoleonic period). Standards of living of the rural and urban common people were not improving and the room for investment in education remained highly limited. There is no significant legislation restricting child-labour. Instead, it is being used in growing proportions in the non-agricultural sectors. In short, the child-quality argument is not a convincing one for the period prior to 1850.

Another set of theses, mainly defended by F. Braudel (1979, 1986) and by P. Chaunu (see his work on Normandy) point in the direction of a growing Malthusian tension between demographic pressure since 1700 and the stagnant agricultural production both before and after the Revolution. The demographic pressure mainly stems from the gradual disappearance of mortality crises, and the situation of "le monde plain" in the rural areas is aggravated by the lack of growth in alternative economic sectors such as the proto-industrial ones. Added to this are continued accentuation on cereal production and the late adoption of alternative foods such as the potato in much of central France, the decline in purchasing power from 1750 till 1820 and the political instability, not to mention the series of wars between 1789 and 1815. The first part of the French fertility transition fits the image of a crisis-led transition and the sense of crisis has both economic and political grounds. It is essentially a defensive spirit that seems to be at the core of individual motivation, and the transition owes little, if anything, to growing disposable income, rising aspirations or investments in child quality. In short, the first sustained and nationwide fertility decline in the West totally fails to fit the standard economic and sociological textbook description of the "demographic transition theory".

Many other European regions had, however, falling standards of living after 1740. As shown in Figure 1, real wages in the Low Countries remained on a downward slope till 1860. Particularly the Netherlands experience a spectacular degradation between 1750 and 1850. Why was there no crisis-led transition in these areas? There are at least two reasons. First, major alternative economic sectors existed which were admittedly not flourishing any longer, but still provided an escape from the tension between population growth and agriculture. Similarly, agricultural productivity was higher than in France, food distribution was less of a problem, and there had been an early switch to potato cultivation. Secondly, these areas did not engage in a cultural transition, starting with a gradual but definite secularization from about 1740 onward and culminating in the total restructuring of the intellectual world (see the new calendar, decimalization, standardization). The MLA-index in the Belgian villages (see Table 1) increases during the French period, but falls precipitously thereafter in most of the area. The Batavian Republic (i.e. the Netherlands during the Napoleonic period) is shorter lived and the Protestant dominance is maintained. In short, the condition of legitimation of the new form of reproductive control is lacking. They resort to a further closure of the nuptiality valve instead.

Table 14: Early secularization in the Provence as indicated by stipulations in testaments, 1690-1790.

	<u>1690-1710</u>	<u>1730-1750</u>	<u>1750-1770</u>	<u>1770-1790</u>
A. <u>Requests for:</u>				
- Commemoration Mass, Men	70%	80	66	51
Women	84	88	75	68
- Intervention by Virgin Mary	90%	64	44	20
B. <u>Absence of religious incantations:</u>				
- Marseille	14%	54	80	86
- Grasse	0	24	37	62
- Toulon	5	3	8	40
- rural area Draguignan	13	53	58	75
- rural area Aix en Provence	9	43	50	65

Source: M. Vovelle, quoted in P. Goubert and D. Roche, 1984: 304.

politics, belles lettres). By 1850, a sizeable portion of the literate among the French population was ready for the Encyclopedia and its ideas.

To sum up, we have argued that a sustained fertility decline must be explained by equally long term trends in the explanatory variables. As such, the deterioration of standards of living from the middle of the 18th century onward and the mounting Malthusian pressure on a stagnant agricultural economy are seen as the main causes. But, they constitute by no means a necessary and sufficient condition. The other sustained change that accompanies the economic condition is the early and accelerating secularization. In other words, the French had good reasons to restrict offspring and succeeded in legitimizing their action, thanks to the philosophical and political reactions against the economic bankruptcy of the Ancien Régime or the castigatio orientation of the church. The regional spread of the fertility decline is consistent with this, since the rural wage earners on large estates, and townpeople (who are the first victims of failing food distribution) are politically more motivated and have fewer reasons to maintain a large offspring than those engaged in sectors with familial production. Hence, the motors of the fertility transition prior to 1850 are hardly a wave of rural proletarianization spreading geographically, or an altruistic mood of parents manifesting a new desire for investment in "higher quality" children.

9. The 19th century: ideological fragmentation, the "ski jump" and another fertility decline

It goes without much further explanation that the Revolution of 1789 and the period till the Concordat of 1801 is of major significance in the history of secularization in France. The MLA-index provides a good idea of the magnitude of the shock. During the period 1740-92, the index was comprised between 8 in Brittany and 30 in the Provence and Languedoc (see Table 15). During the last decade of the 18th century, it rose to levels between 43 in Brittany and 107 in the Paris basin. The latter figure corresponds with the total disappearance of the marriage ban during the closed periods. This evolution is not solely the result of the secularization of the population, but also the consequence of the politically precarious situation of the church in many regions. During the Napoleonic period and the first years of the Restoration (1800-1829), the MLA-index falls, but this change is again very uneven geographically. The index falls spectacularly in the Massif Central, but increases in Picardy and the North. The areas where peasantry and church had formed an alliance against the revolutionary government are among the first to mend the damage. These are regions where Catholicism maintains a strong populist and particularistic basis during the entire 19th century (rural Brittany and the adjacent western parts of Normandy, Anjou and Maine; Massif Central, Pyrenees). Other areas, where the Revolution left deeper marks, were to join. These are predominantly located along the eastern border: Alsace and a part of Lorraine, the Jura, Franche Comté, the Dauphiné and the southern alpine départements. On the other hand, religious attendance at Easter or on Sunday, and recruitment of clergy remain at very low levels throughout the 19th century in north-central France and in the southwestern Atlantic areas. The northern border of this secularized zone runs from Picardy to Champagne, the western border from lower Normandy to the Charente, and the eastern one from Burgundy to the Landes. A second area of profound

Table 15: Index of marriages during closed periods in French regions, 1740-1850.

<u>Regions</u>	<u>1740-92</u>	<u>1793-99</u>	<u>1800-29</u>
Provence, Languedoc	30	59	54
Nord, Picardie	24	73	83
Nord-Est	24	82	54
Massif Central	22	95	32
Bassin Parisien	20	107	78
Berry, Poitou	16	61	45
Rhône, Alpes	16	85	51
Aquitaine, Pyrénées	15	64	55
Normandie	9	72	52
Bretagne, Anjou	8	43	32

Source: J. Houdaille, 1978, p.372.

secularization is located along the Mediterranean coast. Both areas are joined by a narrow strip corresponding to the Rhône valley. A remarkable feature of this regional pattern is that Catholicism regained strength during the 19th century in areas where also Protestantism had managed to survive after the revocation of the edict of Nantes by Louis XIV.

In Belgium, the consequences of the French Revolution were less marked and the MLA-index only gradually rose from a low during the decade preceding the Revolution to a maximum during the Napoleonic and Dutch periods (i.e. till 1830). Levels comparable to those in France were never reached, with the exception of the city of Liège with a MLA-value of 135 for the years 1800-1801. To sum up, the submission of the church to the control of the French and Dutch state left unmistakable traces, but the majority of the population did not experience a definitive shift in the direction of irreversible secularization by 1830.

Nevertheless, the foundations were laid for a cleavage which would become of major significance for Belgium's subsequent demographic and political history. The francophone southern half (Wallonia) has lower MLA-values than the adjacent French départements, but the level of secularization is higher than in the Flemish-speaking northern half. The dichotomy is already in full view during the 1840s when the MLA-index can be computed for all arrondissements. The early industrialization of Wallonia undoubtedly contributes to this contrast. The MLA-values for the industrial villages around Liège are commonly above 50 for the first half of the 19th century (R. Leboutte, 1985), and the same holds for the villages of the Hainaut industrial belt (J-P. Bougard, 1978). But the industrialization was by no means the sole cause of the emerging Flemish-Walloon dichotomy with respect to secularization. Strictly rural areas in Wallonia (e.g. the arrondissements of Huy, Waremme, Marche, Dinant and Philippeville) had MLA-values comprised between 40 and 60 during the 1840s, and several others located in the south-eastern corner of the country (Bastogne, Neufchâteau, Arlon) had values in excess of 60. Mid-century values for the Flemish arrondissements (with the exception of the arrondissements of Louvain and Brussels) are all below 40 with several below 20 (Campine region, the cottage industry arrondissements of the province of West Flanders). Moreover also the record for Flemish urban parishes (located in Ghent, Antwerp, Kortrijk) shows MLA-values below 50 during the period 1830-49.

Two conclusions emerge at this point. Firstly, the MLA-index, which is at first a measure of ecclesiastic tolerance versus doctrinal strictness, gradually becomes a genuine measure of secularization of the population itself. Secondly, the regional levels and differentials in secularization are already largely fixed in France prior to 1850 (see strong correlation of 19th century secularization indicators), whereas the Belgian regional pattern is still gradually emerging.

The role played by the religious divide in national politics is also different in the two countries. France undergoes a series of changes in political regimes between 1789 and the Third Republic, and political fragmentation also occurs along other lines (e.g. republicans, royalists, bonapartists). H. Le Bras (1986) for instance notes that the political maps prior to the Third Republic fail to correspond with those of secularization indicators, although he equally admits that Catholic areas tend to vote on the right. The political evolution in Belgium is much clearer on this

issue. The country had opted for a constitutional monarchy in 1830, which proved to be an element of stability, and political power either alters between or is shared by two political parties. The religious contrast is, however, an integral part of this two-party system from the very beginning, with the Liberals being formed around a secularized and predominantly francophone bourgeoisie (urban, or rural land-owners), whereas the Catholic Party rallies support from a broader social spectrum and around a common religious denomination.

These events of the first half of the 19th century leave an imprint on the evolution of marital fertility. As shown in Table 16, marital fertility drops rapidly in France between 1787 and 1831: the Ig-indicator (x 1000) declines by almost 5 points per annum during this period. From 1830 to 1860, the pace slows down to 2 points p.a.. This first phase corresponds with the economic crisis lasting till about 1820 and the first wave of secularization. The second phase is concordant with a slow rise in purchasing power from the 1820s onward and with the recovery of Catholicism during the Restoration. In other words, the first part of the French fertility decline comes to a halt when alterations occur with respect to its economic and ideational props. One could also argue that the mid-century halt in the French fertility decline is caused by the limits set by imperfect contraception. This hypothesis is, however, not a plausible one: it is not at all clear that contraceptive effectiveness improved after 1870. Yet, both Belgium and France start a new fertility decline from that date onward.

New developments occur during the second half of the 19th century which add significantly to the ideological fragmentation. France abandons the monarchy in 1848, and the short-lived Second Republic (1848-1852) starts with a radical-republican and socialist experiment, which inaugurated universal suffrage. However it only lasts 3 months (February to May 1848), and most of its leaders find themselves in jail by the end of the year. The Revolution of 1848 is, however, significant as it indicates the emergence of a new political philosophy and vehicle of secularization. But the reaction against it is even more significant for the period 1849-1870, corresponding with the election of Louis-Napoleon and the installment of the Second Empire. The political developments have to be seen against the backdrop of the financial and agricultural crisis of the mid 1840s, and especially in the light of the take-off of industrialization and the growth of major cities. At that time, France exhibits the complete range of forms of production, but the wage-earning classes are expanding. The dominant political obsession of the period 1849-1870 is that of control and pacification of these segments of the population. The fear for subordination orients a part of the bourgeoisie and of the industrial entrepreneurs (especially in the northern industrial areas) to Catholicism, and Napoleon III gives full support to Catholic organizations during his entire reign. The budget for the "cultes" rises quite dramatically, the religious congregations grow from 4,000 priests and nuns in 1851 to 18,000 in 1861 (G. Duby, 1988), and above all, education is virtually entirely handed over to the church. This not only results from the expansion of the Catholic school network (especially for girls), but also from the elimination of republican, socialist or atheist teachers and intellectuals from the public school system. Moreover, the church resorts to the populist techniques of reviving pilgrimages and devotions, accentuating the cults around the Virgin Mary, and beatifying local figures as examples of

Table 16: Phases in the French fertility decline, 1787-1911.

Date	Marital fertility level $I_g * 1000$	Average annual decline in $I_g * 1000$ relative to previous date
1787	742 ^(a)	
1831	537	-4.7
1846	498	-2.6
1856	478	-2.0
1871	494	+1.1
1881	460	-3.4
1911	315	-4.8

Sources: E.A. Wrigley (1985: 42), E. van de Walle (1974: 127).

Note: (a) value for marriage cohort of 1770-1789.

christian conduct. This populist strategy is given even greater impetus by Pius IX following the loss of the Papal states. In short, exactly the opposite occurs from what Vovelle and colleagues describe for the second half of the 18th century: between 1850 and 1870 "le ciel se repeuple".

Very much the same occurs in Belgium during the initial decades of the second half of the 19th century. Although there was no political revolt after the economic crisis of the 1840s, preoccupation with political control was equally strong. In 1848, one Belgian general put it quite bluntly: "l'égalité ne passera pas par la Belgique". Between 1847 and 1870, the governments were essentially controlled by the Liberal Party, which did not particularly favour the Catholic schools. But the time lost was made up from 1870 till 1911 when, except for an interruption of 6 years, power was passed on to the Catholic Party (T. Luyckx, 1977). The expansion of the Catholic network also coincided with the populist religious revival in the less secularized, and hence especially in the northern part of the country.

The consequences of the strengthening of the church as a part of the general political and social pacification are visible in the evolution of marital fertility. In France, the fall in Ig comes to a complete halt in the 1850s and the trend is reversed till the 1870s. In that period, the national level in Ig (*1000) rises on average by 1 point per annum. The regional pattern is more significant. Marital fertility rises that bring the level of Ig in 1876 entirely back to the level of 1831 occur in the département of Finistère, Manche, Corrèze, Aveyron and Basses-Alpes (E. van de Walle, 1974). In others there is no backtracking whatsoever: Loire, Haute Saône, Nièvre, Somme, Oise, Lot-et-Garonne. The first set belongs typically to the "religious belts", whereas the latter mainly fall in the "secularized zones". As a consequence, there is a significant correlation between the magnitude of the increase in Ig between 1851 and 1876 (van de Walle coined the term "ski jump" for it since fertility declined again thereafter) and the indicators of Catholic strength (see Table 17). In addition the "ski jump" was highest in the départements which had the higher marital fertility levels to start with, in areas with more traditional peasant agriculture, resistance of inegalitarian inheritance, endogamy, late marriage for women, low illegitimacy and linguistic particularism. In short, the correlates of the 19th century fertility bulge are largely the same as those of a late initial fertility transition.

The "ski-jump" also occurred in parts of Belgium, but the peak is reached slightly later. The data by province are gathered in Table 18, where Ig 1880 is compared to the estimated Ig in 1802 and the observed one in 1856. The marital fertility rise takes place in the four homogeneously Flemish provinces which had a MLA-index in 1860-65 less than 40. It occurs in none of the Walloon provinces and in linguistically mixed Brabant, all of which have a MLA-index above 40.

After 1870, the political scene changes again as a result of the emerging strength of the socialist and other leftist movements, but also as a consequence of a counter-offensive by the secularized right. G. Duby (1988) describes the International, as it existed in 1868, as "une grande âme dans un petit corps", but it had already challenged the anti-strike and anti-union legislation on several occasions. Also the Belgian strike of 1866 indicates that social and political reform were imminent. Of course, repression followed and law and order were reestablished. However, after the Commune and the initial years of the Third Republic in France and

Table 17: Correlation between the magnitude of the French marital fertility increase ("ski jump") in the period 1851-1876 and selected demographic, socioeconomic and cultural indicators; 83 départements.

	Increase in marital fertility $I_g(1876) - I_g(1851)$
- level of I_g , 1831	+.42
- level of I_g , 1876	+.64
- index of proportions married women I_m , 1831	-.41
- index of illegitimacy I_h , 1831	-.30
- rural proletariat (métayers and journaliers, 1851	-.29
- inegalitarian inheritance, 1900	+.34
- endogamy (cousin marriage)	+.32
- patois and languages other than French, 1863	+.32
- reading without writing, 1872	+.37
- clergy refusing revolutionary oath of 1791	+.32
- clergy among army recruits, 1825-35	+.34
- ordinations, 1876	+.32
- vacant vicariates, 1885	-.06

following the formation of a Liberal government in Belgium in 1878 interrupting a long spell of Catholic dominance, the secularized right openly attacks the Catholic monopoly in education. This occurs in France in 1881-82 with the organization of free and non-denominational public schools. Steps were also taken to eliminate certain religious orders (especially Jesuits) from secondary education, and 5,000 congregationists had to leave their post (G. Duby, 1988). In Belgium, the state organizes free and non-religious primary education from 1879 onward. The new school law stipulates that each commune has to organize such a school, that subsidization of the Catholic school be dropped, that the teachers are to be recruited from non-denominational teachers' colleges (*écoles Normales*), and it relegates religious instruction to extra-curricular activities. The Catholic reaction in both France and Belgium was formidable, and the chain of "school wars" starts.

These events are highly significant for a three-way split of the political spectrum: the secularized right versus the secularized left, predominantly on the issue of universal suffrage and freedom of association; and the secularized poles against the Catholic centre concerning the control over "the soul of the child". This system is particularly obvious in Belgium, where the three major parties set up complete systems of political patronage. They are known as the "pillars", hence the term "pillarization" (*verzuiling*, *Versäulung*). The Catholic pillar is the most formidable one: it is an umbrella covering the various social strata (*Standen*) and their respective organizations, recruits via its own school system from primary school to university, provides medical services in Catholic hospitals, runs its own newspapers and benefits from the populist strategy of the church. Given its strength in the north, the Catholic Party also musters support for the Flemish social and cultural emancipation. It did not have a monopoly on this matter, but it was still the most outspoken one.

The socialist movement and the Belgian Workers' Party (founded in 1885) emerges as the second pillar, but it recruits predominantly among wage earners. Hence, the strength of the labour unions and cooperatives, and the location of its strongholds in the southern half of the country and northern cities. The socialist pillar definitely takes the lead with respect to social reforms. Finally, the liberal pillar equally recruits from a more restricted basis, but as its supporters are much wealthier, it is less active in social reform. The pillar carries with it the connotation of old-fashioned 19th century political patronage in the rural areas and the Liberal Party derives a good part of its political power from the system of plural suffrage weighted according to wealth.

In the next stage, the pillarization system, which Belgium shares with countries such as the Netherlands, Germany, Switzerland or Austria, is highly instrumental in laying the foundations of the welfare state. It also develops another characteristic after World War I, namely that of engineering controlled change and pacification of politically divisive issues via the formation of coalition governments on the basis of inter-pillar pacts.

The profile of the political spectrum in France follows similar lines, although it would never reach the stage of marked pillarization. The Dreyfuss-affair makes a clearer distinction between right and left, and the government of Waldeck-Rousseau of 1899 marks a turning point in the history

Table 18: Rise in marital fertility (I_g) in Belgian provinces during the third quarter of the 19th century ("ski jump") and the MLA index in 1860-65.

Province	I_g 1802	I_g 1856	I_g 1850	change I_g (1802 to 1880)	change I_g (1856 to 1880)	MLA 1860-65
West-Flanders	.877	.897	.918	+.041	+.021	20
Limburg	n.a.	.839	.881	n.a.	+.042	28
East-Flanders	.780	.923	.921	+.141	-.002	36
Antwerp	.738	.799	.837	+.099	+.038	38
Namur	.767	.745	.618	-.149	-.127	45
Hainaut	.803	.722	.577	-.226	-.145	55
Brabant	.788	.765	.710	-.078	-.055	56
Liège	.801	.790	.704	-.097	-.086	66
Luxemburg	.854	.768	.733	-.121	-.035	67

Sources: J. Duchêne and R. Lesthaeghe (1975), R. Lesthaeghe (1977).

Table 19: zero-order correlation coefficients for relationships between measures of secularization, socio-economic structure and language, and measures of family formation; 41 Belgian arrondissements

A. <u>Measures of secularization</u>	<u>Marital fertility level (I_g)</u>		<u>Speed of marit. fert. transition ΔI_g (1880-1910)</u>	<u>Index I_h Illegitimacy 1880</u>	<u>Divorce per 100.000 married women, 1967-70</u>
	<u>1880</u>	<u>1910</u>			
- Marriage index Lent & Advent (MLA)					
- 1841-47	-.55	-.51	.38	-.02	.35
- 1860-65	-.68	-.69	.58	.17	.57
- 1881-84	-.78	-.78	.71	.34	.69
- Vote Socialist + Liberal					
- 1919	-.81	-.93	.89	.42	.82
- 1958	-.72	-.86	.89	.63	.87
- Absenteism Sunday Mass					
- 1964	-.70	-.77	.79	.69	.87
B. <u>Measures of socio-economic structure</u>					
- % act. males in agric. 1890	.67	.82	-.81	-.43	-.82
- % act. males in agric. & cottage industries 1900	.60	.77	-.82	-.66	-.89
- literacy pop. 15-55, 1880	-.34	-.17	-.03	-.43	-.06
C. <u>Linguistic divide</u>					
- % francophone, pop. 15+, 1880	-.87	-.79	.65	.02	.55

of the Third Republic as it rallies support from the entire left (G. Duby, 1988). The separation between church and state is rigorously reinforced, the Concordat with the Vatican ended, and the Catholic dominance over schools reduced. Between 1904 and 1914, ordinations drop by 50 percent and the enrollment in Catholic primary schools by a third (G. Duby, 1988). In the secularized regions of France reactions against the "clerical complot" lead to a drop in church marriages and baptisms, but in the Catholic areas there is again vehement opposition to "la Séparation". Hence, it is no surprise that H. Le Bras (1986) notices that his political maps for the early 20th century are in much greater conformity with those based on the indicators of religious alliance and Catholic strength. The same holds in Belgium, where the successive maps for the MLA-index for the 19th century gradually develop into the map for voting for the two secularized parties in 1919 (universal male suffrage).

The statistical results brought together in Table 19 confirm our earlier diagnosis (Lesthaeghe, 1977) about the link between secularization and the regional timing of the Belgian fertility decline. The MLA-index by arrondissement measured in 1841-47 already clearly predicts the regional differences with respect to marital fertility (Ig) recorded in 1880 ($r = .55$) or 1910 ($r = .51$). In the middle of the 19th century, industrialization had only occurred in a few arrondissements of the provinces of Hainaut and Liège, which indicates one more that this cultural evolution was not merely the byproduct of urbanization or industrialization. The correlation between the MLA-index and indicators of the marital fertility transition between 1880 and 1910 becomes stronger as the measurements of secularization approach the last quarter of the 19th century. The stability of the secularization maps for Belgium from the 1860s till the 1960s can also be inferred from the consistent correlation coefficients between each of them and marital fertility (see socialist plus liberal vote in 1958, i.e. at the time of a second "school war", or dominical practice in 1964). Furthermore, the Belgian fertility transition is equally consistent with the disappearance of the familial forms of production, whereas the effect of adult literacy is significantly reduced because of the linkage between primary schooling and Catholic influence in these schools. Finally, the split of the country on these cultural and economic factors, largely coincides with the linguistic divide since the first component of the north-south contrast has its origins in the period between 1790 and 1850 (initial secularization) and the second element in the period 1850-1880 (differential industrialization and further secularization).

10. Conclusions

Several, more general conclusions emerge from the analysis of these two historical examples of fertility transition. First, institutional factors are not merely passive contexts which determine possibilities and constraints for individual choice and action, but highly dynamic settings that are shaped by active political or religious agencies. Such institutional actors obviously defend their own interests and ideologies, they alter their strategies when needed, and compete for influence (religious or political patronage). For instance, the varying relations between church and state (at times mutually supportive, and during other periods in open conflict) or the late 19th century competition between the ideological "pillars" have had a significant impact on the course of

demographic history in the two countries concerned. Hence, conceptual models of demographic change need to incorporate the impact of action stemming from such institutional agencies. This implies that the shift in demography since the 1960s towards a preoccupation with individual level analysis requires urgent correction (see also N. Ryder, 1980).

Secondly, it is the joint or synergistic action of economic and ideational factors that have determined changes in reproductive systems in the two examples considered here. We are essentially dealing with interactive models that cannot be simplified to versions with mere "endogeneity of culture". The central issue that emerges from such joint determination is that motivation alone is not enough to trigger off a fundamental change in reproductive pattern, but that legitimation is equally needed. France combines these conditions of motivation and legitimation around 1750 and produces its fertility decline from 1780 onward. Belgium misses this first opportunity for lack of legitimization and resorts to the classic mechanism of restraining nuptiality. However, it gets a second chance after 1870 when both conditions are met in certain parts of the country.

Thirdly, there is no unique model that specifies individual motivations. Here we refer to the finding that the ingredients of the classic demographic transition theory (i.e. expanding material and social welfare via rising income, economic development, urbanization, social progress in the fields of education or public health, technological innovation) fail to account for the first half of the French fertility decline. Fertility transitions can also start in settings that are characterized by an economic and political crisis resulting in an ideological overhaul. It seems therefore justified to broaden our horizon with respect to the underlying motivations, and to include scenarios that substantially deviate from those commonly believed to be operative. The defensive or crisis-led transition, as for instance envisaged by E. Boserup (1985) for sub-Saharan Africa, may equally provide valuable insights in the nature of fertility changes in several LDCs since the 1970s. We have commonly interpreted individual defense against a harsh environment as one of the factors contributing to the maintenance of high fertility (i.e. high fertility as a form of risk insurance). But, if returns from investments in particularistic networks diminish, self-defense against deteriorating standards of living can equally result in an initial fertility decline, provided that such action is ideologically legitimized. Hence, there are many roads that lead to the same place, and some approach it from opposite angles. The detection of these intricacies seems to be served better by the detailed historical analysis of economic, political and social records than by the repeated application of the same a priori defined theories and their formal oversimplifications to a succession of individual-level data sets. To sum up, the finer points, specific to each historical record, have proved to matter a great deal, and they should be given their proper place in the annals of fertility transitions.

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