Women, Work and Childbearing: Ontario in the Second Half of the Nineteenth Century

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Anglophone Canada, Ontario especially, was in the forefront of the world fertility decline. The limitation of childbearing within marriage was underway by the middle of the nineteenth century or shortly thereafter in parts of Canada. Among most European populations at this time, the growth of population was restrained largely by postponement of marriage. This paper explores the speculation that Ontarians may have turned early to reduced marital fertility because of the weakness of economic and social support for extended spinsterhood. Evidence on fertility decline and reduced nuptiality in the 1851 to 1891 period is reviewed. It is shown that paid employment outside the home was very limited in relation to the number of adult single women potentially available. It is argued, further, than in relative terms there were diminished demands on women for work within the household as well. Marriage, and a household of one's own, was the preferred state, but that brought exposure to childbearing. The unappealing features of extended spinsterhood may have contributed to a relatively early acceptance by anglophone Canadians of the idea of limiting the fertility of marriage.

Le Canada anglais, et particulièrement l'Ontario, a été l'un des chefs de file du déclin mondial de la fécondité. La réduction du nombre d'enfants dans les familles était déjà commencée au milieu du 19e siècle ou peu après dans certaines régions du Canada alors qu'à la même époque, à l'intérieur de la plupart des populations européennes, l'accroissement de la population était surtout limité par le retard de l'âge au mariage. Cet article soulève l'hypothèse que les Ontariens peuvent avoir adopté rapidement la limitation des naissances dans la famille conjugale en raison de la faiblesse du support économique et social dont jouissaient les femmes célibataires. Le déclin de la fécondité et la réduction de la nuptialité entre 1851 et 1891 est réexaminé. Il est démontré que le travail rémunéré à l'extérieur de la maison était très limité en regard du nombre de femmes célibataires disponibles; en termes relatifs, le travail domestique était également en diminution. Le mariage et la consitution d'un foyer constituait donc le statut privilégié pour les femmes bien que comportant le risque d'avoir des enfants. Les problèmes posés par la condition de femme célibataire peuvent ainsi avoir contribué, pour les Canadiens anglais, à une acceptation relativement rapide de l'idée de limiter les naissances à l'intérieur des familles.

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I

A declining birth rate was the outstanding feature of demographic change in Canada in the latter half of the nineteenth century. Like so many other European peoples, Canadians were undergoing a demographic transition from high birth and death rates to the low birth and death rates that prevailed by the 1930s. It is not widely appreciated that Canada, at least anglophone Canada, was in the forefront of that development. The overall birth rate, and more particularly the average number of children born to married couples, had begun to decline in Canada in advance of the transition in most countries of Europe and, by about 1890, had proceeded further in some areas of rural Ontario than in the large cities of Europe. In Europe, the fall in birth rates began first as a consequence of delayed marriage and only later came to reflect a decline in marital fertility. It was the decline in marital fertility that came so much earlier in Canada, although delay of marriage also played a role in the overall decline in the birth rate. It is widely thought that the increased opportunity for paid work by women was an important influence on the fertility decline in Europe. It may have contributed significantly to the delay of marriage as a tool to regulate reproduction. Paid employment opportunities for Canadian women were much weaker, and that may have lessened the extent of delay of marriage and, at the same time, have accentuated the role of marital fertility control in Canada.

The European fertility transition has been extensively studied in recent years.[1] There has also emerged a substantial literature on the fertility transition in the United States.[2] Remarkably little has been done to analyse the decline of fertility in Canada.[3] This paper endeavours to make an initial examination of some features of the Canadian fertility transition in a way that is comparable with the large body of research that has been published on Europe. It involves an emphasis on geographical variation and the presentation of measures of nuptiality and fertility that are consistent with those employed in the European Fertility Project. The emphasis is explicitly quantitative and demographic. Behind the data that are examined in a speculative way in the following pages must lie a richer fabric of human experience that is not really herein addressed. My concern is to pose the issue and to sketch out some pertinent evidence in the hope that I might entice others to explore the matter at greater depth. Even on the level of quantitative analysis, only a small part of the whole body of evidence that has been assembled is examined in this paper. The focus will be

1. *See* Appendix 1 (a), "Notes Concerning the Literature on the Fertility Transition in Europe, the United States and Canada".
2. *See* Appendix 1 (b), "Notes ...".
3. *See* Appendix 1 (c), "Notes ...".

on Ontario, especially rural Ontario, leaving aside other parts of Canada. One of the major contrasts in Canadian demographic history is the difference in the pattern of fertility between francophones and anglophones. By concentrating on Ontario, I look essentially at the fertility history of anglophone Canada. Furthermore, in this paper, the patterns of fertility and nuptiality in the period 1851 to 1891 are the focus of attention. This encompasses only the early years of the fertility transition in Canada. The larger part of the decline in birth rates occurred between 1891 and 1931. By international standards, however, the fertility decline in parts of Ontario began early; some aspects of that early decline are the principal concerns of this paper.[4]

The indexes of fertility and nuptiality that are employed here require some explanation. They were developed by demographers at Princeton's Office of Population Research for the European Fertility Project.[5] The intention was to develop an index, or set of interrelated indexes, that is readily calculable yet avoids the distortions due to variations in age, sex and marital status that make crude birth rates deceptive measures of fertility.[6] It was also important that the measures separate out the influences of variations in marital

4. It has long been recognized that France was in the forefront of fertility decline in Europe. *See* Étienne van de Walle, "Alone in Europe: The French Fertility Decline Until 1850", in R. Lee, ed., *Historical Studies of Changing Fertility* (Princeton, N.J.: Princeton University Press, 1978), ch. 7. It is coming to be better appreciated that some groups and some districts in the north-eastern United States experienced declining fertility just about as early as France. Much of the evidence is reviewed by Robert V. Wells, *Revolution in American Lives* (Westport, Conn.: Greenwood Press, 1982), ch. 5. The primary emphasis of scholarship about Canada has been the high levels of historical birth rates, especially for the French-Canadian population. An important aspect of Henripin's classic work was the demonstration that French Canadians were not unique and that anglophone Canadians also had very high birth rates in the first half of the nineteenth century. The point that has largely been missed is that the onset of deliberate family limitations in anglophone Canada began quite early by world standards.

5. These measures were put forward by Ansley Coale in the paper in which he announced the launching of the European Fertility Project. *See* Ansley J. Coale, "The Decline of Fertility in Europe from the French Revolution to World War II", in S.J. Behrman, Leslie Corsa and Ronald Freedman, eds., *Fertility and Family Planning* (Ann Arbor, Mich.: University of Michigan Press, 1969). Probably the fullest explanation of the indexes is to be found in Appendix B of Ansley J. Coale and Roy Treadway, "A Summary of the Changing Distribution of Overall Fertility, Marital Fertility and the Proportion Married in the Provinces of Europe", ch. 2 of Coale and Watkins, *The Decline of Fertility in Europe*. This is not the first use of these indexes for Canadian historical demography. Tepperman estimated the Princeton indexes for Canada for 1871 in a cross-sectional study of patterns of fertility variation. *See* Lorne Tepperman, "Ethnic Variations in Marriage and Fertility: Canada 1871", *Canadian Review of Sociology and Anthropology*, 11 (1974): 324-43.

6. The crude birth rate — the number of births per thousand of the whole population — quite correctly measures the rate of growth of a population that is attributable to fertility, but may be a poor indicator of the underlying force of fertility. Variations in proportions of women who are unmarried, for example, can produce serious distortions. Demographers have developed numerous more refined alternatives, but these often require far more data than are usually available for detailed geographic localities, within countries and over long historical periods.

fertility and variations in proportions married. Finally, the indexes are constructed in a way that attempts to contrast the fertility of the population being studied with some generally comparable, absolute standard.

An index of overall fertility, appropriately enough designated I_f, comprises two components. One is an index of the fertility of married women of child-bearing ages, designated I_g. The other is an index of nuptiality, I_m — the proportion of women in that age group who are married.[7] By definition, then,

$$I_f \equiv I_g \times I_m.$$

The index of nuptiality (I_m) can be defined quite simply. It is essentially the proportion of all women, 15 to 49 years of age, who are married.[8] The index of marital fertility (I_g) is rather more complicated. It is a ratio of the actual, measured fertility of married women, 15 to 49 years of age, to the rate of fertility in a population that represents the upper limit of human reproduction. For computational purposes, the latter is taken to be the age-specific fertility rates of women of the Hutterian religious sect in Western Canada and the U.S.[9] The births to married women in the population under study are

7. A more complex version of the system of indexes also takes account of out-of-wedlock fertility. *See* Coale and Treadway, "Summary ...", Appendix B. The measures shown below, in Table 1, for European countries are calculated from data on vital registrations and make allowance for small amounts of illegitimate fertility; hence the I_g and I_m column have a product that is slightly less than the I_f value shown. It is believed that rates of illegitimate fertility in late nineteenth-century Ontario were quite low and this aspect can be fairly safely ignored. The births are not left out; they are just attributed to married women and, so, there is a slight upward bias to the values of I_g.

8. Actually, it is a bit more complicated. In the calculation of the I_m index, married women are weighted by a standard set of age-specific rates of fertility. Women 15-19 and 35-44 years of age get less weight than those of prime childbearing ages. There are further complications. In discussions of the European Fertility Project, there is almost no mention of the treatment of widows. That may not be much of an issue in situations where the index is based on birth registrations, but in the Canadian case, the basic data are the stock of young children and the stock of women 15-49 years of age. Widows have to be included in the denominator since they could be mothers of young children counted in the numerator. Since the fertility rate of widows would be lower than that of married women, this imparts a slight downward bias to the calculated indexes.

9. The Hutterites are a relatively prosperous, well-nourished and healthy religious sect that has severe strictures on fertility control of any sort, hence the age specific-fertility rates of Hutterian women are a good indicator of an absolute upper limit to human fertility. It is in this sense that they represent a kind of fixed, absolute standard against which measured fertility can be compared. In earlier studies of fertility in nineteenth-century Canada, the fertility measures used were ratios of children to married women, directly calculable from the census. Those measures are subject to a number of problems. They do not account for change in the composition of women within the 15-49 year age group and they do not address the enumeration problems of very young children. For Ontario, the ratio of children under five to married women 15-49 fell by more than one-third from 1.29 in 1851 to 0.84 in 1891. I_g declined by 20.5 percent over the same years. A large part of the difference is attributable to the increase over those years in the relative numbers of older married women. In the calculation of I_g, these older women are included, but assigned a lower standard weight.

expressed as a ratio to the number of births that population would have had if its women reproduced at the Hutterian standard. Should reproduction be at the upper limit — at the Hutterian rates of age-specific fertility — the I_g index would be unity (1.00). In most actual cases, it is some fraction of that. For example, a measured value of $I_g = 0.60$ would represent a fertility rate of 60 percent of the maximum attainable. Such a measure allows wide international and intertemporal variation of fertility to be measured in a comparable manner, suitable to interpretation. The interpretation of the index of marital fertility (I_g) as a proportion of an absolute upper bound of attainable fertility is a feature that gives it considerable intuitive appeal. No such easy interpretation can be given to I_f, the index of overall fertility. One cannot place strict bounds on it and it has to be considered to be just a number that indicates the relative level of fertility.[10]

The following section of this paper looks at some salient features of fertility in late nineteenth-century Ontario in terms of the Princeton indexes I_g, I_m and I_f. Comparisons are made with the experience of European countries. While this material may be of considerable interest in itself, the main purpose is to point out the role of delayed marriage — reduced nuptiality (I_m) — in the reduction of overall fertility. The especially interesting topic of the early and substantial fall in marital fertility (I_g) that occurred in Ontario is left to be taken up elsewhere.[11] A full explanation of the data and methodology used to calculate the fertility indexes must also be left to another occasion.[12]

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10. For comparative purposes, the I_f measures of overall fertility can be converted into equivalent crude birth rates. For Ontario, the comparison is thus:

	1851	1891
I_f	.448	.299
CBR	41	28

The proportional decline over the period is virtually identical for both measures.

11. As has already been noted, the author is presently working on a monograph on the Fertility Transition in Canada, but some of the main evidence is summarized in the recently published third volume of the *Historical Atlas of Canada* (Toronto, Ont.: University of Toronto Press, 1990), Plate 29.

12. For the interested reader, a brief sketch can be given here. The number of births is inferred from the stock of young children enumerated in the census. Survival rates are used for this purpose that are based partly on imperfect registrations of deaths and partly on census reports of infant mortality in 1891. A county-specific index of child survival was used to modify a life table inverse survival ratio which in turn was applied to enumerated children two, three and four years of age. The whole group of children under five years of age was in many counties inaccurately measured in the census because of gross mis-enumeration of children under two years of age. Fertility indexes for counties and main cities have been estimated for census years 1851, 1891 and 1931. Municipal and provincial level estimates have been made for other census years.

II

Indexes of fertility and nuptiality have been estimated for the main cities and 1891 census districts of Ontario for the census years 1851 and 1891.[13] These make a large and rather cumbersome table in which counties are organized by settlement period, but since the full county detail is not much used in this paper, the complete table is relegated to Appendix 2 (Table A-1) and only a summary is given here as Table 2. Before considering those data, however, I should place the newly-developed evidence for Ontario in an international perspective as is done in Table 1. Only for a few countries can the Princeton indexes be obtained for a year as early as 1851. To get much of a selection of European experience, the first panel of Table 1 includes some countries for which the earliest measures obtainable are for the 1860s. Conspicuously absent from Table 1 are data for the United States. The absence of both vital registration statistics and census data on marital status for the United States has meant that the Princeton Indexes have not been used in the study of the fertility history of that country. The pattern of fertility change in the United States has been extensively investigated and is especially pertinent to the Ontario case because of the similarity of the Ontario and American experiences.[14] In Table 1, countries are ranked in rising order of their index of overall fertility (I_f). With an 1851 value of I_f =.465, Ontario was well above any of the listed European countries.

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13. The census of "1851" was actually taken in early 1852. The five cities shown — Toronto, Hamilton, Ottawa, London and Kingston — are the only Ontario cities for which data are separately tabulated in the 1891 census. The districts of the 1891 census are different from and more numerous than the administrative counties of the same names. In many cases, north-south or east-west subdivisions have been consolidated here where there was little difference in fertility. Some of those sub-divisions have been retained, however, because they show interesting contrasts. All of the needed data were reported in the 1851 census on a township basis so that the 1891 census districts could be matched.

14. Marital fertility rates had evidently begun to fall in the longer-settled regions of the northern United States by the early years of the nineteenth century. There was at the same time a rise in the marriage age of women that was also contributing to a fall in the birth rate. There appears to be considerable similarity between Ontario and New York, Ohio and Michigan. The evidence for the United States is conveniently summarized in Robert V. Wells, *Revolution in American Lives* (Westport, Conn.: Greenwood Press, 1982). *See also* Nancy Osterud and John Fulton, "Family Limitation and Age at Marriage: Fertility Decline in Sturbridge, Massachusetts, 1730-1850", *Population Studies*, 30 (1976): 481-94; Susan E. Bloomberg *et al.*, "A Census Probe into Nineteenth Century Family History: Southern Michigan, 1850-1880", *Journal of Social History*, 5 (1971): 26-45; Don R. Leet, "Human Fertility and Agricultural Opportunities in Ohio Counties: From Frontier to Maturity, 1810-1860", in David C. Klingaman and Richard K. Vedder, eds., *Essays in Nineteenth Century Economic History: The Old Northwest* (Athens, Ohio: Ohio University Press, 1975).

That high level was primarily because I_m, the proportion of women married, stood well above the level prevailing in Europe.[15] Ontario's rate of marital fertility (I_g) was not notably above the European level. By 1851, France had already achieved a strikingly low level of marital fertility, clearly pointing to a widespread resort to fertility control by married couples. I_g in Ontario, although above that of England and Denmark, was about the same as that of Germany in 1867 and below that of Belgium and The Netherlands. The big gap was in nuptiality. Women in Ontario were apparently marrying at earlier ages and a smaller proportion of them remained permanently single than was usual in Europe.[16]

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15. One possible confusion should be eliminated immediately. About the only previous study of the statistics of nuptiality in nineteenth-century Canada is Ellen M. Gee, "Marriage in Nineteenth Century Canada", *Canadian Review of Sociology and Anthropology*, 19 (1982): 311-25. The theme of Gee's paper is that nuptiality in Canada in the nineteenth century was not fundamentally different from Europe. What she means is that Canada, like the United States and Australia, adhered to what Hajnal has dubbed the "European marriage pattern". *See* John Hajnal, "European Marriage Patterns in Perspective", in D.V. Glass and D.E.C. Eversley, eds., *Population in History: Essays in Historical Demography* (London, England: Edward Arnold, 1965). Hajnal had observed that only among western European populations did marriage occur several years after menarche in women. Elsewhere in the world, women typically married soon after reaching sexual maturity. As Gee shows, within the Hajnal scheme, Canadians were a western European people in their marriage arrangemements. It remains the case that mid-nineteenth-century Canadians were about the youngest-marrying of European populations. Gee reports mean ages at marriage, but the discerning reader of footnotes will see that she actually uses a more technical index — Hajnal's "singulate mean age at marriage" — a measure that approximates the average marriage age from census data on proportions of women married in each age class. A problem is that the 1851 Census of Canada tabulated marital status only for the ten-year age class 20-29. Gee interpolates the proportion married in that ten-year group into the 20-24 and 25-29 year five-year groupings and in so doing introduces a degree of ambiguity. The I_m index used here must confront the same problem. However, it weighs the proportion of women married in each age group by a standard (Hutterian) set of fertility rates and they in turn differ little for women 20-24 and 25-29 so that the interpolation problem is considerably assuaged in the calculation of I_m. This is an added reason for relying on the Princeton indexes used in this paper.

16. I must say "apparently" because we have few usable data on ages at marriage in nineteenth-century Ontario. We have to make inferences primarily from census reports on proportions married by age group. It is widely accepted by demographers that there is a high correlation between the median age at marriage and the proportion of women unmarried in the 20-24 year-age class. A procedure for calculating an approximation to the average age at marriage using census data on proportions married at each age has been proposed by Hajnal, "Age at marriage and proportions marrying", *Population Studies*, 7 (1953): 111-36. Hajnal's "singulate mean age at marriage" can be compared for women in Ontario and Scotland in 1891. For Ontario, I calculate this measure at 26.2 (Gee, "Marriage in ...", says 26.6) while for Scotland, it was 28.9 — quite a large difference in a measure that does not move a lot. The available data for 1851 do not permit a direct comparison by that measure. One advantage of the I_m index, as explained in the foregoing footnote, is that it can tolerate variations in the way data are tabulated by age. It does, however, mix together the influences of two phenomena; one is the age at which women who eventually marry actually do so, the other is the proportion of women who ultimately never marry. As pointed out above, women who married did so, on average, at later ages in Scotland than in Ontario. It was also the case that in the late nineteenth century, a little more than 10 percent of Scottish women never married while in Ontario, it was only about 5 percent. The I_m index is an amalgam of both these factors.

Table 1 **Indexes of Fertility and Nuptiality European Countries and Ontario 1851 and 1891**

	I_g	1851# I_m	I_f
France (1851)	.271	.478	.526
Belgium (1856)	.328	.827	.326
Denmark (1852)	.329	.671	.436
Netherlands (1859)	.345	.816	.406
Scotland (1851)	.346	.742	.422
England and Wales (1851)	.349	.675	.483
Germany (1867)	.389	.760	.454
Italy (1864)	.399	.677	.560
Ontario (1851)	.465	.766	.607
		1891	
France	.242	.410	.540
Ireland	.245	.709	.336
Ontario	.299	.573	.521
England and Wales	.310	.621	.477
Scotland	.317	.696	.420
Sweden (1880)	.319	.700	.409
Belgium	.320	.669	.436
Denmark	.340	.658	.468
Netherlands	.375	.808	.450
Italy	.376	.706	.497
Germany	.386	.706	.497
Austria	.392	.683	.489
Hungary	.453	.580	.713

or earliest year available.

Note: I_f for European countries includes a small amount of illegitimate fertility not counted in I_g. That element is ignored in the calculation for Ontario and illegitimate births are included in I_g, imparting a slight upward bias.

Source: Ontario calculated as explained in text; other countries — Ansley J. Coale and Susan Cotts Watkins, eds. *The Decline of Fertility in Europe* (Princeton, N.J.: Princeton University Press).

Between 1851 and 1891, the fall of 36 percent in overall fertility (I_f) experienced by Ontario was greater than occurred in any of the European countries. Even more remarkable is that the fertility decline in Ontario was primarily the result of a reduction of as much as 25 percent in marital fertility (I_g). Control of fertility within marriages came earlier and more substantially

in Ontario than anywhere in Europe, except France.[17] The decline in I_g in Ontario was widespread although there were interesting variations from district to district. Moreover, there was considerable variability in the levels of I_g in Ontario in 1851.[18] Consequently, by 1891 virtually the entire range of marital fertility experience revealed in Europe could be found within Ontario.

Table 2 **Indexes of Nuptiality (I_m) and Fertility (I_g, I_f) in Ontario, 1851 and 1891**

		1851		
		I_m	I_g	I_f
Province		.621	.721	.448
Cities		.551	.608	.335
Counties				
I.	Earliest settled	.613	.678	.417
II.	Early settled	.640	.736	.468
III.	More recent	.673	.789	.531
IV.	Most recent	.660	.787	.519
		1891		
Province		.573	.521	.299
Cities		.538	.491	.264
Counties				
I.	Earliest settled	.496	.538	.267
II.	Early settled	.551	.528	.291
III.	More recent	.582	.528	.309
IV.	Most recent	.637	.503	.320

Source: Appendix (Table A-1).

17. It has long been recognized that France was well out in the forefront of European fertility decline. *See* Étienne van de Walle, "Alone in Europe: The French Fertility Decline Until 1850", in C. Tilly, ed., *Historical Studies of Changing Fertility* (Princeton, N.J.: Princeton University Press, 1978): 257-88. Elsewhere in Europe, there is little indication of decline in I_g before the 1870s and in most countries, the fall in marital fertility came mostly after 1890.

18. This appears to have a relationship to duration of settlement and land availability. In recent years, much emphasis has been placed on the association between fertility decline in North America and the progress of land settlement. The basic idea is that birth rates were high in areas of recent settlement where unutilized farm land was abundantly available, but fell as settlement proceeded and land became more scarce. This line of argument has been especially associated with the writings of Richard Easterlin. *See, inter alia,* his "Population Change and Farm Settlement in the Northern United States", *Journal of Economic History*, 36 (1976): 45-75. The hypothesis first gained prominence in Yasukichi Yasuba, *Birth Rates of the White Population in the United States, 1800-1860* (Baltimore, Md.: The Johns Hopkins University Press, 1962). Evidence for Ontario is examined in R.M. McInnis, "Childbearing and Land Availability: Some Evidence from Individual Household Data", in R.D. Lee, ed., *Population Patterns in the Past* (New York, N.Y.: Academic Press, 1977).

Marital fertility rates were already rather modest in the Ontario cities by 1851 and they continued to decline further to 1891. The more striking declines in I_g, however, came in the rural districts.[19] By 1891, several rural districts of Ontario had attained levels of marital fertility that were below those of the leading cities of Europe. The reader can examine the detailed geographic pattern of Ontario fertility and nuptiality indexes in 1851 and 1891 in Appendix 2 (Table A-1). There, the rural districts are grouped by period of initial settlement and a summary is given in Table 2. Both marital and overall fertility were lower in the earlier than in the more recently settled districts. Within each settlement group, the districts are ordered in terms of the census dates at which they reached their maximum rural populations.[20] Lennox and Lincoln counties, for example, both settled at the time of the initial Loyalist landings, reached their peak rural populations in 1861. Essex county, by contrast, had a small settlement that pre-dated the arrival of the Loyalists, yet Essex was slow to be settled and reached a peak of rural population only in the twentieth century; hence the ordering of counties in Table A-1. Duration of settlement quite evidently played a role in fertility history, but it is not the whole story. Cultural influences can be seen as well. Glengarry county, albeit one of the earliest settled, was prominently Roman Catholic, Highland Scottish. Marital fertility was high and unchanging. A very low value of I_m permitted Glengarry to have a relatively low rate of overall fertility.[21] Prescott county, with Ontario's greatest concentration of French Canadians, had a very high value of I_g (marital fertility) in 1851 (.955) and experienced virtually no decline in fertility before 1891. Marital fertility was notably high in the most recently settled districts (look, for example, at Simcoe county or Perth and Huron counties). I_g fell sharply between 1851 and 1891 in most of the newly settled districts; nevertheless, they continued in the late years of the century to have high rates of marital fertility compared with the situation in the province as a whole.

There remains much to be examined in the patterns of marital fertility in Ontario, but it is a topic that must be taken up elsewhere. The main point of

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19. One of the more interesting aspects of the fertility decline in late-nineteenth century Ontario is its distinctively rural nature. The fall in I_g was considerably greater in most of the rural districts than it was in the cities. That is partly due to the fact that, in all likelihood, urban fertility had been declining in the first half of the nineteenth century. Nevertheless, given the emphasis that used to be placed on urbanization as a factor in the demographic transition, it is interesting that the decline in marital fertility in Ontario cities was so mild in the later decades of the century.

20. Almost all Ontario counties reached a maximum rural population after which there was a decline, often substantial. Most districts reached that maximum before the end of the nineteenth century. Districts reaching their peak rural populations in the same census year are ordered in Appendix 2 (Table A-1) according to the ratio of 1851 to peak population.

21. It might also be noted that Glengarry, while among the earliest settled districts, did not fill up very quickly and reached a peak rural population only in 1891. The movement of French Canadians into Glengarry had begun only a short time before 1891, at which date 25 percent of the county's population was French.

departure for the present paper is the variation in nuptiality and the role that changing proportions of married may have played in the decline of overall fertility. Control of fertility in Western Europe traditionally had been achieved through delayed marriage. That is strikingly revealed in Table 1 in the case of Belgium where in 1856 a high I_g of.827 was tempered by a dramatically low I_m (.366) to give that country a low rate of overall fertility (I_f), second only to France.[22] Scotland, as well, kept its fertility rate low by combining a relatively high rate of marital fertility with a low I_m. By contrast, the I_m index for Ontario in 1851 was far above that typical of Europe. Nuptiality was lower in the cities and in the earliest settled districts, but even there, was high by European standards. In many of the more recently settled districts of Ontario, I_m was outstandingly high, rivalling the eastern European pattern seen in Hungary, for example (*see* Table 1).

Change in marital fertility may have been the predominant element of fertility reduction in late nineteenth-century Ontario, but declining nuptiality played a role as well, and a not unimportant one at that. If only I_m had declined and I_g had remained at the 1851 level, fertility in Ontario would have fallen by 14 percent. That would have amounted to approximately 40 percent of the change that did occur.[23] In the more recently settled districts, where the decline in I_m was greater, the fall in nuptiality was almost as important for the decline of fertility as the increased control of fertility within marriages. The change in nuptiality deserves attention, then, in its own right.

Like marital fertility, proportions married appear to vary in association with the process of land settlement. In a newly settled land like Canada, couples could readily marry at an early age and have large families. Indeed, it may have been positively advantageous to do so. As settlement proceeded, though, and districts filled up, pressures mounted to lower the rate of natural increase of population. As had been the case in Europe, this was accomplished in part by delaying marriage. As unsettled land disappeared, farmsteads became more expensive and more difficult to obtain. Marriages were put off until couples had the security of a farmstead. Increasingly, however, couples came to control fertility within marriages and reduction of marital fertility substituted for delay of marriage. By 1891, the pattern of I_m in relation to duration of settlement had reversed. The lowest values of the nuptiality index are to be found in the more recently settled districts where marital fertility remained relatively higher. In the earliest settled districts, where marital fertility had dropped to the lowest levels, I_m was somewhat higher.

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22. In Belgium, as in other European countries, I_m was low not only because marriage was delayed to later ages, but because many women never married at all.

23. There is no unique, unambiguous way of apportioning the decline in I_f between its two component indexes. That is because there is some interaction between the two elements. If only I_g had fallen and I_m had remained at the 1851 level, I_f would have declined by 71 percent. The changes in the two component indexes thus appear to account for more than 100 percent of the decline.

The evidence for Ontario points to a process whereby the fertility transition began with delay of marriage, but that, in turn, was supplanted by reduction of marital fertility as the leading force in the process. The early adoption of controlled marital fertility in Ontario meant that I_m (nuptiality) did not have to fall as far as it had in Europe. To a greater degree than occurred in Europe, Ontarians were substituting control of fertility within marriage for the postponement of marriage as a means of fertility control. That, in turn, may have occurred because of weaker economic support in Ontario for delay of marriage than was common in European countries. Marriage appears to have been decidedly the desired state in Canada. Most women eventually married. It was the expected thing and the intended thing. Postponement of marriage meant large numbers of single women of adult ages. What role was there for them in the economy and in society? It appears that in nineteenth-century Ontario, it was a limited role. Consequently, the inducement may have been strong to look to alternatives to postponement of marriage as a method of birth control.

III

Let us now look at the economic activity of women. What occupied adult single women in late nineteenth-century Ontario? The evidence is admittedly rather sketchy and we shall have to be content with generalizations about the province as a whole. Unfortunately, there is little to connect explicitly with the geographic pattern to which so much attention was paid in the preceding section.

Remember that Ontario was at the time still very largely an agricultural economy. Most people, including the growing number of single women, lived and worked on farms. Women's work was primarily in the farm home. In Ontario, as in the northern United States, women typically did not do agricultural field work. That is, at least, what most writers on the subject claim.[24] Evidence for Canada is scant and scattered, mainly from travellers' accounts and from the letters and diaries of farm women. These sources make more abundant reference to what women were doing than to what they did not do.[25]

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24. The standard sources have recently been reviewed by Marjorie Griffin Cohen, *Women's Work, Markets, and Economic Development in Nineteenth Century Ontario* (Toronto, Ont.: University of Toronto Press, 1988). She offers no new evidence and, like the rest of us, relies heavily on what has been written about the United States. The American evidence is reviewed in Joan Jensen, *With These Hands: Women Working on the Land* (New York, N.Y.: McGraw-Hill, 1981); Carolyn E. Sachs, *The Invisible Farmers* (Totowa, N.J.: Rowman and Allanheld, 1983); and David Schob, *Hired Hands and Ploughboys* (Urbana, Ill.: University of Illinois Press, 1975). The last two especially pertinent works are not cited by Cohen.

25. Mute witness is also given in evidence of a different sort. Several years ago, I had a student assistant track down every known painting, engraving, lithograph or illustration depicting outdoor agricultural activity in nineteenth-century Canada. Out of 2,360 items, only three might arguably be said to depict women doing field work.

Field work almost never gets mentioned.[26] What did occupy women was the preparation of food and the making of clothing — conventional household tasks catering essentially to the consumption needs of the household itself.[27] Nevertheless, the line between conventional household chores and contributions to the output of the farm enterprise is a blurred one. Women on Ontario farms had particular responsibility for the kitchen, the garden, the hen house and the dairy.[28] Much of their involvement was with activities which today would be in other sectors of the economy and regarded unquestionably as economic production.

Women's work on the farm included not only production for household consumption but production for sale or exchange in the market as well. In the middle of the nineteenth century, most farms produced modest surpluses of butter, poultry and eggs, and even vegetables, to be sold in local markets or exchanged at the country store. While the proceeds may have seemed small in proportionate terms, these were important sources of purchasing power for the farm woman. It is nevertheless the case that by the middle of the nineteenth century, there had been very little development of agricultural specialization. Farming in Ontario continued to be only a modest extension of subsistence farming.[29] Women's activity in producing for the market was largely an extension of the chore of meeting household needs. Farm women in 1851 were undoubtedly burdened with work, but it was primarily what we would have later called housework.

That situation was changing after the middle of the nineteenth century. A full account of the emergence of largely market-oriented, specialized agriculture in Ontario has yet to be written, but the main outlines are clear

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26. It is common to suppose that in times of peak labour demand, at the grain harvest or at haying, the women would have pitched in. If so, one might have thought that the unusual nature of the activity would have spurred a diary entry or a mention in a letter. Such are exceedingly rare.

27. And, of course, there was child care. In the mid-nineteenth-century, families were still relatively large and one can infer that a significant part of mothers' time had to be devoted to child care. That inference is used explicitly by Stanley Labergott to defend the presumption that women in the northern United States should not be counted as part of the agricultural labour force in his seminal monograph *Manpower and Economic Growth* (New York, N.Y.: McGraw-Hill, 1964).

28. Making butter, and to a lesser extent cheese, were particularly important parts of the work of farm women. It seems to be widely agreed upon that the dairy was essentially the domain of women. The margin of debate may lie with the milking. To what extent was the milking of the cows a female task? Milkmaids were common in Europe; rare in Canada. It is almost certain that women were more likely to do milking than to do field work, yet in Canada, even milking came to be predominantly a male task. This may have had to do with the emergence of dairying as a line of farm specialization. As dairying came more and more to be the principal work of the farm, it came increasingly to be a male occupation. It seems to be widely thought that in earlier, pioneer years, when dairying was limited mainly to the family's own needs, the milking was more likely to have been done by women.

29. The author has examined that in "Marketable Surpluses in Ontario Farming, 1860", *Social Science History*, 8 (Fall 1984): 395-424.

enough.[30] Ontario farming became largely involved with animal husbandry although there were cycles of emphasis on wheat production, with notable upswings in the 1850s and the 1870s, and specialized production of barley, clover seed and field beans in a few localities. The main orientation, however, was to beef, pork and dairy production. Although dairying and the development of an export cheese industry have received the greater amount of attention, beef and pork were the foremost products. One implication of this is that, as a specialized producer of farm commodities for the market, the Ontario farm was not heavily dependent upon female labour. The most important qualification that has to be added to that statement concerns dairying. In the later years of the nineteenth century, butter was second only to meat in the output of Ontario farms and butter was largely produced by women. After 1860, however, dairying in Ontario turned increasingly to cheese for export, rather than butter. The cheese industry developed on the basis of factory production, while butter continued until late in the century to be made almost entirely on farms. It is important that butter as a farm product not be downplayed. It continued to be one of the leading components of Ontario farm output. Its output, however, was growing less rapidly than the output of meat and cheese. The essential point for the purposes of this paper is that the faster growing sectors of the agricultural economy were those in which women had less involvement. Over the period between 1851 and 1891, Ontario agriculture was becoming less dependent upon female labour.

There was, furthermore, a tendency for what had previously been women's work to pass into the hands of men. As the factory cheese industry developed, dairy processing that had been done by women on farms came increasingly to be done by men in factories.[31] Other areas of farm work such as vegetable gardening and poultry raising were increasingly taken over by men as farmers came to specialize to a greater extent in those sorts of products. Over all, through the latter half of the nineteenth century, farming in Ontario offered, in a relative sense, a diminishing opportunity for remunerative work by women.

There remained traditional, family-oriented work within the farm home. Larger, more opulent and more complex homes may have generated some increase in the amount of needed housework, but it is hard to conceive of that expanding to an extent that would have substituted fully for the relative diminution of farm work. Ruth Cowan has strenuously argued the opposite,

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30. R.L. Jones' *History of Agriculture in Ontario, 1613-1880* (Toronto, Ont.: University of Toronto Press, 1946) remains one of the most substantial works of Canadian economic history and provides an abundance of detail, yet Jones goes little in the direction of providing a systematic quantitative treatment. Chapter 3, dealing with agriculture, of Ian M. Drummond, *Progress Without Planning* (Toronto, Ont.: University of Toronto Press, 1987) takes up the topic, but is disappointingly thin.

31. This argument has also been made by Cohen, *Women's Work*. It might be added that in the earliest years of the factory cheese industry, proportionally more women worked in the factories than was the case in the peak years of the industry.

that the evolving technology of housework generated an increasingly wide stream of tasks.[32] She asserts that with more efficient cookstoves, women were expected to do more elaborate and more time-consuming baking; with the advent of machines to do laundry, they were expected to clean clothes more frequently. While one can recognize a germ of truth to the argument, overall, it is not very convincing; nor does Cowan present much real evidence in support of it. Even if the case could be made on a per-household basis, and leaving aside the amount of time freed up from child care as families became smaller, the expanded content of housework was unlikely to be great enough to outweigh the increase in the number of adult women per household. As age at marriage rose, there were larger numbers of adult, single daughters remaining in households. Undoubtedly, they were active. There is no suggestion here of the development of a class of "idle drones". However, the labour needs of households surely did not expand as much as the number of adult females at hand to meet those needs.[33]

More serious, though, was the lack of income-generating work. Housework for adult, single daughters was subservient work. It offered no scope for independence. Contributions to marketable household production may not have been greatly preferable, but for some women, at least, might have generated a bit of income and might have heightened the perceived worth to the household of the unmarried daughter. Marriage, with a household of one's own, would surely have been a preferred state. Paid employment, however, even if only a second-best alternative, might have made spinsterhood a little less unattractive.

IV

Opportunities for the gainful employment of women in non- agricultural pursuits were very limited in Ontario in 1851 and continued to be constrained in 1891. Census data on occupations are recognized as being of questionable quality and must be interpreted with caution. Yet they are about all that we have to use, so we should at least examine them to see what they reveal. In the Canadian census of 1851, there was a separate tabulation by sex for only the two occupations of servant and teacher. In addition, a few other occupations, such as tailoress or washerwoman, could be identified by title as exclusively feminine. No women were listed as farmers and only males were designated

32. Ruth Schwartz Cowan, *More Work for Mother* (New York, N.Y.: Basic Books, 1983).

33. It was in the latter half of the nineteenth century that purchases of factory products supplanted some of the most laborious and time consuming household production such as soap and candle making. In Ontario, the household manufacture of cloth diminished greatly in this same period. If Cowan's argument is to be taken seriously, it would imply a drastic fall in labour productivity of women in housework while throughout the rest of the economy, labour productivity was rising.

as farm labourers.[34] To the foregoing few distinctively female occupations, we might add an assumed two-thirds of weavers.[35] That would add up to just under 16,000 women with gainful occupations. A smattering of women who pursued "male" occupations might be overlooked in that, but it is doubtful that they would add to more than a trifle. Even if we allow for the fact that small amounts of paid work on a part-time basis did not warrant the assumption of an occupational designation, and that, consequently, the census data understated the extent of paid work by women, it is evident that the vast majority of women in 1851 were not gainfully employed outside the household. The foregoing estimate of 16,000 women with occupations amounts to only 20 percent of the number of single women above 15 years of age.[36]

Not only did a small fraction of women have paid work, but the range of their activities was extremely limited. Servants made up fully 78 percent of gainfully occupied women in 1851. The term "servant" encompassed a wide range of work that in later years would have been recognized as specialized occupations. An unknown, but presumably large, number of these servants would have been engaged by farm households. Besides servants, women were found as dressmakers, seamstresses and milliners, as washerwomen, and a few (302) as school teachers. That was about the extent of gainful occupation by women in mid-century Ontario.

Between 1851 and 1891, female employment in Ontario increased considerably and a somewhat wider selection of occupations opened to women. Furthermore, the census data on occupations most likely still undercounted the gainful work of women. Nevertheless, the overall picture remains of a limited movement of women into the labour market. In 1891, 95,000 women reported occupations in Ontario, almost a six-fold increase since 1851. The occupational distribution is summarized in Table 3. The largest group by far (38 percent) continued to be servants. Dressmakers, seamstresses and milliners remained the second most numerous, comprising 20 percent of

34. The fact that women may have done some farm work does not constitute a case for the argument that they should be counted as gainfully occupied as farm workers. So much depends upon what we do not know — the number of hours of work that would have been typical. Many of the women enumerated as servants would have churned butter and gathered eggs as part of their duties. Of greater concern is what should be done with widows who operated farms. Was it so universally the case that they had sons who in reality became the farm operators? In an 1861 Ontario census sample of 1,050 farms, I turned up only 3 on which there was no adult male of the same surname of the widow to be designated the farmer. In addition, there was a single case of a small farm, actually a suburban dairy, operated by what appeared to be two spinster sisters. This is unpublished data from the Canada West Farm Sample reported in R.M. McInnis, "Marketable Surpluses...".

35. That may be overly generous to women. In Britain, it was widely noted that while women were commonly engaged in spinning, they were much less likely to be weavers.

36. This is not to imply that only single women would have been gainfully occupied. Some married women and widows must have taken jobs out of sheer necessity. The point is that even if we deliberately inflate the ratio by ignoring married women, the number is a small fraction of the number of single women.

working women. What was new upon the scene was that school and music teachers had emerged as the third leading occupation of women (8 percent of all women employed) and that women had come to be recognized as farmers (5.5 percent of employed women). For the most part, women were still confined to a relatively few occupations and those were either service jobs or the hand making of clothing. Few women were yet working as shop clerks or in business offices. Industrial work was simply not an important element of the scene. Some of the seamstresses and tailoresses may have been working in factories, but only one unequivocally industrial category (hosiery and knitting mills) engaged more than 500 women.

Table 3 Gainful Occupations of Ontario Women, 1891

All female workers	94,463
Servants	35,781
Dressmakers, seamstresses and milliners	18,521
School teachers and music teachers	7,621
Tailoresses	5,496
Farmers	5,245
Saleswomen	2,508
Housekeepers	1,943
Laundresses	1,550
Nurses and midwives	964
Bookkeepers	959
Boardinghouse keepers	719
Stenographers	611
Knitting mill operatives	521
All other occupations	12,024

Source: Census of Canada, 1891.

It is most likely that more women worked in industry than the census occupational data suggest. Intermittent factory work, for a few weeks a year as opportunities arose, was insufficient for women to declare to the census takers that they were 'usually' employed in a gainful occupation that could readily be identified. Examination of the number of female employees of industrial establishments in lines that can be fairly closely matched to occupational groups indicates that the former were typically half again as great as the latter. Of course, some differential in that direction would be expected. A few women might have worked for industrial establishments, but in occupations that do not link easily to that industry, and some women would always be leaving the industrial establishment over the course of the year to marry and give up gainful work. It is nevertheless the case that the industrial employment of women, even making some allowances for undercounting, was remarkably small.

From 1851 to 1891, the number of women with gainful occupations increased twice as much proportionally as the number of adult women; yet, disregarding the fact that some married women did gainful work, the number of women with occupations was still only 36 percent of the number of adult single women. There were in Ontario, in 1891, at least 170,000 unmarried women with no gainful occupation. More than 50,000 of them were above 25 years of age. One might interpret that evidence either as a startling lack of economic opportunity for women and an indication of the paucity of suitable alternatives to marriage and home-making, or as a surprisingly large pool of underutilized labour. However one chooses to look at it, this is a feature of Canadian society in the late nineteenth century that has received all too little attention.[37]

No systematic study of the 1891 census data at the individual household level has yet been reported. A casual perusal of census manuscripts, however, lends support to this picture of large numbers of single adult women living in their parental homes and giving no indication of an occupation. That can be found in both rural and urban areas, among both the well-to-do and those of evidently modest means. In and around Kingston, where I reside, I found numerous households with more than one unmarried daughter without a declared occupation. The farm on which my neighbourhood now stands was operated by a widow and her 24 year old son. The household was rounded out by two unmarried, unoccupied daughters of 26 and 28 years. The adjacent farm had a 23 year old son listed as a farm labourer and a 27 year old single daughter with no occupation. These cases were typical although one should be careful not to overstate the situation. Women with occupations can be found. In the same vicinity, the 19 year old daughter of a large farm family gave her occupation as "lace seller". In a nearby household, the widowed head was a school teacher and her 18 and 21 year old daughters were a school teacher and a music teacher. In the city of Kingston, a similar situation prevailed. A carriage maker and his wife had unmarried daughters of 25 and 28 with no occupation. A hotel keeper with wife present had daughters 25 and 26 with no occupation, but there were three employed servants residing in the household. A penitentiary guard, hardly a prosperous occupation, and his wife had a 25 year old daughter and a son, 27, whose status was given as "student". Finally, we can recount the case of a widow, 70, with a 30 year old daughter who was occupied as a weaver and three other single daughters, 25, 28 and 35, with no occupations. Two observations might be added in relation to the manuscript census evidence. One is that wage earner status was sometimes shown for persons who gave no occupation. The other is that unmarried women in their

37. Cohen, in *Womens' Work*, is concerned to demonstrate a continuously rising involvement in the market of Ontario women. That there was a six-fold rise in the number of gainfully occupied women between 1851 and 1891 lends support to her argument. It remains the case, though, that the level of female employment remained low in 1891 compared with the number of women potentially available for work and compared with the levels of female labour participation attained in Europe.

late twenties, residing in their parents' households, abound; those in their thirties were noticeably rarer.

As late as 1891, the number of women with gainful occupations remained small in Ontario compared with the number of women who might have been available for work. With a declining proportion of women married, there was a sizable increase in the number of unmarried adult women. The preponderant part of that number did not have paid work, but remained in parental households. There is little indication that they were absorbed by the labour needs of increased farm production. There was weak economic support for unmarried women. It can certainly be said that women can hardly have been induced to postpone marriage by the attractions of paid work.

V

What remains is to attempt to draw together the several strands of argument in this paper to see what sort of conclusions might be reached. In part II of the paper, it was shown that birth rates began to fall in Ontario at a remarkably early date. That was especially so for marital fertility and it was the control of fertility within marriage that was at the heart of the fertility transition. The fertility transition had begun in Ontario earlier than in any country of Europe other than France. Over most of Europe, fertility reduction in the nineteenth century was achieved by reductions in nuptiality. Delayed marriage and increases in the proportion of women who never married together comprised the predominant source of reduction in birth rates until about 1890 or just a little before then. That mechanism of population control operated in nineteenth-century Ontario as well, but it was relatively less important than the reduction in marital fertility.

By 1891, nuptiality had fallen in Ontario, but it had fallen only towards, not below, European rates. Marriage still occurred at younger ages, on average, in most districts of Ontario than was typical of Western Europe at the time. What may have encouraged young people in Ontario to marry and begin childbearing as early as they did, at ages still below those typical of Europe, was that control of fertility within marriage had already begun to be adopted in Ontario. By 1891, marital fertility had declined 20 percent from the 1851 level for the province as a whole and by more than one-third in many districts.

The fertility transition in Canada has been little studied and there is no widely-accepted explanation for the decline in marital fertility. This is not the place to attempt a full analysis. For present purposes, the reduction in marital fertility is simply accepted as a given. Whatever forces were at work to bring about a fall in marital fertility at an early date in Ontario, they probably found fertile ground in a population that was evidently reluctant to take the conventional European route of postponing marriage. There was nevertheless some move in that direction. Between 1851 and 1891, the index of nuptiality (I_m) for Ontario as a whole fell 14 percent. In some parts of the province, the

decline was much larger.[38] A European pattern was to be found in predominantly Catholic, Highland Scottish, Glengarry County. There, a very low index of nuptiality (I^m) combined with high and unchanging marital fertility (I_g).[39] The pattern was set in Glengarry by 1851 and changed relatively little. What makes Glengarry so interesting is that it shows that, under some set of circumstances, the typical European relationship could emerge in Canada. More commonly in Ontario, however, nuptiality remained well above European levels.

Ontario appears to have lacked economic support for the European system of delayed marriage. In Europe, it was widely the case that there was paid work for young, unmarried women. There was industrial employment, especially in the textile mills. There was an extensive development of cottage industry; lace, cloth, stockings, gloves, shoes and many other crafted products were the special preserve of women workers. There was more extensive work in domestic service, and in many European countries, young women found paid work in agriculture. In part III of the paper, it was shown that in Ontario, there was very limited development of paid work for women. There were relatively few occupations open to women and the number of women employed was small in relation to the size of the pool of potentially available workers. It is still not entirely clear what should be made of that. From one point of view, it suggests that there were economic opportunities in Ontario that were not being exploited. Whether for lack of entrepreneurial initiative or because of a high reservation price of female labour, a potential for industrial development was not being built upon.[40] At the very least, it can be said that Ontario was not following the general European example in this regard. Was the reservation price of female labour high in Ontario because a prosperous agricultural community could afford to support so many of its daughters without throwing them onto the labour market? That must for the present remain an unanswered question. The fact remains that remarkably large numbers of young women did not go out to work, but remained in their parental homes, and did so to surprisingly high ages. This is a characteristic of late nineteenth-century Ontario society that calls out for more thorough investigation. For the present, though, we have to accept it as one of the salient "facts of the age".

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38. The biggest declines in I_m were in Western Ontario. In Perth County, the index fell by one-third, and in Huron and Middlesex, by more than 30 percent. These were all areas that in 1851 had very high proportions married.

39. It may be of interest to note that another Highland Scottish community, Antigonish County, Nova Scotia, had the same relationship of I_m and I_g as Glengarry.

40. Claudia Goldin and Kenneth Sokoloff have argued that in an earlier era in the United States, an abundant and inexpensive supply of female labour was seized upon by entrepreneurs successfully to initiate the industrialization of that country. *See* their "Women, Children and Industrialization in the Early Republic: Evidence from the Manufacturing Censuses", *Journal of Economic History*, Vol. 42 (1982): 741-74.

Extended spinsterhood under the insistent pressure of the immediate family was a common fact of life in late nineteenth-century Ontario. It cannot have been an altogether attractive state of affairs. One can sense a pressure to ameliorate the situation. Could that have worked to promote the acceptance of the idea of family limitation within marriage? The aggregate evidence indicates that the adaptation was to resort to family limitation and to move towards somewhat earlier marriages. The case is far from proven and the historical evidence is still clouded. It is at least a tantalizing suggestion that the limited support provided by the economy for a regime of late marriage may in Ontario have encouraged a search for alternatives and propelled people into an early acceptance of the idea of family limitation by married couples. The dispersed, rural nature of Ontario settlement provided the backdrop for this development. It was not just in the cities that fertility rates fell. Indeed, it was in the cities that women could find the paid work that gave support to a system of population adjustment through delayed marriage. Had Ontario been more urban and more industrial, it might have followed a path of demographic evolution more like Europe. Yet Ontario before 1890 was still primarily an agricultural society. It was an agricultural society that had run out of land onto which to expand. Pressures were strong to lower the rate of population growth. The direction of change in Ontario farming, however, was to weaken rather than strengthen the demand for female labour in the farm household. The foremost objective of young women in the rural districts was to marry and to operate their own households. I am not suggesting that this was the only influence directing couples in Ontario to adopt family limitation. Yet it may well have operated to reinforce such other influences as were at work. What we may see in the experience of late nineteenth-century Ontario is an interesting and subtle interplay between economic and social change.

Appendix 1

Notes Concerning the Literature on the Fertility Transition in Europe, the United States and Canada

(a) The Princeton European Fertility Project organized by Ansley Coale has assembled evidence on the fertility transition in 24 European countries. Book-length studies have been published for many of these. The entire project and its results are summarized in Ansley J. Coale and Susan Cotts Watkins, eds., *The Decline of Fertility in Europe* (Princeton, N.J.: Princeton University Press, 1986). Numerous independent studies have also been made. A few examples are: R. Woods and C.W. Smith, "The Decline of Marital Fertility in the Late Nineteenth Century: The Case of England and Wales", *Population Studies*, 37 (July 1983): 207-25; Wolfgang Lutz, "Factors Associated with the Finnish Fertility Decline Since 1776", *Population Studies*, 41 (Nov. 1987): 463-82; O.W. Boonstra and A.M. van der Woude, "Demographic Transition in The Netherlands", *A.A.G.Bijdragen*, 24 (1984): 1-56; Th.L.M. Englen and J.H.A. Hillebrand, "Fertility and Nuptiality in The Netherlands, 1850-1960", *Population Studies*, 40 (Nov. 1986): 487-503.

(b) Among the more important studies that have recently dealt with the fertility transition in the United States are Peter Lindert, *Fertility and Scarcity in America* (Princeton, N.J.: Princeton University Press, 1978); Warren C. Sanderson, "Quantitative Aspects of Marriage, Fertility and Family Limitation in Nineteenth-Century America: Another Application of the Coale Specifications", *Demography*, 16 (Aug. 1979): 339-58; Maris Vinovskis, *Fertility in Massachusetts from the Revolution to the Civil War* (New York, N.Y.: Academic Press, 1981); P.A. David and W.C. Sanderson, "The Emergence of a Two-Child Norm Among American Birth Controllers", *Population and Development Review*, 13 (March 1987): 1-41. The fertility transition in Australia also has been closely analysed; *see* John C. Caldwell and Lado T. Ruzicka, "The Australian Fertility Transition: An Analysis", *Population and Development Review*, 4 (March 1978): 81-103.

(c) The standard source for the historical pattern of fertility in Canada is Jacques Henripin, *Trends and Factors of Fertility in Canada* (Ottawa, Ont.: Statistics Canada, 1972). That study was originally published a couple of years earlier in French. It provides fertility measures for Quebec and Ontario for years since the middle of the nineteenth century. The analysis of fertility deals entirely with the twentieth century, after the transition was completed in most of Canada. A slightly revised historical fertility series for Quebec is provided in Jacques Henripin and Yves Peron, "The Demographic Transition in the Province of Quebec", in D. Glass and R. Revelle, eds. *Population and Social Change* (London,

England: Edward Arnold, 1972). Another very brief look at the aggregate evidence for Canada is given by E.M. Gee, "Early Canadian Fertility Transition: A Component Analysis of Census Data", *Canadian Studies in Population*, 6 (1979): 23-32. There is a richer literature on nineteenth-century cross-sectional patterns of fertility in Canada and some of the influences upon them. Only inferentially, though, do these deal with decline in fertility and it is not unreasonable to claim that the fertility transition in Canada is a topic that has largely been unexamined. Certainly, there are no definitive analytical studies. The present paper is based on the author's reworking and analysis of the available evidence on the fertility transition in Canada. The full study eventually is intended to be published in book length. At this juncture, though, it is important to draw to readers' attention that the revised indexes of fertility upon which this paper is based are to some degree at variance with the pattern shown by the Henripin series that is so widely relied upon.

Appendix 2

Table A-1 **Fertility and Nuptiality, 1851 and 1891, Cities and 1891 Census Districts**

	1851			1891			Percent Change		
	I_g	I_m	I_f	I_g	I_m	I_f	I_g	I_m	I_f
Provincial Total	.766	.607	.465	.573	.521	.299	-25.2	-14.2	-35.7
Five Main Cities	.636	.551	.350	.538	.491	.264	-15.4	-10.9	-24.6
Hamilton	.623	.543	.338	.521	.512	.267	-16.4	- 5.7	-21.0
Kingston	.644	.563	.363	.612	.467	.286	- 5.0	-17.1	-21.2
London	.627	.613	.384	.509	.455	.232	-18.8	-25.8	-39.6
Ottawa	.748	.464	.347	.591	.483	.285	-21.0	+ 4.1	-17.9
Toronto	.617	.568	.350	.525	.495	.260	-15.7	-12.9	-25.7
Rural Districts	.782	.613	.479	.597	.526	.305	-23.7	-14.2	-36.3
I. Earliest Settled Districts	.748	.603	.451	.531	.538	.286	-19.3	-10.8	-36.6
46. Leeds	.760	.586	.445	.483	.533	.257	-36.4	- 9.0	-42.2
28. Lincoln	.676	.621	.420	.496	.507	.251	-26.6	-18.4	-40.2
43. Lennox	.617	.583	.360	.430	.539	.232	-30.3	- 7.5	-35.6
41. Hastings S.	.700	.644	.451	.508	.545	.277	-27.4	-15.4	-38.6
45. Frontenac	.740	.643	.476	.556	.495	.275	-24.9	-23.0	-42.3
53. Grenville S.	.726	.595	.432	.489	.509	.249	-32.6	-14.5	-42.4
42. Prince Edward	.688	.596	.410	.348	.589	.205	-49.4	- 1.2	-50.0
54. Dundas	.797	.615	.490	.507	.522	.265	-36.4	-15.1	-45.9
27. Welland	.679	.597	.405	.516	.541	.279	-24.0	- 9.4	-31.1
56. Glengarry	.857	.480	.411	.837	.440	.368	- 2.3	- 8.3	-10.5
55. Stormont	.872	.551	.480	.616	.523	.322	-29.4	- 5.1	-32.9
15. Essex	.768	.687	.528	.584	.588	.343	-24.0	-14.4	-35.0

Appendix 2 (Cont'd)

II. Districts Settled 1790-1812	.729	.632	.461	.532	.535	.285	-27.0	-15.4	-38.2
24. Wentworth	.686	.630	.432	.538	.517	.278	-21.6	-17.9	-35.6
20. Brant	.685	.616	.422	.450	.513	.231	-34.3	-16.7	-45.3
34. Ontario S.	.691	.675	.466	.512	.534	.273	-25.9	-20.9	-41.4
29. Halton	.743	.594	.441	.534	.490	.262	-28.1	-17.5	-40.6
37. Durham	.741	.645	.478	.519	.490	.254	-30.0	-24.0	-46.9
17. Elgin	.707	.616	.436	.459	.547	.251	-35.1	-11.2	-42.4
52. Leeds and Grenville N.	.742	.649	.482	.511	.505	.258	-31.1	-22.2	-46.5
33. York S.	.666	.612	.408	.546	.559	.305	-18.0	- 8.7	-25.2
38. Northumberland	.744	.619	.461	.502	.518	.260	-32.5	-16.3	-43.6
18. Oxford	.722	.634	.458	.502	.525	.264	-30.5	-17.2	-42.4
19. Norfolk	.700	.653	.457	.466	.575	.268	-33.4	-11.9	-41.4
32. York N.	.791	.582	.460	.550	.531	.292	-30.5	- 8.8	-36.5
21. Waterloo	.810	.686	.556	.604	.517	.312	-25.4	-24.6	-43.9
16. Kent	.745	.665	.495	.562	.547	.307	-24.6	-17.7	-38.0
14. Bothwell	.737	.623	.459	.558	.594	.331	-24.3	- 4.7	-27.9
57. Prescott	.955	.563	.538	.891	.535	.477	- 6.7	- 5.0	-11.3
51. Russell	.813	.624	.507	.830	.550	.456	+ 2.1	-11.9	-10.1
III. District Settled 1815-1829	.803	.637	.512	.603	.506	.305	-24.9	-20.6	-40.4
30. Peel	.764	.596	.455	.590	.480	.283	-22.8	-19.5	-37.8
23. Wellington S.	.842	.565	.476	.526	.466	.245	-37.5	-17.5	-48.5
25. Haldimand	.685	.644	.441	.554	.510	.283	-19.1	-20.8	-35.8
26. Monck	.672	.605	.407	.484	.588	.285	-28.0	- 2.8	-30.0
35. Ontario N.	.869	.659	.573	.612	.539	.330	-30.0	-18.2	-42.4
31. Cardwell	.855	.651	.557	.594	.475	.282	-30.5	-27.0	-49.4
12. Middlesex	.807	.712	.575	.540	.495	.267	-33.1	-30.5	-53.6
22. Wellington Centre	.815	.635	.518	.601	.482	.290	-26.3	-24.1	-44.0
36. Victoria	.835	.640	.534	.616	.523	.322	-26.2	-18.3	-39.7
47. Lanark	.835	.546	.456	.663	.455	.302	-20.6	-16.7	-33.8
50. Carleton	.815	.603	.491	.634	.533	.338	-22.2	-11.6	-31.2
39. Peterborough	.785	.637	.500	.598	.518	.310	-23.8	-18.7	-38.0
40. Hastings N.	.784	.744	.538	.659	.580	.382	-15.9	-22.0	-34.5
48. Renfrew S.	.881	.663	.584	.810	.507	.411	- 8.1	-23.5	-29.6
5. Simcoe N.	.890	.616	.548	.642	.491	.315	-27.9	-20.3	-42.5

Appendix 2 (Cont'd)

	1851			1891			Percent Change		
	I_g	I_m	I_f	I_g	I_m	I_f	I_g	I_m	I_f
IV. Districts Settled 1830-1850	.862	.673	.580	.608	.505	.307	-29.5	-25.0	-47.1
8. Wellington N.	.790	.663	.524	.604	.509	.307	-23.5	-23.2	-41.5
11. Perth	.873	.726	.634	.585	.482	.282	-33.0	-33.6	-55.5
10. Huron	.873	.667	.582	.591	.458	.271	-32.3	-31.3	-53.4
13. Lambton	.807	.685	.553	.547	.525	.287	-32.2	-23.4	-48.1
7. Grey	.859	.701	.602	.607	.522	.317	-29.3	-25.5	-47.3
9. Bruce	.726	.676	.491	.646	.486	.314	-11.0	-28.1	-36.0
49. Renfrew N.	.875	.623	.545	.779	.514	.400	-11.0	-17.5	-26.6
4. Simcoe E.	.892	.578	.516	.640	.569	.364	-28.3	- 1.6	-29.5
6. Simcoe S.	.924	.645	.596	.564	.504	.284	-39.0	-21.9	-52.3
V. Districts Settled after 1850									
1. Algoma	—	—	—	.627	.710	.445	—	—	—
2. Nipissing	—	—	—	.693	.709	.491	—	—	—
3. Muskoka-Parry Sound	—	—	—	.721	.644	.464	—	—	—