THE IMPACT OF PUBLIC POLICIES ON FAMILIES AND DEMOGRAPHIC BEHAVIOUR

Anne H. Gauthier[1]

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INTRODUCTION

Public policies have an undeniable effect on families. Among other things, they regulate the conditions of employment, define eligibility to welfare benefits, provide education and health services, and define the rights and responsibilities of parents. Public policies, thus, shape family life in defining opportunities and constraints. Yet, public policies have been claimed to have a much more pervasive effect on families. They have been claimed to be encouraging some types of family structures over others, and to be providing incentives or disincentives to cohabit, marry, divorce, and to have children in or outside wedlock. According to a right-wing perspective, generous social and welfare policies have 'destroyed' traditional family values and have encouraged non-traditional family forms. Popenoe (1988), for instance, claims that generous support for families has contributed to the 'decline' of families in Sweden.[2]

The links between public policies and demographic behavior are however much more complex than those claimed by right-wingers. They involve the levels of benefits, the

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[1] Department of sociology, University of Calgary, 2500 University Dr. NW, Calgary (Alberta), Canada T2N 1N4, fax: 403-282-9298, email: Gauthier@ucalgary.ca

[2] For an interesting reply to Popenoe's attack on the Swedish family, see Sandqvist et al (1992).

conditions of eligibility, the income and opportunity sets of individuals, as well as the norms, stigma, and sanctions associated with the receipt of benefits and with non-traditional forms of behavior, etc. Isolating the impact of social and welfare benefits on demographic behavior is therefore a complex exercise, and not surprisingly, one that has led to contradictory findings.

In this paper, I review the theoretical premises and empirical evidence linking public policies and demographic behavior. As such, the paper expands and updates the reviews by Chesnais (1996), Demeny (1987), Gauthier (1996a), Hecht and Leridon (1993), and McNicoll (1998). Because of the vastness of this field of research, I confine the discussion to the impact of policies on three main demographic and economic behavior: fertility, family structure, and the labor force participation of mothers. I thus leave aside the impact of policies on immigration and mortality. I also leave aside the impact of policies on fertility in the context of high fertility.

The paper is divided into four main sections. Section 1 discusses the theoretical framework at the basis of the analysis of the impact of public policies on families. Section 2 reviews the 'famous' examples often cited in the literature as evidence of the impact of public policies on families. This section also reviews some counter-examples that are less often cited. Section 3 reviews results from multivariate analyses, while Section 4 concludes the paper and identifies some future avenues of research.

From the onset, two clarifications are warranted. First, it is clear that although I have made an effort at doing a thorough review of the literature, this review can by no means be considered as exhaustive.[3] Second, I also need to be clear about the types of policies covered. As pointed out by Ermisch (1986), both population policies and policies without a specific demographic target can affect demographic behavior. This includes labor market policies, monetary and fiscal policies, education policies and subsidies, social security policies, family law, etc. For reasons of space, I restrict the review to policies

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[3] I have relied on large databases of articles and books (including Sociological Abstracts and the searchable database of Population Index), but I may still have missed contributions not covered by these databases. I also restricted the review to studies published in French or English.

directly targeted at families such as direct and indirect cash transfers for families with children, means-tested welfare benefits, maternity and parental leave benefits, and childcare facilities and related subsidy programs.

1. THEORETICAL PREMISES

Before reviewing the empirical studies on the impact of policies on demographic behavior, I first examine the theoretical premises linking policies and demographic behavior. Such a theoretical discussion is important as it shows light on the complexity of the relationship between policies and demographic behavior. But more importantly, it also makes explicit the assumptions behind the presumed causal relationship. To simplify the discussion, I initially focus on the impact of policies on fertility. The theoretical framework can however easily be expanded to cover other demographic behavior.

In their review of childrearing and fertility, Rindfuss and Brewster (1996) argue that: 'insofar as labor force participation acts as a constraint on fertility, we would expect fertility to rise in response to any easing of the worker-mother conflict' (p. 263). By extension, they furthermore argue that: 'We would expect, other things being equal, that improvements in childcare availability, acceptability, and quality, and decreases in its cost would have a positive impact on fertility' (p. 271). At the core of these hypotheses, is the assumption that childbearing is a rational decision, and that parents weigh the costs and benefits of having children against their income, career expectations, own standards concerning the quality of care for children, etc.

Such a rational choice framework has at its origin in the neoclassic economic framework in which the decision to have a child, to marry, to divorce, or to take up employment is assumed to depend on the respective cost and benefit of each alternative, subject to an income constraint and to an individual's preferences (Becker 1981; Cigno 1991). Thus, according to the neoclassic economic theory of fertility, the decision to have a child is subject to an economically rational decision (a utility maximization process), and is a

function of the economic cost and benefits of children, subject to an income constraint. According to this model, any reduction in the cost of children (as a result of public subsidy) or any increase in income (as a results of transfer payment) is expected to increase the demand for children (Gauthier and Hatzius 1997). In a revised version of this model, Becker and Gregg (1973) introduced a quality component and argued that any increase in income is expected to result in either a higher number of children, or in children of higher quality (i.e. higher cost). This general model has also been applied to the decision to marry and divorce (see Becker 1973, 1974, 1981).

This traditional economic model has been very influential in the literature and is at the core of the assumed relationship between policies and demographic behavior.[4] One should however not lose sight of the fact that this neoclassic model lies on two major assumptions: that the individual has full information on the cost and benefits of various alternatives, and that having a child, marrying, or divorcing, is the result of an economically rational decision. These assumptions have been questioned by numerous scholars. First, it has been argued that it is doubtful that individuals have the full information concerning the cost and benefits of various alternatives, for example, the cost and benefits of children. Imperfect information is more likely to be the case. Consequently, more recent variants of the rational choice theory have relaxed the full information requirement, and have formulated a 'milder' requirement, namely that individuals take their decisions based on the situational information available to them --- regardless whether or not this information is accurate or complete (Goldthorpe 2000). For example, it could be argued that teenage girls take their decision to have, or not to have, a child based on the information that is available to them – that is, information that will vary with the teenagers' own situation or circumstances. Consequently, teenage girls may not necessarily have the full information about the cost of children, about the levels and eligibility conditions of welfare benefits, and about their life opportunities, but they take their decision to have a child based on the information that is available to them at that particular moment.[5]

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[4] From the onset, it has also been heavily criticized. See for example, the paper by Judith Blake (1968).

[5] See Raimondo (2001).

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Second, scholars have also questioned the rationality requirement. And again, both strong and weaker rationality requirements have been formulated (Goldthorpe 2000). In particular, even though the decision to become a teenage mother may look as being 'irrational' to an economist (in view of the high cost of children and the low levels of welfare benefits), the decision may be rational in view of the teenager's own circumstances, including her perceived prospects of other life alternatives, and the perceived cost and benefit of children. As Goldthorpe (2000) puts it, an action may be rational: 'simply in the sense of being "appropriate" or "adequate" given actors' goals and given their situation of action which is taken to include their beliefs' (p.120). Furthermore, and here deviating substantially from the neoclassical theory, the costs and benefits of various alternatives may be both economic and non-economic. For instance, becoming a teenage mother may provide a sense of personal worth and responsibilities, and may provide the teenager with a higher status in her immediate neighborhood.[6]

In short, it may be possible to view the link between public policies and demographic behavior in a broader theoretical perspective, and to take into account the possibility of 'imperfect' information (available under the individual's specific situation or circumstances), non-economic costs and benefits, and the role of societal or community norms and sanctions. This broader theoretical framework appears in Figure 1 below. The classical formulation appears in rectangular boxes, while additional elements have been added in ellipses. The word 'perceived' has also been added to reflect the possibility of imperfect information, as discussed above.

[Figure 1 about here]

In this expanded framework, family and welfare benefits may still affect the individuals' demographic behavior, but their potential impact is no longer the result of a strict

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[6] This appears to be the case in some deprived communities. For example, the high teenage pregnancy rate in remote communities of Northern Canada has been linked with the perceived elevated social status of being a mother, see: http://www.nunatsiaq.com/archives/nunavut000531/nvt20519_01.html

comparison between the cost of children, for instance, and the economic value of welfare benefits. Their impact is instead subject to a wider range of economic, non-economic, and normative considerations, processed within the realm of situation-based, or imperfect information. The result is undoubtedly a much more fluid and complex model. In particular, the model calls for the integration of information about the individuals' own circumstances in order to capture all the elements of the decision making process. The increase in recent years of studies taking into account neighborhood conditions reflects the attempt to move beyond the rigid boundaries of the neoclassical rational choice framework.[7]

2. THE 'FAMOUS' EVIDENCE AND THE NEGLECTED COUNTER-EXAMPLES

In contrast to the above complex model, several of the examples often cited in the literature as evidence of the impact of welfare policies on demographic behavior rely on simple univariate or bivariate analyses. For instance, they contrast the trends and levels of fertility observed in countries in which different social policies are in force. I review below some of these examples. For although they do not have the methodological and statistical sophistication of studies that will be reviewed in the next section, they have been presented, and perceived, as powerful evidence of the effect of policies on demographic behavior. I review below three types of evidences: (1) differential fertility trends; (2) discrepancies between ideal and actual number of children; and (3) perceived causes of low fertility. For reasons of space, most of the examples are restricted to fertility. In the next section, I expand the review to other types of demographic behavior.

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[7] The reader interested in a more thorough discussion of rational choice theory are referred to Goldthorpe (2000), Hechter (1994), and Blossfeld and Prein (1998).

The differential demographic trends

Two cases have been widely cited as evidence of the impact of policy on fertility: the cases of France and Germany. The respective trends in the countries' total fertility rates are illustrated in Figure 2. In the case of France, the evidence of a positive impact of policies on fertility lies in the higher level of fertility observed in France as compared to other Western European countries, and in France's higher level of support for families (especially in the immediate decades following World War II). According to Figure 2a, fertility in France was higher than that observed in Belgium and Germany, especially in the immediate post-World War II period. Between 1940 and 1999, France's total fertility has always been higher than that observed in Belgium, by an average of 0.2 children per woman. Based on multivariate analyses, which I will come back to in the next section, Ekert (1986) has also concluded that the higher family benefits provided in France have resulted in a fertility level higher by about 0.2 child per woman.

The case of Germany has also often been cited as evidence of a positive effect of policies on fertility. The evidence lies in the fact that until 1976 the fertility rate in East and West Germany followed a similar trend. But starting in 1977, the difference, which was until then negligible, began to increase to reach 0.4 to 0.5 children per woman (figure 2b). It is argued that the higher fertility observed in East Germany was the result of a series of family policy measures introduced from 1976-77, including an extended maternity leave and a paid childcare leave (Chesnais 1987; Vining 1984). More recent analyses carried out by Monnier (1990) and Buttner and Lutz (1990) raise however some questions about the long-term impact of such policy measures. Interestingly, since the end of the socialist regime and reunification, fertility in East Germany has plummeted to unprecedented low levels (Witte and Wagner 1995).

[Figure 2 about here]

Other often cited 'responses' of aggregate demographic indices to the introduction of policy measures include Romania's sharp rise in fertility following the ban on abortion in 1966 (David 1993), Australia's steep increase in the number of divorces following the introduction of the no-fault divorce provision in 1975 (McDonald 1994), and Sweden's marriage boom following the reform of public widow's pensions in 1989 (Hoem 1991).[8] Several of these demographic responses have however tended to be short-term, suggesting that the impact was mainly on the timing of fertility rather than on the completed cohort fertility. I will come back to this issue in the next section.

In contrast to the above example, some other examples, less often cited, cast serious doubts as to the responsiveness of demographic indices to policies. Figures 2c and 2d illustrate two such counter-examples: Britain and Quebec. In any typology of family policy or welfare state regimes, Britain always appear among the least supportive countries: a country of minimal support for families (Gauthier 1996b; Esping-Andersen 1990). Yet, fertility in Britain has been tracking remarkably that in France in recent decades. Since 1965, the difference in fertility between the two countries has averaged 0.01 children per woman. I am obviously playing here the devil's advocate through these carefully selected examples, and it is clear that factors other than policies may be contributing to the higher-than-average fertility level in Britain. It remains, that this counter-example relies exactly on the same methodology than the example cited earlier as evidence of the effect of the French pronatalist policy. This counter-example thus suggests that a great dose of 'carefulness' is needed when using fertility differentials as evidence of the effectiveness of policies.

The last example contrasts the fertility trends in Quebec and Canada (figure 2d), and again casts serious doubts as to the impact of policies on fertility. Quebec's historically high fertility, started to decline rapidly from the early 1950s. In 1989, in response to the very low levels of fertility, the Quebec government adopted a first series of pronatalist measures, including a large third birth bonus. Yet, despite a short-term recovery, fertility

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[8] There have also been some studies on the impact of Swedish parental leave policies on fertility based on a careful analysis of fertility trends (without any multivariate analysis). See for example, Hoem (1990) and Sundstrom and Stafford (1992).

in Quebec has remained either lower or equal to that of the rest of Canada where lower support for families is in place. Of course, it is possible that Quebec fertility would have been even lower in absence of the pronatalist measures adopted from the late 1980s. However, it is clear that the impact of the measures introduced did not result in any major increase in fertility. The impact of policies –if any--- was probably small.

Discrepancies between ideal and actual number of children

The discrepancy between the ideal and actual number of children has often been used to indicate the 'window' of opportunity of policies. People, it is argued, have fewer children than what they considered as ideal because of barriers to fertility, including the high cost of children and the incompatibility between family and work responsibilities.[9] For example, Chesnais (1996) states that: 'the gap between the ideal and the reality [in terms of number of children] demonstrates that public policies have failed to remove the obstacles to the realization of fertility desires' (p.736). Data appearing in Figure 3 shows the difference between the ideal number of children in the countries of the European Communities and the total period fertility rate in the late 1980s. The average gap is 0.55 children per woman. The gap is highest in Greece and Italy, and lowest in the United Kingdom and France.

[Figure 3 about here]

Obviously, there are well-known problems associated with the use of the total period fertility rate (Bongaarts and Feeney 1998) and the use of data on the ideal number of children (Bongaarts 1998). Among other things, data on the ideal or expected number of children tends to be highly volatile (Goldberg, Sharp, and Freedman 1959; Westoff and Ryder 1977). Furthermore, when asked about the ideal number of children, people tend to

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[9] Examples of such argument to explain the gap between ideal and actual number of children, may be found in Japan, see: http://www.mhlw.go.jp/english/wp/wp-hw/vol1/p2c5s1.html. The gap between ideal and actual number of children is also noted in Switzerland, although with no reference to policies, see: http://www.statistik.admin.ch/news/archiv97/fp97005.htm

refer to global norms and expectations rather than what they themselves consider as ideal. For instance, responses to questions about the ideal number of children tend to usually cluster around the 2-child norm, and very few people tend to report having zero or one child as the ideal. Here again, caution is required in interpreting that type of data as evidence of policy impact.

Despite these limitations and cautions, it is worth pointing to the relatively strong inverse relationship between the fertility gap (defined as the difference between the ideal number of children and the country's total fertility rate) and the countries' support for families in the late 1980s.[10] As seen in Figure 4, countries with low support for families tend also to have the largest fertility gap. I should however stress that this correlation is highly dependent on the type of demographic indicator used (here the total period fertility rate) and the index of state support for families. As discussed later in this paper, the measurement of state support for families is a difficult task.

 [Figure 4 about here]

Perceived causes of low fertility

The third type of evidence that has been routinely used to point to the potential impact of policies on demographic behavior is answers to surveys about the reasons for not wanting more children. Data in Table 1 shows the percentage of respondents in a Eurobarometer survey who agreed that reasons related to housing, childcare, or to the level of child allowance can influence fertility (see Table 1 for the actual wordings of the question). All three reasons are negatively correlated with fertility, but all display a weal correlation (the largest one being the availability of childcare with a correlation of -.32 with fertility).

[Table 1 about here]

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[10] Note that there was a more recent Eurobarometer on the family in 1998. At the time of writing this paper, the report had not been released.

Although this data suggests a potential impact of policies on fertility, it is not exempt from possible biases. In particular, it is not clear whether the given reasons (e.g. lack of childcare) had a determining impact on the respondents' decision to have children, or if such reasons were given by respondents as a post-hoc explanation or as a justification for not wanting more children. For many people in Western societies, there is still some guilt or feeling of selfishness associated with childlessness or not wanting a larger family. Blaming the high cost of children, the lack of governmental support, or the lack of adequate housing to justify one's own decision not to have more children may be perceived as being a socially more acceptable answer than simply saying that one does not desire more children. Of course, I am not suggesting that the social or economic reasons identified by respondents are not important. I am simply saying that even in absence of the cited problem (e.g. too high cost of children), it is not clear that people would necessarily have more children.

Unfortunately, very few surveys provide information as to whether or not respondents would have more children if more governmental support were provided. The nine-country Population Policy Acceptance Survey carried out in the early 1990s is exceptional. In addition to being asked about what should be the governments' policy priorities, respondents were also asked whether or not they would have an additional child if their preferred measures were introduced. Note however that the actual increase in governmental support was not quantified for respondents. Nonetheless, results are highly informative as they suggest that if the respondents' preferred policy measures were introduced, fertility would increase by about 0.1 to 0.2 children per woman (Kamaras, Kocourkova, Moors 1998).[11] In other words, about 1 or 2 respondents out of 10 would be influenced by the policies that they themselves identified as high priorities, and would have an additional child. Of course, since this data is based on opinion surveys it remains at the level of a hypothetical child, and various circumstances could lead the respondents not to have this hypothetical child.

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[11] For a discussion of policy acceptance and their potential impact on fertility, see also Palomba, Bonifazi, and Menniti (1989).

The above discussion and examples are bound to be partly controversial as they challenge some well-accepted 'facts'. However, what I wanted to point out is that those 'well-accepted facts' often rely on relatively weak evidence, for which counter-examples may easily be found. Too many factors that may have affected fertility trends are moreover left uncontrolled, and too much is put on counterfactuals (e.g. fertility would have been lower if it had not been of the strong family policy). In the next section I review studies based on multivariate analyses of aggregate- or individual-level data. These studies, I believe, provide a much more solid evidence as to the potential impact of policies on demographic behavior. And in general they tend to suggest that policies have no, or a very small, effects on demographic behavior.

3. EVIDENCE FROM MULTIVARIATE ANALYSES

I review below studies that include some policy-related indicators as explanatory variables in multivariate analyses. I consider the effects of policies on fertility, family structure, and mothers' labor force participation. An overview of the studies reviewed in this section appears in Appendix. The overview summarizes each study in terms of the dataset used for the multivariate analysis, the type of statistical technique used, the dependent variable, the policy variables, and the main findings. Before commenting on the results of these studies, it is important to understand the type of analytical strategy used by scholars to isolate the impact of policies from other determinants. In particular, it is important to point out that because of the nature of the topic, very few studies are based on 'real' experiments involving a 'treatment' and 'control' groups. The United States has carried out over the years a series of demonstration projects using that type of research design. In most cases, however, studies on the impact of policies on demographic behavior are based on 'naturally occurring' experiments that exploit variations over time in the level of benefits (for example a sudden increase in benefits) or variations across countries or regions.

The impact of policies on fertility

Studies that examine the impact of policies on global measures of fertility appear in Tables A.1, while studies that examine the impact of policies on the probability of out-of-wedlock birth and on fertility of young mothers appear in Table A.2.

With regard to the first set of studies, all of them suggest a positive impact of policies on fertility. Higher family or child benefits are associated with higher levels of fertility. In most cases, however, the impact of policies is estimated to be small. On the basis of a cross-national analysis, Blanchet and Ekert-Jaffe (1994), for instance, estimate the impact of family policies at 0.2 children per woman. Using a similar research design, Gauthier and Hatzius (1997) estimate that a 25 percent increase in family allowances would result in an increase of the total fertility rate of 0.07 children per woman. Studies that used data on age- and parity-specific fertility rates furthermore conclude that the impact of policies on fertility is most likely to be on the timing of fertility rather than on the total number of children. For example, Ermisch (1988) found that more generous child allowances in Britain increase the likelihood of higher-parity births – but also encourage young motherhood.

The above examples all involve measures of cash benefits, and one may wonder the extent to which fertility is more, or less, responsive to benefits that instead directly address the issue of compatibility (or incompatibility) between work and family responsibilities. Studies based on Canadian, German, Norwegian, and Swedish data all conclude that benefits, such as maternity or parental leave and childcare subsidies, have a positive impact on fertility. The effect is however also estimated to be small. On the basis of Norwegian data, Kravdal (1996) estimated that a 20-percentage point increase in the provision of childcare would result in an increase of no more than 0.05 children per women in completed cohort fertility. And on the basis of Canadian data, Hyatt and Milne (1991) estimated that a one percent increase in the real value of maternity benefit would result in an increase in the total fertility rate between 0.09 and 0.26 percent.

The second set of studies examines the impact of policies on the probability of births outside wedlock and on the fertility of young women. The large majority of these studies are based on American or British data, and most of them examine the impact of means-tested benefits on fertility. Findings are mixed, ranging from no significant effect of policies to small positive effects. For example, Duncan and Hoffman (1990) concluded that receipt of the means-tested Aid to Families with Dependent Children (AFDC) has no statistically significant impact of the probably of teenage out-of-wedlock birth. Similarly, Fairlie and London (1997) concluded that AFDC has no significant impact on higher-parity births for welfare recipients. On the other hand, Plotnik (1990) concludes that welfare benefits have some impact on the probability of teenage out-of-wedlock birth for Black and White teenagers, but not for Hispanics. Thus, contrary to right-wing claims that teenage girls have babies to take advantage of welfare benefits (Murray 1984), the evidence is not strong to support such claims.

The impact of policies on family structure and family dynamics

As mentioned in the theoretical section of the paper, policies may also affect family formation and dissolution, as well as the living arrangements of families. Relevant studies are summarized in Table A.3. Again, most of the studies use American data and examine the effect of means-tested benefits. Results are mixed, suggesting that policies have either no effect, or a small one, on the probability of becoming a lone-mother via divorce and on female headship. For example, on the basis of data from the American Panel Study of Income Dynamics, Hoffman and Duncan (1995) concluded that AFDC benefits slightly increase the rates of marital dissolution. On the other hand, on the basis of data from the Census Population Survey (CPS), Moffitt (1990) concludes that welfare benefits have no statistically significant effect on marital status.

Results suggest however that AFDC may provide some incentive to cohabit rather than marry (Moffitt, Reville, and Winkler 1998), and that welfare benefits may have an effect

on the living arrangements of lone-mothers, by allowing them to live independently rather than being part of a larger household. Again, however, results are contradictory. Ellwood and Bane (1985) concluded that welfare benefits strongly increase the likelihood that young mothers lived independently, while Hutchens, Jakubson and Schwartz (1988) concluded that welfare benefits have no effect on the living arrangements of single mothers.

The impact of policies on mothers' labor force participation

Finally, the last set of studies that I reviewed examines the impact of policies on mothers' labor force participation. There is a large body of literature on the potential disincentive effect of welfare benefits on work (for example see the review by Bishop 1980). For the purpose of this paper, I however narrowed down the analysis to the labor force participation of mothers. I moreover distinguish cash benefits from other employment-related benefits such as maternity leave and childcare subsidies. With regard to cash benefits, results overwhelmingly suggest that means-tested benefits have a potentially disincentive effect on the probability of taking up work, or staying in employment. For example, on the basis of British data, Ermisch and Wright (1991) concluded that higher welfare benefits increase the exits from, and reduce entries to, full-time employment for single-mothers. Similarly, on the basis of American data, Blank (1985) concluded that higher welfare benefits reduce the labor force participation of mothers who are head of household.

The results with regard to other types of benefits are however mixed. While some studies suggest that higher maternity leave benefits and childcare subsidies encourage mothers to take up employment, others find no significant effect. For example, McRae (1993) concluded that receipt of contractual maternity pay (i.e. benefits provide by the employer and which top up extant state-wide provisions) has a positive impact on the return to work after childbirth in Britain. On the other hand, Klerman and Leibowitz (1999) concluded that maternity leave legislation in the United States does not influence

mothers' job continuity. Results are also mixed with regard to the impact of childcare provision and subsidies. On the basis of Swedish data, Gustafsson and Stafford (1992) estimated that the provision of public childcare encourages the labor force participation of mothers with preschoolers. On the other hand, on the basis of German data, Kreyfendeld and Hank (2000) found no evidence of an impact of the provision of childcare on mothers' labor force participation.

Limitations of multivariate studies

Overall, thus, the multivariate studies provide mixed conclusions as to the effect of policies on demographic and economic behavior, once other factors such as education, income, etc. are 'controlled' for. The effect – if any-- tends moreover to be small. Methodological issues may be at the basis of these inconclusive findings, especially since the above studies rely on very different datasets and use very different statistical models. Some of the datasets contain individual-level data while others contain aggregate-level data (especially among studies on the effect of policies on fertility), and some of the datasets are longitudinal (based on panel data or retrospective data), while others are cross-sectional. Some analyses include only one type of welfare benefits, for instance AFDC, while others include multiple types of welfare benefits, and some analyses measure the value of welfare benefits at the individual level, while others measure the value of welfare benefits at the aggregate level (at the level of state or country). Needless to say, these methodological differences may partly account for some of the contradictory findings.

There are four related issues. First and foremost, there is the issue of the measurement itself of policies. As pointed out, some studies include in their statistical model only one form of welfare benefits while in others several forms of welfare benefits are considered. The absence of consistent series on other forms of welfare benefits, or on other forms of support for families, most often explains the omission of such policies from multivariate analyses. For example, governmental support for housing is often excluded, as is

governmental support for health and education. Similarly, the large majority of studies focus on the impact of cash benefits on demographic behavior, while fewer consider the impact of policies related to maternity and parental leave or to childcare.

Second, there is the issue of imperfect information. As discussed earlier, the potential effect of welfare benefits, say on teenage birth, is empirically measured in multivariate models by including the value of welfare benefits to which a teenager would be eligible to if she were to have a child. This value of benefits (measured at the state level in American studies) is then contrasted to the potential income of a potential spouse, and to the teenager's own estimated future income. While these estimations are done with great statistical sophistication, one may wonder if these are 'inputs' that are well known to the teenage girl when she is about to have sex with a partner. In fact, one can suspect that her knowledge of benefits and her estimation of her potential income are rather limited. Interestingly, when the mothers of teenage girls are themselves welfare recipients, and thus, when the teenagers are more likely to have a better knowledge of the value of welfare benefits, teenage girls are found to have a greater likelihood of giving birth out-of-wedlock and not a lower one as may be expected (in view of the low level of welfare benefits) (An, Haveman, Wolfe 1993). But of course, other factors may also be responsible for this finding including the teenager' perceived limited number of other life alternatives.

Thirdly, there is the issue that is often not systematically discussed in the literature, namely that a large proportion of pregnancies, even today, are still unplanned – at least in the United States. For example, in the United States, about 60 percent of births out of wedlock to never-married women are said to be unintended (Terry-Humen, Manlove, Moore 2001). Of course, one may argue that welfare benefits may encourage women to have a child rather than have an abortion when they find themselves unintentionally pregnant. However, abortion still being a socially highly divided issue in the United States, the decision to have, or not to have, an abortion is likely not to be an easy one, and one that may potentially have nothing to do with the value of welfare benefits.

Finally, there is the issue of the exact mechanisms by which policies may affect demographic and economic behavior. Going back to the theoretical framework presented earlier, it is possible that policies affect demographic behavior according to a strict economic rational choice theory. For instance, it is possible that the reduction in the cost of children provided by governmental transfers and subsidies results in an increase in the demand for children. Other mechanisms are however possible. In particular, a higher governmental support for families may alter the norms and preferences for children, and may indirectly result in higher fertility. Alternatively, the causal mechanism linking policies and demographic behavior may be due to a third factor. For instance, in the case of teenage girls, it is possible that the level itself of welfare benefits has no direct effect on the probability of becoming a teenage mother. However, a high proportion of welfare recipients in the teenager's neighborhood, and a high proportion of teenage mothers, may all contribute to shaping the teenager's perception of her own life opportunities, and may influence her probability of becoming a teenage mother. In this case, welfare benefits, thus, would only indirectly influence teenage pregnancy through neighborhood characteristics. As pointed out repeatedly in this paper, the relationship between policies and demographic behavior is undoubtedly complex.

4. CONCLUSION

I started this paper by referring to right-wing scholars and politicians who believe in the undeniably negative impact of policies on families, in encouraging lone-parenthood, births outside wedlock, and in discouraging employment. The analysis presented in this paper calls for much caution. In particular, the mechanisms that theoretically link policies and demographic outcomes are complex involving imperfect information and decisions that are rationally bound by very specific circumstances. These complex mechanisms are usually not part of empirical analyses. As reviewed in this paper, the most 'famous' evidence on the impact of policies on demographic behavior is based on simple information about fertility trends, the gap between ideal and actual fertility, or the perceived reasons for not wanting more children. But even in the case of multivariate

analysis, data limitations often prevent researchers from taking into account all the policies or welfare benefits that may affect the probability of having a child, getting married, getting divorced, etc. There are consequently numerous methodological issues that make the analysis of the impact of policies on demographic behavior particularly difficult, and that most likely explain some of the inconclusive findings of empirical analyses. This point has been raised by several authors. For instance, in his analysis of the impact of public policies on fertility in Sweden, Walker (1995) concludes that: 'Its [parental benefit] strong connection to the female wage, combined with the large movement in income tax rates and other factors connected to wages, makes it impossible to estimate the separate effects of parental benefits' (p. 246).

Does this suggest that we should give up our attempts to measure the impact of policies on demographic behavior? Probably not. But we should also not lose sight of the fact that most of the policies reviewed in this paper do not aim at influencing demographic behavior, but instead aim at increasing the well-being of families. In addition to assessing the impact of these policies on demographic behavior, it is therefore imperative to also assess the impact of these policies on the well-being of families: Do policies manage to lift families out of poverty? Do they reduce the seemingly incompatibility between work and family responsibilities? Do they successfully support families in stressful situation? Do they contribute to the successful development of children and to the successful transition of teenagers to adulthood and parenthood? These questions have already been addressed in the literature, but there is still scope for more work, especially from a cross-national perspective. And furthermore, from a social justice perspective, they may be much more important to address than the question of the impact of policies on demographic behavior.

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Figure 1. Theoretical model of fertility decision

Perceived

Societal & community
Norms and sanctions

Preference for children vs.
Other goods

Perceived

Non-economic cost and benefit
Of children vs. other goods

Economic cost and benefit
Of children vs. other goods

Decision to have a
child

Perceived

Income constraint &
Life opportunities
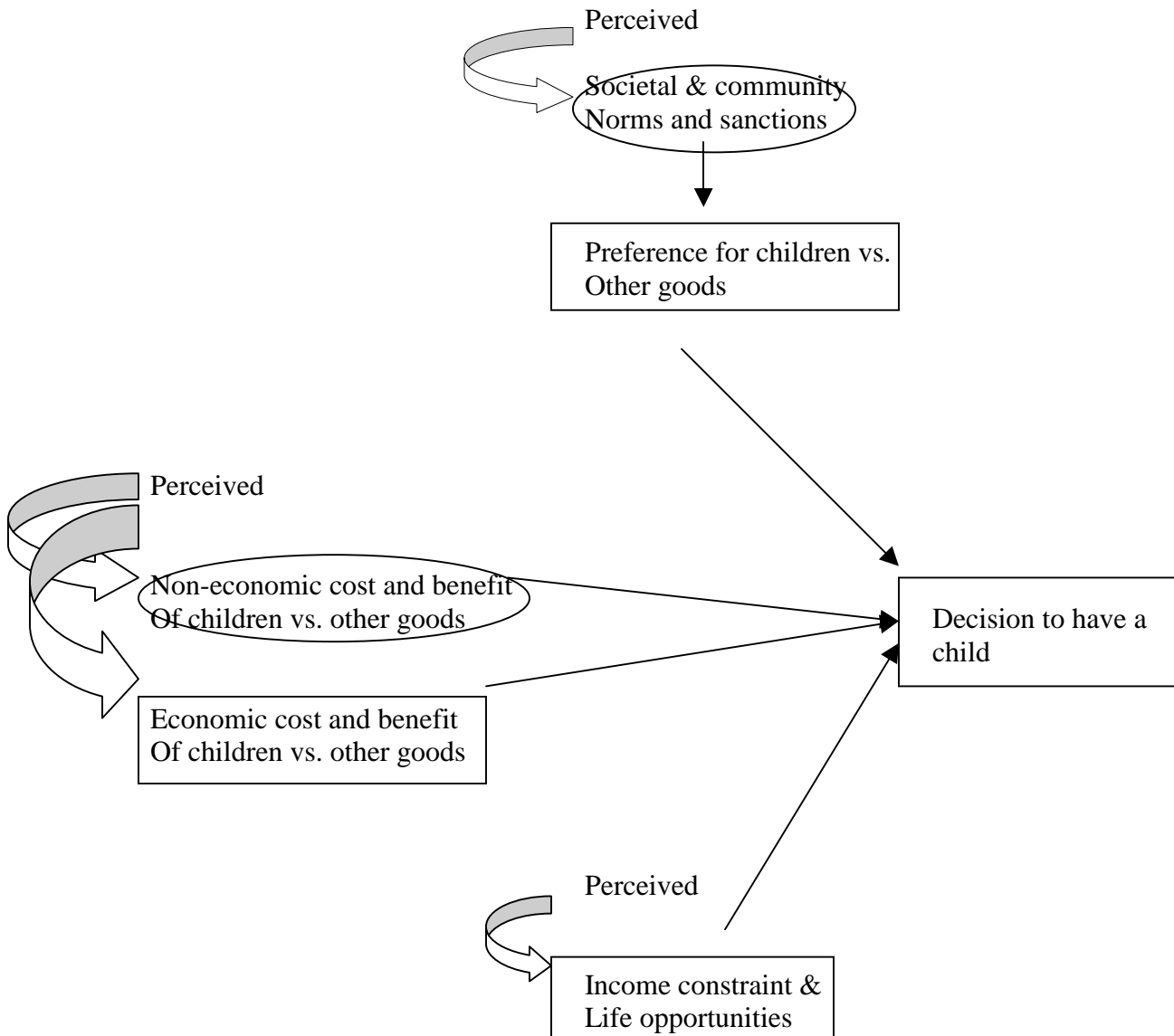
Figure 2. Total fertility rate, selected countries

Figure 2a

Total fertility rate, France, Belgium, and West Germany

Legend: Germany (West), Belgium, France

Figure 2b

TFR, East/West Germany

Legend: Germany (West), Germany (East)

Figure 2c

Total fertility rate, France, England-Wales, and Australia

Legend: England and Wales, France, Australia

Figure 2d

Total fertility rate, Quebec & Canada

Legend: Canada, Quebec
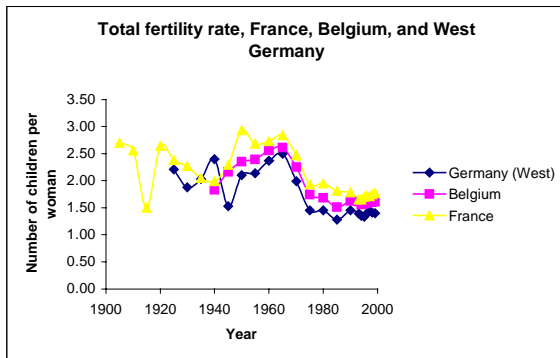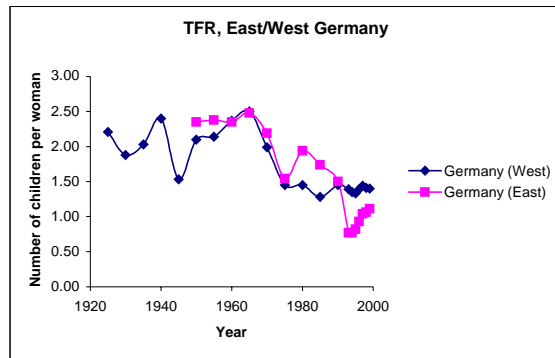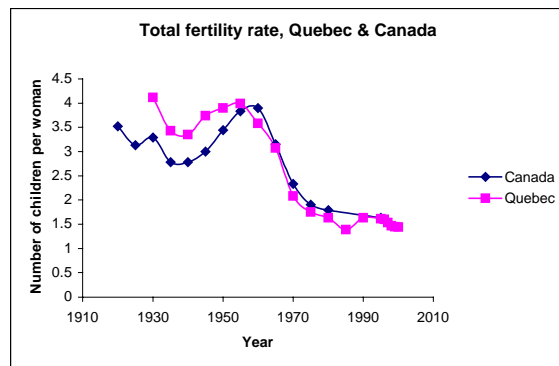
Sources: Guibert-Lantoine and Monnier (1997); Teitelbaum and Winter (1985); Bureau de la statistique du Quebec (1983); and on-line statistics from Statistics Canada, the Institut de la statistique du Quebec, and INED.

Figure 3. Ideal versus actual number of children, late 1980s
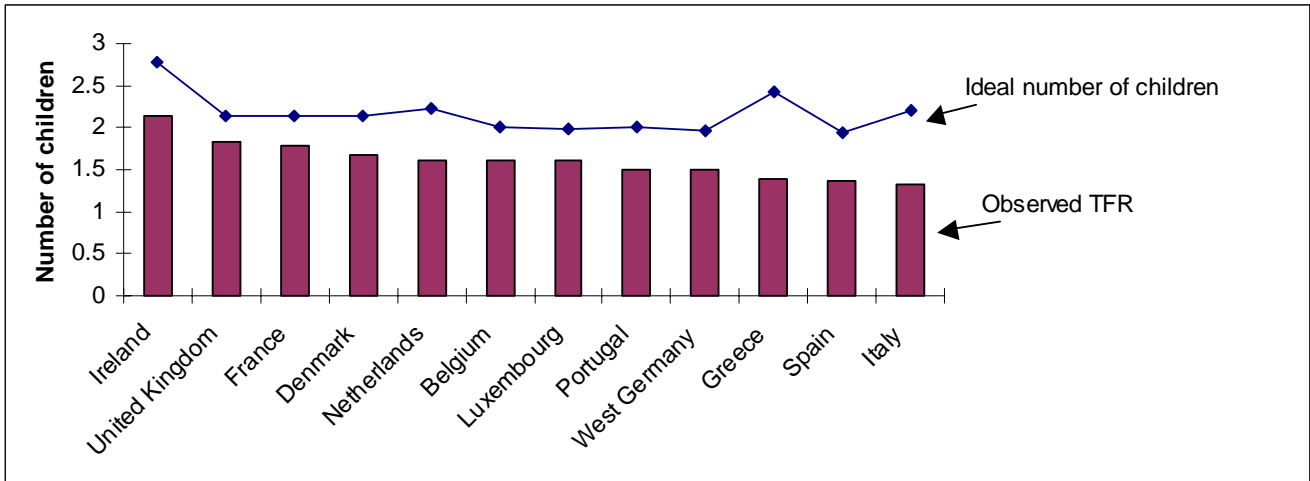
Sources: Graphed by the author based on data published in European Commission (1990).

Figure 4: Relationship between fertility gap and state support for families, late 1980s
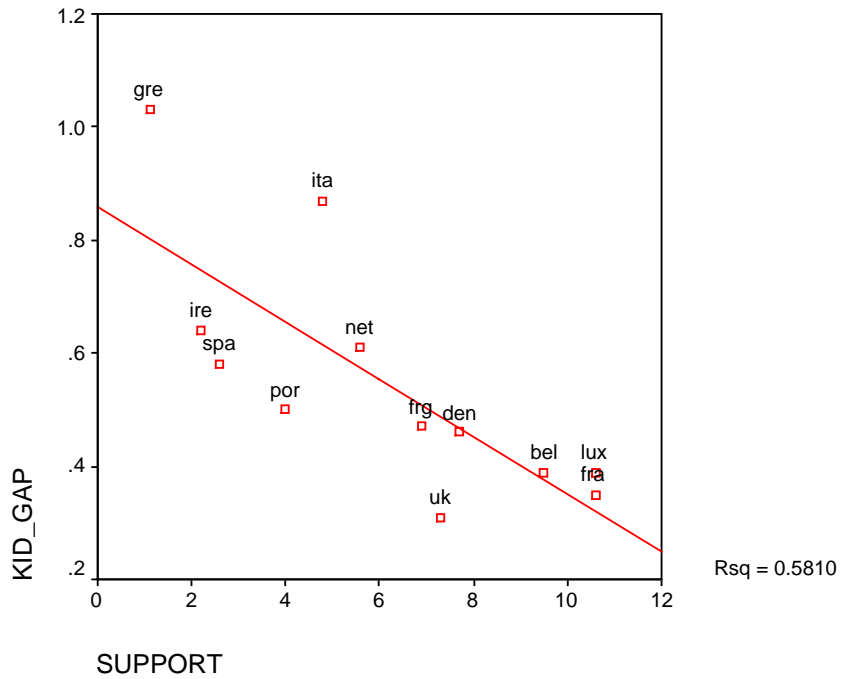
Notes:
1. The following country abbreviations were used: ; Bel: Belgium; Den: Denmark; Fra: France; Frg: West Germany; Gre: Greece, Ita: Italy; Ire: Ireland; Lux: Luxembourg; Net: Netherlands; Por: Portugal; Spa: Spain; UK: United Kingdom.
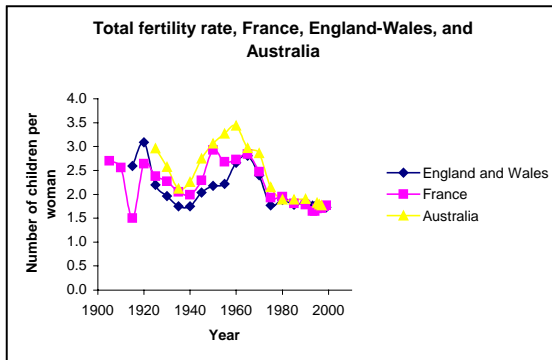2. Kid-Gap: difference between ideal number of children and observed total fertility rate;
3. Support: Index of cash benefits for families

Sources: Computed by the author from data published in European Commission (1990) and Bradshaw et al (1993).

Table 1. Fertility and causes of low fertility, late 1980s

Country	TFR[1]	Causes of low fertility[2]		
		Housing	Childcare	Child allowances
Belgium	1.62	19.5	30.2	19.0
Denmark	1.67	31.5	58.7	5.2
France	1.78	17.0	28.4	22.2
Germany - West	1.50	53.1	34.0	19.1
Greece	1.39	34.8	35.9	48.4
Ireland	2.15	43.5	22.8	25.6
Italy	1.33	37.5	38.8	10.1
Luxembourg	1.60	38.2	28.9	19.5
Netherlands	1.62	31.2	42	12.6
Portugal	1.51	41.5	41.2	25.1
Spain	1.36	46.9	27.9	26.2
United Kingdom	1.83	51.3	27.4	15.1
Correlation with fertility	---	-0.06	-0.32	-0.15

Notes:

1- TFR: Total period fertility rate as of 1990.
2- Based on a survey carried out by the European Commission in 1989. The question asked was: "Many things can influence the number of children parents decide to have. Here is a list of such factors. Could you please select the three you consider to be the most important nowadays in deciding the number of children parents are likely to have".

Source: Computed by the author from data published in European Commission (1990).

APPENDIX

Table A1. Overview of studies on the impact of policies on fertility

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
International - OECD	Gauthier & Hatzius (1997)	Official statistics 1970-96	Pooled cross-national and time-series regression	Total period fertility rate	Family cash benefits	Small positive effect of cash benefits on fertility.
International - Western Europe	Blanchet & Ekert-Jaffe (1994)	Official statistics, 11 countries 1969-83	Ordinary least squares regression and two-stage least squares regression	Total period fertility rate	Index of family policy	Positive and significant effect of family policy on fertility.
International - Western Europe	Ekert (1986)	Official statistics, 8 countries 1971-83	Ordinary least squares regression	Total period fertility rate	Index of family policy	Positive effect of family policy on fertility.
Canada	Brouillette, Felteau, Lefebvre (1993)	Survey of consumer finances 1985-88	Maximum likelihood method	Conditional fertility probabilities	Direct and indirect cash transfers to families	Direct and indirect cash transfers to families have a positive but small effect on fertility.
Canada	Hyatt & Milne (1991)	Official statistics 1948-86	Ordinary least-squares regression	Total period fertility rate (log)	Maternity benefits	Maternity benefits have a significant but small effect on fertility. A 1% increase in maternity benefits would result in a 0.26% increase in fertility.
Canada	Zhang, Quan, Meerbergen	Official statistics 1971-83	Generalized least squares	Total period fertility rate	Tax exemption, child tax credit,	Tax exemption, child tax credit and family

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
	(1994)				family allowances, maternity leave	allowances have significant positive effects on fertility.
Germany	Buttner & Lutz (1990)	Official statistics 1964-87	Age-period-cohort analysis	Age specific fertility rates	Pronatalist policy introduced on 1976	Statistically significant positive effect of policy on birth rate up to 5 years after implementation.
Norway	Kravdal (1996)	Family and Occupation Survey 1988	Logistic regression	Probability of first- second-, and third-birth	Day care facilities	The provision of day care facilities has a weak positive effect on fertility. A 20-percentage points increase in childcare enrolment rate would result in an increase in cohort fertility of .05 child per woman.
Sweden	Hoem (1993)	Official statistics 1961-90	Indirect standardization	Parity-specific birth rate	Parental leave policy	Positive impact of policies on the total fertility rate.
Sweden	Walker (1995)	Official statistics 1955-90	Time-series analysis	Total period fertility rate	Sweden's social insurance programs	Parental benefits, public child care availability, and child allowances have reduced the price of fertility since the early 1970s and thus, had a pronatalist effects. However, these effects were

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
						small compared to the larger and negative effects of trends in female wages and return to human capital.
UK	Cigno & Ermisch (1989)	1980 Women and Employment Survey	Ordered probit model	Completed fertility	Tax and child benefits	Increases in women's hourly earnings net of tax reduce birth rates, higher child benefits raise completed fertility.
UK	Ermisch (1988)	Official statistics 1971-86	Time series regression	Parity- and age-specific birth rates	Child allowances	More generous child allowances increase the chance of third and fourth births, and also encourage early motherhood.
USA	Georgellis & Wall (1992)	Official statistics 1913-84	Generalized least-squares method	Birth rate	Real tax value of dependent exemption	Tax exemption has a positive impact, but small, on fertility.
USA	Whittington, Alm, Peters (1990)	Official statistics 1913-84	General least squares regression	General fertility rate	Real tax value of the personal exemption	Personal exemption has a positive and significant effect on the birthrate.

Notes: 1- Country of study; 2- Data: the following acronyms are used: CPS: Current Population Survey; PSID: Panel Study of Income Dynamics; NLS: National Longitudinal Survey; NLSY: National Longitudinal Survey of Youth; NSFH: national Survey of Families and Households; SIPP: Survey of Income and Program Participation. 3- Policy variables: the following acronyms are used: AFDC: Aid to Families with Dependent Children; AFDC-UP: Aid to Families with Dependent Children (Unemployed Parent).

Table A2. Overview of studies on the impact of policies on the probability of births outside wedlock and fertility of young women

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
Sweden	Olausson et al. (2001)	1985 Swedish Population Census & Population register	Multiple logistic regression	Probability of teenage birth	Welfare benefits	Receipt of welfare benefits is positively associated with teenage birth.
UK	Ermisch (1991)	Women and Employment Survey 1980	Proportional hazards model	Pre-marital birth	Welfare benefits	Higher welfare benefits increase the likelihood that a young woman has a birth outside marriage. However the effects are not large.
USA	Acs (1996)	NLSY 1979-88	Discrete time hazard models logit regression	Probability of giving birth to a second child before the age of 25	AFDC benefits & Food stamps	Welfare benefits have no statistically significant impact on subsequent childbearing decisions.
USA	An, Haveman, Wolfe (1993)	PSID 1968-87	Bivariate probit model	Probability of teenage birth out of wedlock	Welfare benefits	Teenage girls whose mothers received welfare are more likely to give birth out of wedlock.
USA	Caudill & Mixon Jr (1993)	Official statistics 1985-86	Ordinary least-square regression	Illegitimacy ratio (ratio of births to single mothers to the total number of births per year)	AFDC benefits	Positive relationship between welfare payments and illegitimacy rates.

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
USA	Duncan & Hoffman (1990)	PSID 1973-85	Logit model	Probability of teenage out of wedlock birth	AFDC benefits	Receipt of AFDC has no statistically significant impact on the probability of teenage out of wedlock birth.
USA	Fairlie & London (1997)	SIPP 1990	Logit model	Probability of higher-order birth for mothers who are AFDC recipients	AFDC family cap	The family cap policy is not likely to result in a large reduction in the number of births to AFDC recipients.
USA	Plotnik (1990)	NLSY 1979-84	Logit regression and discrete time hazard models	Teenage out-of-wedlock childbearing	Welfare benefits	Some evidence (but not strong) that welfare benefits have an effect on teenage out-of-wedlock childbearing for Blacks and whites, but not for Hispanics.

See notes Table A.1.

Table A3. Overview of studies on the impact of policies on family structure and family dynamics

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
CANADA	Lefebvre & Merrigan (1998)	Family History Survey 1990	Proportional hazards model	Conjugal status of single mothers	Provincial welfare benefits	Welfare benefits significantly affect the exit rates of single mothers towards marriage or cohabitation.
USA	Cain & Wissoker (1990)	Seattle-Denver Income Maintenance Experiment 1970-4	Log-linear model	Rate of marital dissolution	Negative income tax	The negative income tax has no effect on the rate of marital dissolution.
USA	Danziger et al. (1982)	CPS 1975	Logistic regression	Female headship	Welfare benefits	Welfare benefits have a small effect on female headship.
USA	Ellwood & Bane (1985)	CPS 1975-6	Logistic regression	Female head of household	AFDC benefits and welfare benefits	Welfare benefits have a large impact on the living arrangements of young single mothers. A $100 increase in benefits would double the likelihood that young women live independently.
USA	Hoffman & Duncan (1988)	PSID 1968-82	Multinomial logit and nested logit	Marital status & welfare receipt	AFDC benefits	A reduction in AFDC is associated with an increase in the proportion of women who remarry according

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
						to the independent logit model, but AFDC has no significant impact in the nested logit model.
USA	Hoffman & Duncan (1995)	PSID 1967-83	Nested logit model	Marital dissolution	AFDC benefits	AFDC benefits slightly increase marital dissolution rates.
USA	Hutchens, Jakubson, Schwartz (1988)	CPS 1984	Universal logit model	Single mother propensity to reside in a subfamily or to head her own household	AFDC benefits	Overall level of AFDC benefits has no effect on living arrangement.
USA	Moffitt (1990)	CPS 1969, 1977, 1985	Multiprobit model	Probability of being married and probability of being female head of household	Welfare benefits	The effects of welfare payments on marital status and female headship have increased over time. The effects are negative but rarely statistically significant.
USA	Moffitt (1994)	CPS 1969-1989	Probit model	Female headship	State-specific welfare benefits	Welfare benefits have positive effects on female headship.
USA	Moffitt, Reville, Winkler (1998)	CPS, PSID, NLSY, NSFH	Multinomial logit	Partner status (cohabiting, married, neither)	AFDC, AFDC-UP	Weak evidence that AFDC provides incentives to cohabit rather than marry.
USA	Schultz (1994)	1980 Census and state information of welfare and unemployment	Ordinary least squares regression	Probability of woman being married and number of children	AFDC, Medicaid , AFDC-UP	Statistically significant and negative effect of AFDC and Medicaid

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
		benefits		borne		on currently being married and on ever having borne children.
USA	Winkler (1995)	NSFH 1987	Probit model	Probability of a mother to be married or not	AFDC-UP Program	AFDC-UP does not have a statistically significant effect on the probability of being married.

See notes Table A.1.

Table A4. Overview of studies on the impact of policies on mothers' labor force participation

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
Germany	Kreyenfeld & Hank (2000)	German Socio-Economic Panel Study - 1996	Multinomial logit model	Labor force participation of mothers	Childcare provision rate	No significant effect of the regional provision of public day care on female labor force participation.
Sweden	Gustafsson & Stafford (1992)	Swedish Household survey 1984	Logit and ordered probit models	Labor force participation of mothers in two-parent households	Childcare provision and cost	Higher provision and lower price of childcare have a positive effect on mothers' labor force participation.
UK	Bingley, Lanot, Symmons & Walker (1995)	Family Expenditure Surveys 1979-1988	Multinational probit random utility model	Labor force participation of lone mothers	Child support payments	Lone mothers receiving child support were more likely to work.
UK	Ermisch & Wright (1991)	1980 Women and Employment Survey	Proportional hazards models	Movement in and out of full-time employment among single mothers	Welfare benefits-supplementary benefit, income support	Higher welfare benefits increase exits from, and reduce entries to, full-time employment.
UK	Jenkins (1992)	Lone Mothers Survey 1989	Probit Model	Employment probabilities of lone mothers	Social assistance, wage rate, child-care benefits, job availability, non-labor income	Higher wages and low child-care costs result in higher employment probabilities, higher social assistance is a work disincentive, higher maintenance is

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
						associated with lower employment probabilities.
UK	McRae (1993)	Survey of mothers 1987-88	Logit and probit models	Labor force participation of mothers after childbirth	Maternity rights legislation	Contractual maternity pay has a positive impact on return to work after childbirth.
UK	Walker (1990)	Family Expenditure Surveys 1979-1984	Probit model	Labor force participation of lone parents	Welfare system - supplementary benefits (SB)	Welfare benefits create a disincentive to labor force participation.
USA	Bell & Orr (1994)	AFDC Homemaker-Home Aide Demonstrations program 1983-6	Ordinary least squares regression	Earnings and welfare dependence of low-income mothers	AFDC training and subsidized employment programs	Programs resulted in significant increases in earnings and reduced dependence on welfare.
USA	Blank (1985)	CPS 1979	Ordinary least square regression & maximum likelihood estimation	Household labor force and welfare participation of mothers who were head of household	State-specific AFDC benefits, tax rates, welfare benefits	Differences in welfare payments, wages and taxes across states create significant differences in labor force and welfare participation among low income households.
USA	Blau & Robins (1986)	Employment Opportunities Pilot Projects household survey 1980	Maximum likelihood estimation	Labor force participation of married and single women	Welfare benefits	Welfare programs have a significant work disincentive effect.
USA	Blau & Robins (1988)	Employment Opportunity Pilot	Maximum likelihood logit model	Family labor supply and childcare demand	Childcare costs	Decision to enter labor force and to purchase

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
		Project 1980		for 2-parent families with children		childcare are significantly related to childcare costs.
USA	Blau & Robins (1988)	Employment Opportunity Pilot Project 1980	Event-history analysis	Employment status of married women and fertility	Childcare costs	Higher childcare costs are associated with an increase in the rate of leaving employment and a reduction in the rate of entering employment. Higher childcare costs also result in a lower birthrate for non-employed women but not for employed women.
USA	Blau & Robins (1991)	NLSY 1979--86	Maximum likelihood Poisson model	Employment turnover	Child care cost	Higher childcare cost is associated with lower employment turnover.
USA	Gensler & Walls (1995)	CPS 1981	Probit model	Labor force participation of lone-mothers	Welfare benefits	Welfare benefits significantly influence the decision to work.
USA	Gottschalk (1988)	Denver Income Maintenance Experiment 1972	Maximum likelihood estimation	Labor force participation of lone-mothers	Taxes and transfers	Only a small proportion of ADFC recipients started working in any month, and an even smaller proportion leave welfare through work.
USA	Haussman (1980)	Gary (Indiana) Income	Non-linear probit	Probability of labor	Negative income tax,	A higher marginal tax

Country[1]	Authors (year)	Data[2]	Methods of analysis	Dependent variable	Policy variables[3]	Findings
		Maintenance Experiment 1971-4	model	force participation for black women head of household	AFDC	rate & higher transfer payment lower the probability of labor force participation.
USA	Heckman (1974)	NLS 1966	Maximum likelihood technique	Labor force participation of married mothers	Child care programs	Child care costs and quality influence the decision to work.
USA	Hofferth & Collins (2000)	National child care survey 1990	Discrete-time logit model	Probability of exiting paid work for mothers	Cost, availability, stability, and flexibility of childcare	The components of childcare affect the employment exits of mothers, but the effect varies with maternal wage.
USA	Klerman & Leibowitz (1999)	NLSY 1978--90	Weighted logistic regression	Job continuity of mothers	Maternity leave legislation	Maternity leave legislation does not influence job continuity.
USA	Moffitt (1983)	PSID 1976	Nonlinear maximum likelihood	Work hours of women head of household	AFDC benefits	AFDC reduces work by about 4 hours per week.
USA	Robins, Tuma, Yeager (1980)	Seattle-Denver Income Maintenance Experiments 1970-4	Maximum likelihood regression	Exit from and entry into employment	Negative income tax	Negative income tax significantly increases the length of spells out of employment.
USA	Robins & West (1980)	Seattle-Denver Income Maintenance Experiments 1970-4	Maximum likelihood regression	Desired hours of work	Negative income tax	Statistically significant reductions in desired hours of work as a result of negative income tax treatments.

See notes Table A.1.