Does Marriage Matter for Kids?
The Impact of Legal Marriage on Child Outcomes

by

Anders Björklund*, Donna K. Ginther and Marianne Sundström***

* Swedish Institute for Social Research (SOFI), Stockholm University, SE 10691 Stockholm, Sweden. email: Anders.Bjorklund@sofi.su.se Marianne.Sundstrom@sofi.su.se

** Department of Economics, University of Kansas, 1300 Sunnyside Drive, Lawrence, KS 66045-7585, USA, email: dginther@ku.edu.

1. Introduction

Many studies have found that children who grow up in a non-intact family incur educational disadvantages compared to those who grow up with both biological parents (see e.g. McLanahan and Sandefur 1994; for reviews see e.g. Cherlin 1999). Recent studies have, however, questioned the interpretation of this relationship as causal and argued that since marriage is not randomly assigned, the finding reflects selection rather than causation (Ginther and Pollack 2003, Björklund and Sundström 2002, Björklund, Ginther and Sundström 2004, Pikketty 2003, Winkelmann 2003). In this paper we focus on children who live with both biological parents and analyze whether marriage confers any educational advantages to children that cohabitation does not. Cohabitation has been increasing in most countries and is more common in Sweden than anywhere else in the industrialized world. But although cohabitation in Sweden is more similar to legal marriage than is the case in many other countries, it does not have the same legal implications, e.g. in case of separation or death. Despite its increasing prevalence, research on the impact of cohabitation on children is scarce, but suggests that cohabitation may have adverse outcomes for children because adults in cohabiting families have lower educational attainment and earnings, and because cohabiting unions are less stable than married unions (Graefe and Licther 1999, Manning 2002, Smock and Gupta 2002, Bumpass and Lu 2000, Manning and Lichter 1996).

In this paper we use a natural experiment, namely the marriage boom in Sweden in the last two months of 1989, created by the reform of the widow's pension system from January 1990 to identify the causal effect of marriage on child outcomes. When the Swedish parliament in 1988 enacted a reform abolishing widow's pension from January 1990, it also introduced certain transitional provisions, which implied among other things that women who were born before 1945 and who were married by the end of 1989 would be entitled to widow's pension if their husband died. Those who received a widow's or widower's pension and those who were eligible under the

pre-1990 rules would, however, continue to do so as long as they lived. The implications became gradually known to Swedish public and resulted in a marriage boom in the last two months of 1989. Thus, there had been no rise in marriages during the first ten months of 1989, but in November there were 4,100, twice as many as the year before and in December the figure leapt to 64,000, while in a normal December there are only about 2,500-3,000 marriages (Hoem 1991).

This experiment enables us to compare educational outcomes for children whose parents married in November and December 1989 to those of children whose parents were already married and to those of children whose parents continued to cohabit by combining information from registers in quite a unique way. We compare children who lived with both biological parents and use a random sample of children born in Sweden in 1978-84 drawn from the population registers. The data sample roughly 20 percent of children born each year. This data is combined with family and individual information from the bidecennial censuses from 1980, 1985 and 1990. Our outcome variable is grade point average at age 16 obtained from educational registers. We create marital history--length of cohabitation and length of marriage-- for the parents using information from the censuses and from tax records.

We address the following research questions: Does legal status of the union matter for children's outcomes? Is it the biological relationship, the quality, or the legal status of their union that confers advantages on children? The outline of the paper is the following: Next Section describes the trends in cohabitation and marriage, discusses the legal differences between marriage and cohabitation in Sweden. Section 3 presents our theoretical perspectives. In Section 4 we present our data, describe the marriage boom in the end of 1989 and discuss our estimation method. Section 5 presents our findings. We end by a discussion.

2. Cohabitation and marriage in Sweden

2.1 Trends in cohabitation and marriage in Sweden

Cohabiting unions are more common in Sweden than anywhere else in the industrialized world, although levels in Denmark now come rather close. Marriage rates have been declining since the late 1960s while rates of cohabitation have been rising. At the same time, the duration of cohabitation has increased. For example, among women born in the late 1940s about half had married their partner after three years of cohabitation while this was the case for only about one-tenth of women born in the late 1960s – after five years of cohabitation about two-thirds and one-third of the respective cohorts had married (Bracher and Santow 1998).

Thus, cohabitations in Sweden are stable and relatively long-lasting unions. These unions are, however, less stable than formal marriages, and break-up rates have increased over cohorts. For example, about one-tenth of the first consensual unions for women born in the late 1940s were dissolved within three years, while this was true for about one-fourth of the first unions for women born in the mid-1960s (Hoem B. 1995). Analyzing dissolution risks among cohabiting and married women and men, Bracher and Santow (2001) found that cohabitants faced higher dissolutions risks net of factors such as presence and age of children, work history, income and union duration, which may suggest the presence of unobserved heterogeneity. In spite of elevated marriage rates for pregnant cohabiting women, the majority of women are not formally married at first birth, but cohabiting in Sweden. Births to non-cohabiting, unmarried women are rare (less than 10 percent of all births). Sweden is probably unique in the industrialized world in having a lower median age for women at first birth than at first marriage; both medians have been increasing, the former from 25.0 years in 1980 to 26.2 years in 1993 and to 28.4 years in 2001 and the latter from 25.6 years to 27.4 years and to 29.6 years in the same years.

2.2 Legal differences between cohabitation and marriage in Sweden in 1989[1]

It is commonly believed that there, in practice, are very minor differences in legal implications between marriage and cohabitation in Sweden. This is, however, only true as long as the union stays intact, if couple has no children together (or prior to their union), or if they have no savings or property. A crucial difference between married spouses and cohabitants is that the former are obliged under the law to support each other according to their ability. Further, for a child of married parents, paternity is automatically attributed to the husband of the mother and the couple will have joint custody of the child. If the parents, however, are unmarried/cohabiting the father has to acknowledge paternity and they will only have joint custody of the child if they both agree on that, which most couples do. When it comes to taxation of wealth and income from property and own business, marital couples are taxed jointly but cohabitants only if they have children under age 18 together or if they have previously been married to each other.

Moreover, in a consensual union there is no community property as there is in marriage, but the so-called cohabitation-law (from 1988) stipulates that if cohabitants split up what they have acquired for common use should be divided up. This applies to dwellings as well if they have been acquired for common use. Further, in the event of a separation, according to the law, the partner who is most in need of the apartment/house should have it, regardless of who bought it. However, if the house/apartment was bought by one of the partners, the other one has to buy the owner off. Private property, such as shares and bank savings, is private and is not divided. This is true also for property that was acquired before cohabitation and for property that has been acquired for private use.

Finally, cohabiting couples do not inherit each other. Cohabiting couples may of course write testaments in favor of each other but bequeaths are taxed. Survivors from a cohabiting union have

[1] This Section draws on Agell (1982, 1989), Insulander-Lindh & Thunberg (1996) and Ståhlberg (2004).

never been entitled to widows' or widowers' pension in the supplementary pension system (ATP), but under certain very specific circumstances they were eligible in the general retirement scheme. (In the new 1990 pension system there is a general 'adjustment' pension for survivors who have children under 12, regardless of whether they were married or cohabiting. If there are no children the adjustment pension is only available for ten months.) Those who received a widow's/widower's pension prior to 1990 and those who were eligible under the pre-1990 rules still receives their pensions and will do so as long as they live.

There were, however, and still are, widow's/widower's pensions in the negotiated benefit schemes. The availability and size of such pensions differ between bargaining agreements. Thus, blue-collar workers and low-medium-earning white-collar workers in the private sector have no such protection for their survivors. By contrasts, widows/widowers of high-earning white collar workers in the private sector, married to the deceased, receive survivor's pensions as long as they live and as long as they do not remarry. Widows/widowers of employees in the municipalities receive survivor's pensions for five years if they were married to the deceased, had cohabited and had common children under 12, or had cohabited for at least five years.

3. Theoretical perspectives

As mentioned, studies on the relationship between cohabitation and child outcomes are scarce and those we know of are all on US data. In fact, we know of none on Swedish data. For example, comparing outcomes for children with married biological parents to those for children with cohabitating parents Manning (2002) found that the latter group of children fare worse. However, she argues that key comparisons should be made between cohabiting biological parents (cohabiting parents) and married biological parents (married parents), and cohabiting partners and stepparent

families. When she makes these distinctions in her review of the impact of cohabitation on children's well-being, she finds no significant differences in behavior outcomes and school achievement for children living with cohabiting parents over those with married parents. Nelson, Clark, and Acs (2001) find that one-fourth of black teenagers and one-third of Hispanic teenagers in cohabiting families live with cohabiting parents, but almost no white teenagers live with cohabiting parents. Teenagers living in cohabiting families have poorer behavior outcomes and more school problems. Their research suggests that children in cohabiting families are dissimilar from children in married families.

Other research finds mixed effects on children's well-being of living in cohabiting families. Manning and Lichter (1996) find that poverty rates for children are reduced by 29 percent when they account for the income of cohabiting partners, but children in cohabiting unions fare worse than children in married parent families. DeLeire and Kalil (2002) compare the consumption patterns of cohabiting and married unions with children. They find that cohabiting households with children spend more on alcohol and tobacco and less on education than married households. Brown (2002) finds that children of cohabiting parents are less likely to be read to or be taken on outings than children with married parents. But these studies do not observe the biological relationship between the adults in the cohabiting union and the children in the household.

Although research on the association between marriage and outcomes suggests that it confers advantages on children, much of the research on the impact of marriage does not control for the selection of marriage and in the case of children's outcomes the biological relationship of cohabiting adults to children. Manning (2002) suggests that current research on children's well-being in cohabiting families would be enhanced if studies included controls for selection into cohabitation, used dynamic measures of family structure, and considered the effect of cohabitation on outcomes in

other countries. Thus far, studies that compare children's outcomes in cohabiting and married families do not take these issues into account. The limited research discussed above shows mixed effects of cohabitation on child outcomes. If we take McLanahan and Sandefur's results at face-value, then it is only the biological relationship of parents and children that matter, not the legal status of their union. However, there may be reasons to doubt this conclusion.

Unlike cohabitation which ends when one partner moves out, marriage requires a legal separation of property and custody rights, making it more difficult to dissolve. Thus, it could be that marriage is a signal of greater commitment. Also, the expected duration of a marriage is longer than that of a consensual union. Both these aspects together with the legal arrangement of marriage may provide for pooling of family resources, greater specialization within the family leading to economies of scale in household production, and greater investments in children. The finding by Sundström and Duvander (2002) that married fathers used a larger share of the parental leave for newborn children than cohabiting fathers, net of earnings and other factors, is an indication in this direction. Further, Stratton (2004) using US data found that cohabiting households engage in less intrahousehold specialization than married households. If both parents value a child's well-being, then investments in children by one parent may create a positive externality for the other parent. The absence of legal marriage may create a coordination failure where a parent has an incentive to under-invest in their children and free-ride off of the investments of the other parent. Thus, the legal status of the parent's relationship may lead to better (worse) outcomes in the case of marriage (cohabitation). It could be that the legal status of marriage makes a difference in outcomes for children.

4. Data and methods

4.1 Data

We use a random sample of children born in 1978-84 drawn from the population registers of Statistics Sweden. The data sample roughly 20 percent of Swedish children born each year (approximately 20,000 children per year) and their siblings. This data is combined with family and individual information from the bidecennial censuses from (1975), 1980, 1985 and 1990. From the population registers we obtain information on whether the child lived with his/her biological parents or not and only include children living with both biological parents in our analysis. Our outcome variable is grade point average (GPA) at age 16. We have information on GPA for about 14,000 children of each cohort which leaves us with a total sample of more than 100,000 children.

We create marital history for the parents of the children using information from the censuses and tax records after 1990. (We know of all changes in marital status since 1968). From this information we create union duration measured as length of cohabitation and length of marriage. Our explanatory variables include the sibling composition of the household (his children, her children, and their joint biological children), the educational attainment and earnings of the adults in the household, and whether the family lives in an urban area.

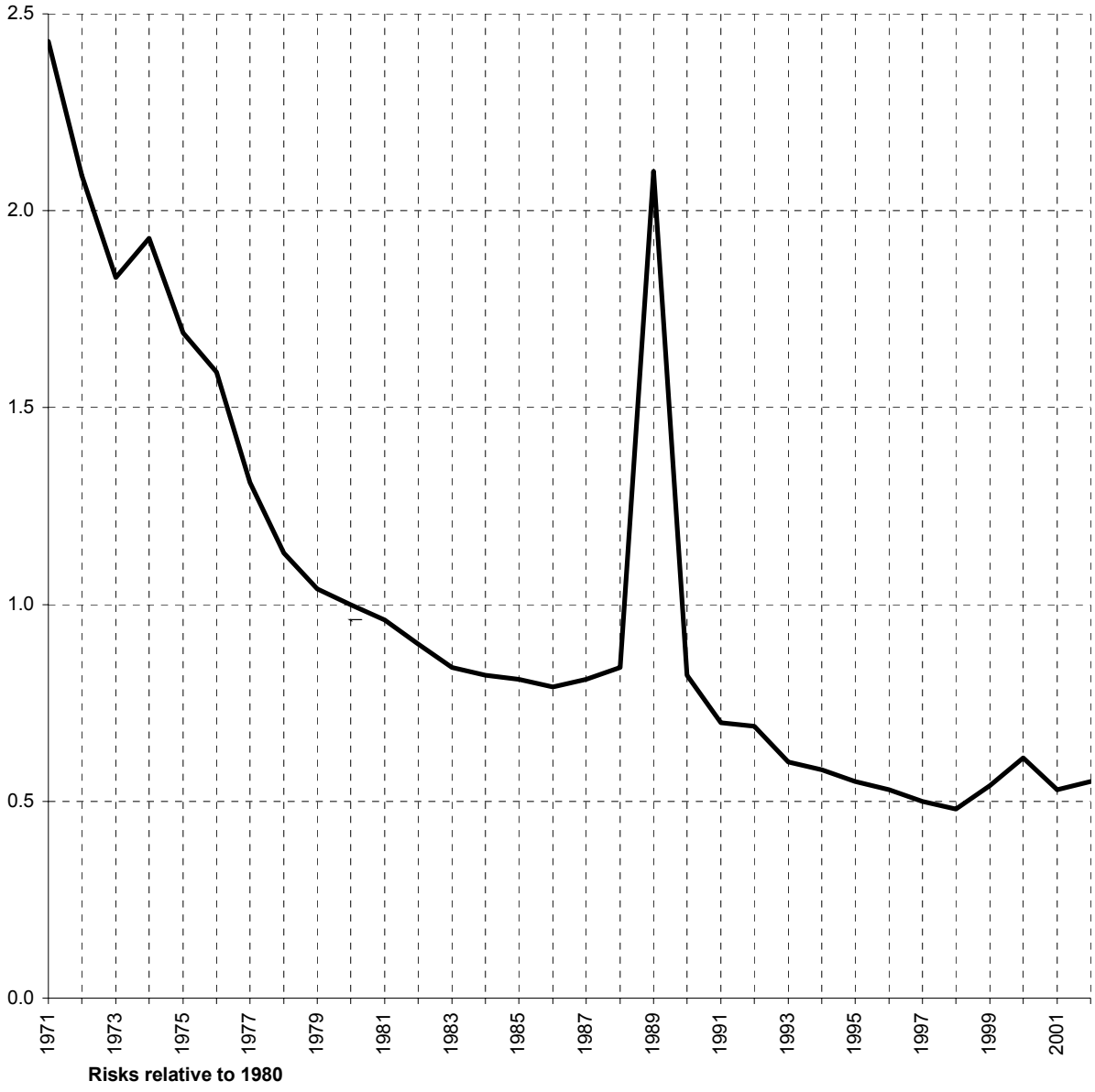
4.2 The Swedish widow's pension reform and the marriage boom in the end of 1989

As has already been mentioned, the Swedish parliament in 1988 enacted a reform abolishing the Widow's Pension from January 1990. Under the old system, if a woman's husband (and certain cohabiting partners) died they were entitled to a widow's pension. This system was replaced by a Survivor's Pension that applied equally to both sexes but depends upon the survivor's income. The Survivor's Pension is not an unconditional right like the Widow's Pension. There were a number of

transitional provisions incorporated into the reform, the main impact of which was that all non-married women born in 1944 or earlier could gain rights to the Swedish Widow's Pension by marrying before the end of 1989 (Hoem 1991).[2] The effect of the policy change was dramatic. The propensity to marry sky-rocketed in December 1989, especially for cohabiting women; the number of marriages increased from an average of 3,000 in previous Decembers to 64,000 in December, 1989 a 21-fold increase (Andersson 1998, Hoem 1991). Figure 1 reproduces results from Andersson (2003), showing the impact of the change in the Swedish Widow's Pension on marriage rates in1989. Although marriage rates in November and December 1989 were particularly elevated for women over 45 (Hoem 1991, Figure 2 and 3), they were also very high for younger women, who would not benefit directly from marrying. We can interpret the latter change as a "band-wagon" effect, that is, couples who held more or less vague plans of marrying in the future, stopped putting it off and married because so many other couples did. Alternatively, they may have found it too time consuming to find out whether the woman would be eligible for a widow's pension and simpler to just to marry. Still another interpretation of the "band-wagon" effect is that the marriage boom made it less expensive to marry since it became acceptable to marry without having a costly party.[3] This dramatic response to the change in Sweden's Widow's Pension system constitutes a quasi-natural experiment that will enable us to examine the causal effect of marriage on child and adult outcomes in Sweden.

[2] The transitional provisions for women born in 1945 or later were more restrictive and more complicated.
[3] The most common answer among cohabiting women to the question why they were not planning to marry was that they could not afford the wedding they wished to have (Hoem B 1995).

Figure 1: Annual index of marriage-risk level.
Never-married Swedish women, 1971-2002,
standardized for parity and age.



Source: Gunnar Andersson 2003: "Demographic trends in Sweden: An update of childbearing and nuptiality through 2002". MPIDR Working Paper, WP 2003-034. Max Planck Institute for Demographic Research, Rostock.

4.3 Estimation methods

Our approach is based on the assumption that marriage is not randomly assigned and we use an instrumental variables (IV) estimator to identify the causal effect of marriage on outcomes. IV models require an instrument that is correlated with the probability of marriage and uncorrelated with the outcomes of interest. Let M_i be an indicator for the marriage treatment, and let there be two potential outcomes for each individual *i*, y_{Mi} is the married outcome and y_{Ci} is the cohabitating outcome with u_i as the random error term. The constant effects of cohabitation and marriage are given below:

$$\begin{aligned} y_{Ci} &= \alpha + u_i \\ y_{Mi} &= y_{Ci} + \delta \end{aligned}. \qquad (1)$$

The causal relationship between marriage and the outcome *y* is given by:

$$y_i = \alpha + M_i\delta + u_i \qquad (2)$$

The constant effect δ is the parameter of interest. Since marriage is not randomly assigned, estimates including married and unmarried individuals will not identify δ in equation (2).

In the case of Sweden, the change in the Widow's Pension system provides a quasi-natural experiment that allows us to examine the effect of marriage on children's (adult's) outcomes. Let Z_i be an indicator variable of eligibility for the Widow's Pension system. The identifying assumption is that Z_i has no effect on children's (adult's) outcomes. When this is the case:

$$\delta = \frac{E[y_i \mid Z_i = 1] - E[y_i \mid Z_i = 0]}{E[M_i \mid Z_i = 1] - E[M_i \mid Z_i = 0]} \qquad (3)$$

Equation (3) is the Wald-IV estimator found in Angrist (1999, 2003). Under the assumption of constant causal effects both the average treatment effect (ATE) and effect of treatment on the treated

(TT) parameter is equal to δ. Allowing for additional covariates, we can estimate a modified version of equation (2) using two-stage least squares:

$$y_i = \alpha + X_i'\beta + M_i\delta + u_i \qquad (2')$$

However, the ATE and TT parameters may not be the parameters of interest. The ATE parameter identifies the effect of the marriage treatment on a randomly selected individual in the population. The TT parameter identifies the effect of the marriage treatment on those who happen to receive the treatment. Our study is motivated by our interest in individuals whose marital status changed in response to the change in the Swedish Widow's Pension. This parameter is identified by the local average treatment effect (LATE) (Imbens and Angrist 1994). Let M_{0i} be the treatment *i* receives if $Z_i = 0$, and let M_{1i} be the treatment if $Z_i = 1$. The observed assignment to treatment is given by:

$$M_i = M_{0i}(1 - Z_i) + M_{1i}Z_i$$

For the instrument to be valid, it must be independent of outcomes, affect the probability of treatment, and affect everyone in the same way if at all, such that $M_{1i} \geq M_{0i}\ \forall i$ or vice versa. Imbens and Angrist (1994) show that these assumptions imply:

$$\frac{E[y_i \mid Z_i = 1] - E[y_i \mid Z_i = 0]}{E[M_i \mid Z_i = 1] - E[M_i \mid Z_i = 0]} = E[y_{Mi} - y_{Ci} \mid M_{1i} > M_{0i}] \qquad (4)$$

The left-hand side of equation (4) is the Wald-IV estimator referred to by Angrist (1999, 2003), and the right-hand side is the LATE estimator. One can interpret the LATE estimator as the effect of treatment on those whose treatment status is changed by the instrument. This is the group we are most interested in studying: children of the individuals who responded to the change in the Swedish Widow's Pension by getting married. Without additional assumptions, the LATE parameter does not identify either the ATE or TT.

4. Findings

We start by presenting some descriptive statistics. Thus, Table 1 shows the family type the individuals in our (gross) sample lived in when they were 1-13 years old in 1985. As expected, the fraction that lives with both biological parents decreases by age but the fraction whose parents are married increases. Table 2 focuses on the children who lived with both biological parents in 1985 and displays their mean GPAs at age 16 by parents' marital status – cohabiting or married—and if married, when parents married. We see, first, that girls have considerably higher GPAs than boys, and, second, that children of cohabiting parents had lower GPAs, on average. Third, there seems to be an interesting difference among the children whose parents married in Nov-Dec 1989, such that those whose mother was born before 1945 had lower GPAs than those whose mother was younger.

We then go on to estimating cross-section equations (on the sample in Table 2) with GPA at age 16 as our dependent variable. In model 1 we include our indicators for parents' marital status and date of marriage, and we see that children who had cohabiting parents received lower GPAs, while there appears to be no major differences among the children of married parents based on when parents were married. However, when, in model 2, we include controls for parents' ages and incomes it turns out that, indeed, children of parents who continued to cohabit did worse in terms of GPA than children of married parents, with the exception of those whose parents married in the end of 1989 and where the mother was born before 1945. (We control for gender, year and month of birth in both models). Why do the children of the latter group have lower educational outcomes? Our interpretation is that the couples who married in Nov-Dec of 1989 among which the woman was born before 1945, were self-selected, that is, they would not have married then, perhaps not even later, if it had not been for the reform of the widow's pension scheme. By contrast, the couples who married in Nov-Dec 1989 among which the woman were younger did not gain financially from

marrying, i.e., those who jumped on the "band-wagon", and it makes sense that their children do equally well in school as children of other married parents. Thus, it seems that marriage does matter for kids.

5. Conclusions

We started out observing the contradiction between the finding that children who grow up with both biological parents have more favorable educational outcomes than those who grow up in a non-intact family, and the more recent finding that marital status, such as marriage or divorce, reflects selection rather than causation. Thus, we ask the question: what matters most for children's educational outcomes, the biological relationship to two biological parents or parents' marital status? More specifically, we ask: if a child lives with both biological parents, does it matter if parents are married or living in a consensual union?

Cohabitation has been increasing in most Western countries, but is nowhere more prevalent than in Sweden. At the same time, research on the relationship between cohabitation and child outcomes is limited and what exists has mainly been done on U.S. data. In this paper we use data from Sweden, and more precisely, we use a natural experiment, namely the marriage boom in the last two months of 1989 created by the reform of the widow's pension system from January 1990 to identify the effect of marriage on child outcomes. In the reform there were transitional provisions, which implied among other things that women who were born before 1945 and married by the end of 1989 would be entitled to widow's pension if their husband died. The implications became gradually known to the public and resulted in a marriage boom in the last two months of 1989. Thus, there had been no rise in marriages during the first ten months of 1989, but in November there were 4,100, twice as many as the year before and in December the figure leapt to 64,000, while in a normal

December there are only about 2,500-3,000 marriages. This experiment enables us to compare educational outcomes for children whose parents married in the end of 1989 to those of children whose parents were already married and those of children whose parents continued to cohabit.

We use a random sample of children born in Sweden in 1978-84 and are able to combine it with information from the censuses in 1980, 1985 and 1990 and the tax records in quite a unique way to create parents' marital history. Our outcome variable is grade point average at age 16 obtained from educational registers. We find that marriage children whose parents continued to cohabit had lower GPAs, on average, than children whose parents were married with one interesting exception: children of parents who married in the end of 1989 where the mother was born before 1945 had about the same GPAs as children of cohabiting parents. By contrast, children of parents who married in the end of 1989 and whose mother was born 1945 or later did equally well in terms of GPA as children of other married parents. Our interpretation of these findings is that yes, marriage does matter for children. Cohabitation leads to lower educational outcomes for children, perhaps because of underinvestment or coordination failure from the parents. Our results are, however, bad news for policy-makers who wants to "promote healthy marriages" since people will self-select. For marriage to have a positive impact on child outcomes, it seems necessary that parents marry because they want to, not because they gain financially from doing so.

References

Agell, Anders. 1989. *Äktenskaps- och samboenderätt enligt 1987 års lagstiftning*. Uppsala: Iustus.

Agell, Anders. 1982. *Samboende utan äktenskap. Rättsläge och rättspolitik.*Stockholm: Liber.

Andersson, Gunnar. 1998."Trends in Marriage Formation in Sweden 1971-1993." *European Journal of Population.* 14: 157-178.

Andersson, Gunnar. 2003. "Demographic trends in Sweden: An Update of Childbearing and Nuptiality Through 2002". MPIDR Working Paper, WP 2003-034. Max Planck Institute for Demographic Research, Rostock.

Angrist, Joshua D. 1999. "Empirical Strategies in Labor Economics,." pp 1277-1366 in Ashenfelter, O. and Card, D. (Eds) *Handbook of Labor Economics*. Volume 3A. Handbooks in Economics, vol. 5. Amsterdam; New York and Oxford: Elsevier Science, North-Holland.

Angrist, Joshua D. 2003. "Treatment Effect Heterogeneity in Theory and Practice." IZA Discussion Paper 851.

Björklund, Anders and Marianne Sundström. 2002. "Parental Separation and Children's Educational Attainment: A Siblings Approach." Discussion Paper No. 643, IZA, Bonn.

Björklund, Anders, Donna K. Ginther, and Marianne Sundström. 2004. "Do Social Institutions Soften the Blow of Family Dissolution? A Comparison of the Effects of Family Structure in Sweden and the United States." *Paper presented to the PAA-meetings*, Boston, April.

Bracher, Michael D and Santow Gigi. 1998. "Economic independence and union formation in Sweden." *Population Studies.* 52:275-294.

Bracher, Michael D and Santow, G. 2001. Employment and union dissolution in Sweden, *Paper presented to the PAA-meetings,* Washington DC, March.

Brown, Susan L. 2002. "Child Well-Being in Cohabiting Families," pp 173-187 in A. Booth and A. Crouter (Eds), *Just Living Together: Implications of Cohabitation for Children, Families, and Social Policy.* Mahwah, NJ: Lawrence Erlbaum.

Bumpass, Larry and Hsien-Hen Lu. 2000. "Trends in Cohabitation and Implications for Children's Family Contexts in the United States." *Population Studies*. 54: 29-41.

Cherlin, Andrew J. 1999. Going to the Extremes: Family Structure, Children's Well-Being, and Social Science. *Demography,* 36(4), 421-428.

DeLeire, Thomas and Ariel Kalil. 2002. "How Do Cohabiting Couples With Children Spend Their Money?" Working Paper, University of Chicago.

Ginther, Donna K. and Robert A. Pollak. 2003. "Does Family Structure Affect Children's Educational Outcomes?" NBER Working Paper 9628.

Graefe, Deoborah Roempke and Daniel T. Lichter. 1999. "Life Course Transitions of American Children: Parental Cohabitation, Marriage, and Single Motherhood." *Demography* 36(2): 205-217.

Hoem, Jan M. 1991. "To Marry, Just in Case. . .: the Swedish Widow's-Pension Reform and the Peak in Marriages in December 1989." *Acta Sociologica.* 34: 127-135.

Hoem, Britta. 1995. *Kvinnors och mäns liv, Parbildning och separationer*, Statistics Sweden.

Imbens, Guido W. and Joshua D. Angrist. 1994. "Identification and Estimation of Local Average Treatment Effects." *Econometrica.* 62(2): 467-75.

Insulander-Lindh, L & Thunberg, K (1996), *I lagens famn*. Stockholm: Fischer & Co.

McLanahan, Sara and Gary Sandefur. 1994. *Growing Up with a Single Parent: What Hurts, What Helps*, Cambridge: Harvard University Press.

Manning, Wendy D. 2002. "The Implications of Cohabitation for Children's Well-Being," pp 121-152 in A. Booth and A. Crouter (Eds), *Just Living Together: Implications of Cohabitation for Children, Families, and Social Policy.* Mahwah, NJ: Lawrence Erlbaum.

Manning, Wendy D. and Daniel T. Lichter. 1996. "Parental Cohabitation and Children's Economic Well-Being." *Journal of Marriage and the Family.* 58: 998-1010.

Nelson, Sandi, Rebecca Clark, and Gregory Acs. 2001. "Beyond the Two-Parent Family: How Teenagers Fare in Cohabiting Couple and Blended Families." The Urban Institute. Available on-line at http://www.urban.org/UploadedPDF/anf_b31.pdf.

Piketty, Thomas. 2003. The impact of divorce on school performance. Evidence from France, 1968-2002, CEPR Discussion Paper 4146.

Smock, Pamela J. and Sanjiv Gupta. 2002. "Cohabitation in Contemporary North America." pp 53-84 in A. Booth and A. Crouter (Eds), *Just Living Together: Implications of Cohabitation for Children, Families, and Social Policy.* Mahwah, NJ: Lawrence Erlbaum.

Stratton, Leslie S. 2004. "Specialization in Household Activities within Cohabiting versus Married Households", *Paper presented to the ESPE-meetings,* Bergen.

Ståhlberg, Ann-Charlotte. 2004. *Hur klarar jag mig? Rapport om pensioner och ersättningar till efterlevande.* Stockholm: Pensionsforum.

Sundström, Marianne and Ann-Zofie E. Duvander. 2002. "Gender Division of Childcare and the Sharing of Parental Leave among New Parents in Sweden." *European Sociological Review* 18:433-47.

Winkelmann, R. 2003. Parental separation and well-being of youths. *IZA Discussion paper No. 894*, Bonn: IZA.

Table 1. Family type in the 1985 Census by year of birth. Percent

Family type in 1985	Born in 1978	Born in 1979	Born in 1980	Born in 1981	Born in 1982	Born in 1983	Born in 1984	All
Both bio parents	83.8	85.3	85.8	87.8	88.7	90.8	93.4	87.9
-- cohabiting	12.7	14.6	16.3	19.2	22.5	26.9	32.4	20.6
-- married	71.1	70.7	69.5	68.6	66.2	63.9	61.0	67.3
Single parent	11.2	10.9	10.7	9.8	9.4	8.1	5.8	9.4
Bio + stepparent	5.0	3.9	3.5	2.4	1.9	1.1	0.8	2.7
# of observations	14,449	14,961	15,160	14,755	15,375	14,447	14,378	102,774

Table 2. Mean GPA at age 16 by parents' marital status and gender. Only children living with both biological parents. (# of observations in parentheses)

Parents' marital status	All	Girls
Married before birth	5.90 (46,715)	29.4 (22,809)
Cohabiting in 1985, not married in 1989	-15.7 (16,309)	10.3 (8,036)
Married after birth but before Fall 1989	0.05 (21,204)	24.3 (10,414)
Married Nov-Dec 1989 --mum born <1945	4.4 (320)	30.6 (150)
Married Nov-Dec 89 --mum born >1944	-1.5 (5,203)	23.3 (2,507)
All with bio parents	0.3 (90,347)	24.5 (44,192)

Note: GPAs are standardized.

Table 3 Cross-section regressions. Dependent variable: Grade point averages at age 16. Standard errors in parentheses.. N=90,347.

	Model 1	Model 2
Constant	-0.10	-2.79
	(.015)	(.10)
Female	0.48	0.48
	(.01)	(.01)
Cohabiting in 1985, not married in 1989	-0.23	-0.15
	(.009)	(.009)
Married after birth but before Fall 1989	-0.05	-0.04
	(.008)	(.008)
Married Nov-Dec 1989 -- mum born <1945	-0.01	-0.13
	(.055)	(.055)
Married Nov-Dec 1989 -- mum born >1944	-0.08	-0.05
	(.015)	(.015)
Other family structure	-0.04	-0.03
	(.042)	(.042)
Mum's age		0.15
		(.007)
Dad's age		0.01
		(.005)
Father's income*10,000		0.06
		(.05)
Mother's income*10,000		0.11
		(.09)
Adj R-sq.	.07	.09

Note: We control for year and month of birth in both models. In model 2 square terms of parents' age and income were also included.