The Long-term Effect of Parental Unemployment during Recession on Children’s Socioeconomic Achievement

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Abstract

We study the intergenerational impact of parental unemployment on the socioeconomic status of the children examining whether or not the impact is reduced in the context of deep recession. We apply data from one of the deepest recessions in the history of OECD countries, namely Finnish recession of 1990s. By contrasting whether parental unemployment was experienced during a period of growth or recession, length of unemployment spell and father’s and mother’s unemployment we analyze the mechanisms behind the negative effects. We compare the children facing parental unemployment during the rapid economic growth of the late 1980s and the recession of the early 1990s at the age of 12-18. The ISEI status of the children was observed when they were 30 years old in the mid-2000s, after a decade of growing economic prosperity.

We use propensity score matching to analyze high quality Finnish register data, including 15991 children. We match children experiencing parental unemployment in childhood to a pair with similar parental background and calculate the average treatment effect on the treated (ATT). The matching variables include parents’ occupational class status and educational background, indicator of parental divorce and separation and household income before the experienced parental unemployment.

Our results show negative effects of parental unemployment that are not significantly reduced at the time of recession. In general the results in the study underline the importance of economic mechanisms behind the negative effects of parental unemployment. The hypothesis for stigmatization effects did not gain support.
Introduction

“...how do you go forward? I pity the children as well, they took it so hard. [...] Oh god, goddamn, I cried in my mind. I am not any kind of father. [...] Oh God, if you do exist, don’t let this happen to my family. Take me away from here, so I don’t have to take this shame. I collapsed on the floor and squeezed my searing stomach with both hands and cried.”

Unemployed father of three children experiencing hunger and humiliation during the 1990s recession in Finland (quoted in Kortteinen and Tuomikoski 1998, p. 34, translated by the authors)

Unemployment is a negative experience that produces economic deprivation and stress in families that in their turn are central units to transmit social advantage and disadvantage to children. It is assumed that in a knowledge based society parental economic and social support becomes increasingly important for children as the cognitive and social skill requirements grow (Bowles, Gintis, and Groves 2009; Corak 2006; Cutrona et al. 1994; Esping-Andersen 2002). This is why it can be argued that parental unemployment during childhood and youth is becoming even more disadvantageous for children than it has previously been. As the current economic crisis has raised the unemployment levels in many developed countries (OECD 2014), the question of the intergenerational effects of unemployment becomes particularly relevant.

Although unemployment becomes more commonplace during recessions, thus increasing disadvantages in families, the association between parental unemployment and child adult outcomes may change. During a recession unemployment is far more usual than during growth and the stigma associated with parental unemployment might be far less severe, making the supposedly negative intergenerational consequences of unemployment smaller. On the other hand the loss of economic and other resources in a family is not likely to depend as much on the prevailing economic conditions as it is on the length of unemployment spell. If the economic deprivation is the driving factor behind possible negative effects, the impact of parental unemployment could be expected not to vary with business cycle. These two mechanisms can lead to radically different intergenerational effects for various times and forms of unemployment. Yet relatively little is known about the long-term consequences of parental unemployment and in particular, what kind of an impact an economic recession has on it. Need of research concerning the mechanisms behind the negative effects and economic recession in particular has been explicitly expressed (Brand and Thomas 2014).

In this paper we examine the intergenerational effects of parental unemployment during economic growth and recession in Finland applying register data. Finland’s exceptionally deep economic crisis in the beginning of 1990s with unemployment level peaking at 20 percent and the preceding period of strong economic growth with low unemployment of around 3 percent make the country context extraordinarily well suited for this kind of comparative study. Most developed countries have not witnessed such a deep economic depression since 1930s. Further, the children of the recession of the early 1990s have already grown up, thus allowing us to observe the adult status of the children. We compare the effects of long and short unemployment spells as well as the influence of having mother, father or both parents unemployed to gain deeper understanding of mechanisms behind the effects. As the selection bias is one of the most
difficult problems in the estimation of these kind of effects, we employ propensity score matching methods to control for it (Rosenbaum 2002; Rosenbaum and Rubin 1985; Rubin 1979). We use Finnish register data on children who faced parental unemployment when they were 12-18 years old during the years of economic growth 1987-1990 and economic recession 1991-1994. Children’s social status is measured on ISEI scale when they are 30 years old in mid 2000s, after a decade of economic growth.

**Intergenerational transmission and parental unemployment**

The studies of intergenerational transmission of socioeconomic status have shown that family background affects people through various mechanisms that can be observed in social status and occupational class (Breen 2004; Erikson and Goldthorpe 1992a; Featherman, Lancaster Jones, and Hauser 1975); education (Björklund and Salvanes 2011; Hauser and Featherman 1976; Sieben, Huinink, and De Graaf 2001) and income (Björklund, Jäntti, and Solon 2007; Solon 1992, 2002). This literature suggests that parental unemployment influences the adult status of their children through two main mechanisms: economic deprivation and social stigma.

**Parental resources**

One of the most obvious results of parental unemployment are the reduced economic resources of the family. Gangl (2006) has shown that in US and Western Europe unemployment reduces not only workers immediate earnings, but subsequent earnings as well. Lowered parental earnings limit parents’ opportunities to financial support and children’s access to material resources. While modern welfare state may have demolished some of the extreme outcomes of economic deprivation due unemployment (such as malnutrition), other effects have prevailed. Child poverty has been shown to have a negative impact on the development of social skills and traits, family formation, education and health, among the other things (Brooks-Gunn and Duncan 1997; Duncan et al. 1998; Heckman 2000, 2006; Hobcraft and Kiernan 2001; Wagemiller et al. 2006).

The negative influence of the lowered resources of the childhood family on adult status of the children does not have conclusive support. For example, (Hauser and Sweeney 1995; Mayer 2009) argued that the evidence on the effects of childhood poverty lasting beyond entry into adulthood is rather weak, largely because of the lack of studies following children of the deprived families beyond that point. The weak or non-existing effects should be particularly likely in the context of an extensive welfare state where education and health care is free of charge, the level of unemployment benefits relatively high and welfare benefits targeted to the families and independent living in adolescence is extensive. However, evidence on the inheritance of the low-end economic status exists, also in the Nordic context. For instance, Airio et al. (2005) showed that childhood poverty did predict adult poverty status in Finland in 1990 and 1995 (before and during recession), although the effect was rather low and did not change in a statistically significant manner. Considering from a comparative point of view, the children from low income families growing up in the Nordic welfare states tend to fare relatively well, but intergenerational income elasticity appears to be stronger in the both ends of income distribution (Jäntti, Saari, and Vartiainen 2006; Sirniö, Martikainen, and Kauppinen 2013). Further, Kauppinen et al. (2014) show that social assistance receipt is inheritable in Finland, Sweden and Norway, also after the mediating effects of various life course risk factors are taken into account.
If especially the economic resources play a role, we should expect both longer and more frequent unemployment spells to have more negative impact on child attainment. Moreover, the unemployment of the parent that has higher earnings is likely to have more negative outcomes. When men have higher average earnings than women, especially the unemployment of the father should be expected to result negative child outcomes. This argument fits with the economic theory on family (Becker 1991) suggesting that maternal unemployment is not necessarily as harmful as that of the father. According to Becker, mothers may have a lower threshold to protect themselves against unemployment by adapting to their traditional role as homemakers, at least in the case of longer unemployment spell. In dual-earner families maternal employment may also be seen as a supplement for paternal employment and they can switch from dual-earner to male breadwinner family quite easily. In this kind of theorizing mother’s main function is to be a traditional homemaker and her labor outside of home is seen as complementary.

But the relationship of father’s and mother’s unemployment on the adult outcomes of the children may well be more complex. According to Oppenheimer (1994) mothers’ contribution to family income increases over time in developed societies, whereas fathers’ employment has become less guaranteed. When this is the case, families adapt dual-earner strategy to investment more in children and their future prospects. This kind of equalization should take place especially in the societies in which childcare can be outsourced with relatively low cost and should apply also to Finland because of the universally available and highly subsidized child care. However, the more mothers share equal wage earner status with fathers the more children can be expected to be harmed also by mothers’ unemployment. The importance of maternal earnings grows also because of the increasing number of single mother families. Thus maternal (un)employment may have an influence on the socioeconomic status of the children also if the lowered resources of the family are the key mechanism creating differences according to parental unemployment.

Unemployment also has a negative effect on other than economic resources. A substantial part of the positive effects of parental employment may be related to the value of social networks associated with the social standing in both the working places and in society in general (Lin 1999). This form of parental social capital may be especially important when the entry into labor market becomes crucial for social success (Erola 2009; Härkönen and Bihagen 2011). In our data, the importance of this kind of resources is hard to estimate. We may nonetheless assume that if the social networks of the parent associate with the work are important, having multiple short term unemployment spells should not be particularly harmful for the children. On the contrary, a parent that has been employed multiple times could even have more extensive social networks albeit characterized by much weaker ties than those of a parent staying in the same job (cf. Granovetter 1973).

Social stigma
As the quote in the beginning of the paper suggests the parental unemployment may also influence children through other routes, in particular through stigmatization. This mechanism operates through the feelings of disgrace, humiliation and low self-esteem associated with unemployment. It weakens social connections and trust and generates psychological distress (Jahoda 1982; McKee-Ryan et al. 2005). There is evidence that stigmatization related to unemployment may prolong the individual unemployment spells (Biewen and Steffes 2010) and
increases health problems (Turner 1995) as well as the chances to premature death (Martikainen and Valkonen 1996).

Similarly to their unemployed parents also the children may feel being stigmatized, especially in the communities where their parents are unemployed but other parents are working (Levine 2009). Parent’s social and emotional disadvantages may disturb children’s well-being, psychological and cognitive development and social ties (Christoffersen 1994). Parental unemployment has been found to have intergenerational negative psychological effects by generating more pessimistic outlook to the possibilities in life in general (Davis-Kean 2005). Children may be socialized to see themselves as marginalized and without opportunities, thus inhibiting their striving for higher attainment.

Stigmatization is sometimes linked to habituation theory (also called as the treadmill effect) that argues that the family members of the long-term unemployed begin to consider unemployment as normal and thereby more acceptable (Brickman and Campbell 1971; Clark, Georgellis, and Sanfey 2001). The negative social stigma associated with being unemployed decreases as the unemployment prolongs. In this case we would actually expect the negative effects on children to diminish rather than grow. Previous studies have not supported the habituation theory in the case of the unemployed themselves. It has shown that time length of unemployment spell does not have an impact on well-being of unemployed or that the effect is more negative the longer the unemployment spell is (McKee-Ryan et al. 2005; Oesch and Lipps 2012).

The negative influence of parental unemployment due to stigma could also show as a difference between the effects of maternal and paternal unemployment. Traditional gender ideology should reduce stigma resulting from maternal unemployment as women are not expected to provide economically for their families. On the other hand egalitarian views should generate more equal stigma for maternal and paternal unemployment (cf. Inglehart and Norris 2003; Seguino 2007) in the Finnish context this should diminish the gender difference.

**Previous studies**

Previous studies have found that parental unemployment is associated with the children’s unemployment in the adulthood. O’Neill & Sweetman (1998) found that having an unemployed father at the age of 11-16 almost doubled the adult unemployment risk of the sons. Miller (1998) found that youth unemployment is related to parental unemployment and maternal unemployment had even a bigger impact on than that of the father. Parental education had only a small effect or none on the labor market success of the children. However, these results may be biased by the negative background selection. Parents who are unemployed are select group possessing some features that employers do not value and that they willingly or unwillingly transmit to their children. Controlling for this fully with traditional regression methods might be extremely hard. Thereby children’s disadvantageous experiences are not necessarily direct consequences from parental unemployment but the unobservable third factors explaining both.

In order to better estimate the causal effect of parental unemployment economists have studied how exogenous economic shocks, for instance people becoming unemployed by plant closure, affect income of unemployed and what are intergenerational impacts on children’s economic and education outcome. Oreopoulos, Page, & Stevens (2008) found using Canadian data that the sons
whose fathers experienced unemployment shock had 9% lower income compared to sons whose fathers did not experience unemployment shock. Furthermore, the sons of the displaced workers were also more likely to have unemployment insurance and social benefits. They emphasize that their results were due to the experiences of the individuals whose family income in the childhood was in lower quartile of the income distribution. Contradictory, Bratberg et al. (2008) did a study with similar design and did not find that in Norway father’s job loss has significant effect on the earnings of their children when they are in their late twenties. However, Rege et al. (2011) found using Norwegian data - and again applying a plant closure as an exogenous shock - that paternal but not maternal unemployment has a significant negative effect on children school performance in Norway. They argue that the effect is not entirely due to material deprivation caused by the reduced income, but also because of the father’s mental distress that can influence children’s school performance; in other words as a combination of economic disadvantage and stigmatization.

Although these studies employing exogenous shocks as natural experiments solve quite well the problem of unobserved third factors, they still have their limitations (also discussed in Brand and Thomas 2014; and in greater detail in Gangl 2010). It is crucial to note that unemployment through a plant closure differs from the unemployment experienced individually at least in two ways. First, with plant closure the humiliation and stigmatization is not directed to individual, but to the social group of fellow workers, if anyone at all. This may reduce or negate stigmatization effects associated with parental unemployment. On the other hand as peoples social network is normally partly tied to workplace the unemployment of fellow workers might weaken the possibilities of finding a new job or otherwise enhance the negative effects of unemployment (e.g. Kauppinen, Korteineen, and Vaattovaara 2011). In short, the effects of the unemployment analyzed in these studies may be different to the effects of the unemployment in a society in general.

Parental unemployment during childhood can have a crucial impact on the educational choice. For example, Coelli (2011) found, using longitudinal data from Canada, that parental job loss when children are at the high school age (16-17) affect post-secondary education enrollment. He argues that this occurs due to the income loss of the unemployed parents. This fits with the previous finding showing that in the United States parental income during the high school years affects college attendance (Jencks and Tach 2006:47). Also Kalil & Ziol-Guest (2008) found applying US survey data an association between father’s job loss and children’s grade repetition and school suspension. Some other studies have argued that there is a causal mechanism between parental income and cognitive achievement of children. Effects are greater for the children growing up in more disadvantageous families and matter more if experience during early childhood (Brooks-Gunn and Duncan 1997; Dahl and Lochner 2012; Duncan et al. 1998).

The impact of parental unemployment is likely to depend on the other socioeconomic characteristics of the parents. (Levine 2009) studied aggregate level unemployment rate on children’s educational tests scores, finding that higher contextual unemployment rate was associated with children’s lower tests scores among low-educated mothers but the effect was very small and had only a little socioeconomic significance. When mother’s education level increased, the association between the contextual level unemployment and children’s test scores also decreased, disappeared or became even positive (when mother had a college level degree).
These effects could not be observed on individual level when father or mother was actually unemployed. These results suggest that the families with greater resources are better able to cope with the threat of unemployment than lower-SES families. However, the mechanism that matters here does not have to be related to resources as such. (Levine 2009) also argues that it may simply signal that unemployment means different things to different people from different social backgrounds.

**Parental unemployment in Finland**

The changes in the Finnish economic situation in the end of 1980s and beginning of 1990s provide an extremely well-suited environment for the purposes of this study. The case of Finland provides a particular setting, a natural experiment, to study impact of parental unemployment and mechanisms behind it. Finland was one of the economically fastest growing Nordic countries in the end of the 1980s with advanced welfare systems and corporatist labor markets (Kalela et al. 2001). During the 1970s and 1980s people were used to relatively low unemployment levels of around five percent (OECD 2013). High taxation and income transfers guaranteed state regulated welfare policy. The unemployment begun to rise very quickly from 3 percent of 1990 until almost 20 percent of 1995 (lowest 2.9 % in February 1990, highest 20 % in April 1994, see Figure 1 for annual data).

< Figure 1. Unemployment rate and GDP annual change in Finland from 1985 to 2000. (Source: Statistics Finland, Labour Force Survey) >

As already mentioned above, Finland and the other Nordic countries can be considered as a part of the social democratic welfare regime (Esping-Andersen 1990). In Finland state and the unemployment funds provide social security for the unemployed; if the length of employment before unemployment has been at least ten months the employee is entitled to the earnings-related unemployment allowance for 500 days of continuous unemployment. The level of this provision is usually about 70 % of the salary before the unemployment. After 500 days the benefits decrease to an amount that is around one third of the average salary. This amount is assumed to make the minimum needs met. Because the long-term unemployed face both financial strain and loss of social connections more profoundly compared to short-term unemployed, the magnitude of especially economic deprivation can be expected to be stronger.

In the international comparisons on socioeconomic inheritance the Nordic countries, including Finland, are usually found to be among the most equal ones (Björklund et al. 2002; Breen 2004; Erola 2009; Pfeffer 2008). The educational system is free of charge and studying is subsidized with student payments. These, in addition to strong social security, should reduce especially the negative impact of parental unemployment due to lowered economic resources in the childhood family.

According to Global Gender Gap Report 2012 Finland is the second most gender egalitarian country in the world. To mention some examples: in Finland women’s labor force participation rate is almost as high as for men (women 74 % and men 77 %), women are better educated than men, 43 percent of members of parliament are women and dual-earner families are prevailing family form. However, women’s income is about 20 percentage points less than men’s income. (Hausmann, Tyson, and Zahidi 2012) Already in the 1970 female labor force participation rate
was the highest of the OECD countries (62%) and increased to 72% by the end of 1980s (OECD 2013). During the economic recession in the 1990s women’s labor force participation level was approximately 7 percentage points lower than men and their earnings were 25 percentage points less than men (OECD 1997). In Finland gender role attitudes of men and women can be considered very equal. On the gender equality scale, computed from World Values Survey, Finland is after Sweden and Norway as the third most gender equal country (Inglehart and Norris 2003). According the study applying ISSP data set from 28 countries, Finnish men were the fourth (after Sweden, Denmark and Northern Ireland) and women the second (after Sweden) most gender equal according to their values (Stickney and Konrad 2007).

Thus the influence of lowered parental income can be expected to be weaker for mothers than for fathers, but the effect of social stigma can be assumed to be very low because of the fairly equal social roles and very equal gender roles.

Intergenerational effects of parental unemployment have not been extensively studied in Finland. Erola and Moisio (2005) studied the immediate effects of increased parental long-term unemployment on children’s social mobility using data from 1990 and 1995. They were not able to find any significant effects. This is not surprising, however, as those who had reached the age of 30 by 1995 had experienced the decisive years of the early childhood and youth much earlier, already in the 1970s and 1980s. The currently applied set up in which parents experienced unemployment during the adolescence of the children is much more appropriate in order to study the long-term intergenerational effects of the recession of the early 1990s.

**Research questions and mechanisms**

Following the discussion above, we formulate three research questions we aim to answer:

1. Does parental unemployment have a disadvantageous effect on the socioeconomic attainment of the children also in the context of the Nordic welfare state?

2. Does parental unemployment also have disadvantageous effect during a recession?

3. What are the likely mechanisms behind the effects? More specific do the theories of stigmatization (3a) or economic and other resources (3b) gain support?

We expect the answer to first two questions to be positive. Although we operate in the context of Nordic Welfare state it would be surprising if parental unemployment did not have negative consequences for children. Further even if recession might lessen the severity of the effects, we would expect the impact still to be significant. When it comes to last research question, we approach it by contrasting unemployment effects during growth and depression, long and short term unemployment and father’s or mother’s unemployment. We would expect effects to be stronger during a period of growth, if only social (stigma) mechanisms are present (3a). Presumably children experience more pronounced negative effects of social exclusion and stigmatization through unemployed parents’ well-being both directly and indirectly during growth. As for the economic and other resource theories (3b), we expect the prolonged parental unemployment have negative influences especially as economic conditions of the family worsen after 500 days of unemployment. In the context of Finnish welfare state families with shorter
unemployment periods suffer far less pronounced economic disadvantage. When it comes to the last comparison concerning paternal and maternal influences, our hypothesis is that if economic resources matter, mother’s unemployment has negative, but smaller influence on children than fathers, due to the gender-wage-gap. On the other hand, if the stigmatization matters, we expect the negative influence to be equally strong for mothers and fathers due to the dual earner model and gender equal attitudes in Finland discussed in previous chapter.

**Data**

The unusual economic circumstances of Finland in the end of the 1980s and beginning of the 1990s allow us to compare close birth cohorts experiencing parental unemployment on the one hand during strong economic growth (1987 to 1990) and on the other hand during one of the severest depressions in the history of OECD countries (1991 to 1994).

We compare socioeconomic statuses of children experiencing parental unemployment at their adolescence with children who did not experience parental unemployment. To ensure comparability we measure parental unemployment at six year interval for all the children. Either when children are at the age of 12 to 17, or when they are at the age of 13 to 18 between the years 1987 to 1994. The socioeconomic status of the children is measured on ISEI scale at the age of 30. While we might expect effects to be stronger for younger children, especially the stigmatizing effects could be expected to be stronger at this age (Brand and Thomas 2014). However, as the later cohorts have not yet achieved maturity we are not able to test this with our data set.

We analyze high quality Finnish sample from registers of Statistics Finland including 15991 children born between 1974 and 1977. The data is constructed by taking roughly representative sample of Finnish population at the year 1970 and then expanding it to include spouses and children of the sample persons up and down the generations. This data construction method results a roughly representative sample of Finnish population including information about the family members of individuals. However as there were practically very few immigrants in Finland in 1970, they are not presented in the sample except for entering it through marriage. Our results concern therefore mainly the native population.

The parental unemployment is measured with register based information from Statistics Finland. Although register based information is in general very reliable, it should be noted, that not all the people inactive in the labor force are registered as unemployed. The definition of unemployed excludes students and mothers on maternity leave as well as people who for one reason or another are not collecting unemployment benefits. Thus parents, who exit unemployment by returning to study or through maternal or paternal leave, are not included when measuring unemployment. Theoretically this is reasonable as many of the unemployment’s negative effects are partly or fully avoided when exiting official unemployment.

In this study we define that a parent is unemployed at a given year, if she or he has more than six unemployment months during the year. This is done to exclude people with short transitory periods of unemployment and employed people with regular summer or winter time unemployment. Especially we wanted to exclude the latter group as they quite often have regular employment in spite of few months of yearly unemployment. Furthermore we divided between
long-term and short-term unemployment. We define long-term unemployed as people experiencing over six months of unemployment during three years in a row. People experiencing unemployment in shorter spells are considered short-term unemployed. This decision is on a large extent driven by the form of Finnish unemployment social benefits. During the years under consideration people received 500 days of salary dependent higher welfare assistance after becoming unemployed (Honkapohja and Koskela 1999). Thus especially the economic resources were greatly diminished after one and half years of continuous unemployment and people experiencing more than two years of unemployment were hit much harder in this respect.

The outcome variable in all the analyses is the children’s occupational status at the age of 30. Occupational status could be considered the optimal measure of socioeconomic standing because it is related to both social status and earnings. Occupational status is also less sensitive to short-term variation according to the family situation, for instance compared to income level. We coded the data on occupations into ISEI status scales (see Ganzeboom, De Graaf, and Treiman 1992). ISEI was originally intended to measure the status of men, which can mean that it is less optimal measurement for the status of women (Ganzeboom et al. 1992). Further, a composite index such as ISEI may overestimate the importance of occupational income (Hauser and Warren 1997). Our sensitivity analyses nonetheless show results are not statistically different for boys and girls.

In order to match children according to parental characteristics we classified childhood families into income quintiles; separated five different levels of education for both mothers and fathers (primary or less, lower secondary, higher secondary, lower tertiary, higher tertiary); included a dummy for parental separation before the period of observing parental unemployment; and classified both parents according to their occupational standing. In order to have sufficiently high number of cases in each cluster, paternal and maternal occupational standing was classified according to seven levels of Erikson-Goldhorpe class classification (see table 1) rather than measured as ISEI status. (see (Erikson and Goldthorpe 1992b)

Methods

The children experiencing parental unemployment are likely to be disadvantaged also because of the other background characteristics which are why we easily overestimate its negative effect. We control for the selection bias by applying propensity score matching. The method has seen a revival in recent studies of unemployment and job displacement (Brand and Thomas 2014; Gangl 2006) as well as concerning other topics (e.g. Apel et al. 2010; Gebel and Voßemer 2014; Lee 2010).

Matching approaches rely on the idea of the classical experimental framework in which we ideally assign cases to treatment and control groups randomly and then apply the desired intervention on the first (Morgan and Winship 2007; Rosenbaum 2002). Examples of the classical experiment can be easily found from medicine research where the control group receives placebo and the treatment group the actual medical treatment. As the groups are
randomly assigned it is then possible to conclude whether the differences between the groups observed after the treatment are large enough not to have resulted from random variation.

In an observational study, as in the most of the studies in social sciences, we have to rely on other approaches in order to imitate the experimental design. In matching methods this is done by artificially creating a control group (Morgan and Winship 2007; Rosenbaum 2002; Rosenbaum and Rubin 1985; Winship and Morgan 1999). In our case this is done by matching children according to their family background characteristics, including fathers’ and mothers’ SES and educational level, household income measured as quintiles and an indicator for a parental divorce. All of these factors influence both the risk of parental unemployment and SES of the children in adulthood and can be thus considered relevant matching variables (Rosenbaum 2002).

In propensity score matching the propensity to experience the treatment, here parental unemployment, is the same as for the persons in the treatment and control groups, but only the first group has actually experienced unemployment (Rosenbaum 2002; Rosenbaum and Rubin 1985; Winship and Morgan 1999). Propensities are obtained analyzing the association of the matching variables on the treatment variable with some form of regression analysis and extracting the predicted values, i.e. propensity scores ($P$). The propensity scores correspond theoretically to the probability of being assigned to a treatment group. Here we employ logistic regression models to obtain the propensity scores. They are then used to match children without the experience of parental unemployment, but with equal propensities for it, to the children actually experiencing parental unemployment. In this way we obtain an artificially created control group. By comparing the treatment and matched control groups we are able to give estimates for the negative effects of parental unemployment that correspond with the actual treatment effects we would theoretically obtain for the children experiencing parental unemployment in adolescence, i.e. the differences in SES on ISEI scale.

With matching approach it is also possible to differentiate between the average treatment effect on treated (ATT) and average treatment effect on the untreated (ATU) (Gangl 2010). ATT reflects the effect on the treated, here children actually experiencing parental unemployment

$$E(\delta|d = 1, P) = E(y^d = 1 − y^d = 0|d = 1, P) \tag{1}$$

and ATU effect on the untreated, here all the children not experiencing parental unemployment

$$E(\delta|d = 0, P) = E(y^d = 1 − y^d = 0|d = 0, P). \tag{2}$$

In other words there is a possibility that the treatment effect on children usually experiencing parental unemployment and treatment effect on children usually not experiencing parental unemployment differs. This has indeed shown to be the case for single mothers for whom a heterogeneous treatment effect was found (Brand and Thomas 2014). Here we concentrate on the ATT as we are mainly interested in the effects on people usually being unemployed. We do not report or analyze the ATUs as these effects are not in focus here.

Figure 2 shows the standardized differences in ISEI between the children who experience parental unemployment and those who do not before and after matching. We can see that the
differences are very small after the groups have been matched according to propensity scores. This was the case in all of the models (see supplementary material for details).

< Figure 2. The balance of the matching variables before and after the matching in the first model including all forms of parental unemployment. (For other balance plots see supplementary material.) >

Rather than adding mediators as in some of the previous research employing matching methods (Kirk and Sampson 2013; Torche and Costa-Ribeiro 2012), we examine the possible mechanisms by conducting comparisons according to different types of parental unemployment experienced. The types covered are unemployment during depression, growth or both; long-term, multiple spell and short-term unemployment; and having father, mother or both parents unemployed. Each of the types is analyzed separately.

Comparing matching approach to the usual regression framework, the main advantages are the following. First, we are able to more rigorously control for the differences in other background characteristics that are often associated with unemployment (e.g. Hansen 2004). With matching approaches we exclude the cases to whom we were not able to assign a corresponding control person (Hansen 2004; McLanahan, Tach, and Schneider 2013; Rosenbaum 2002). With regression methods we usually assume that we can extrapolate the results outside the covariate support. In the best case this assumption holds, but in the worst case we can make serious errors when extrapolating the results (Gangl 2010; Morgan and Winship 2007; Rosenbaum 2002). Even though we are applying a large register based dataset in our analyses we had some children who such a family background that no child with a similar background could be identified. In order to make sure that our estimates are not biased because of this we applied strict restrictions allowing only a propensity score difference of 0.01.

Second, when reporting our results we concentrate on the average treatment effect on treated (ATT). This is to play attention to the fact that the effects we calculate concern the children experiencing parental unemployment. Indeed regular regression analysis results are often interpreted as results concerning whole population and the effect is assumed to be homogeneous. If the assumption of the similar effects of parental background in different situations does not hold, this biases the estimates. However in our case the results of the similar analyses conducted applying regular OLS estimates did not differ significantly from the matching results (see supplementary material for regression table and discussion).

Results

Descriptive statistics

Table 2 shows the absolute and relative levels of parental unemployment by background variables between 1987-1994, both the period of Finland’s economic growth (at the end of 1980’s) and the recession (at the beginning of 1990’s). In the first income quintile over 40 percent households suffered some form of unemployment, as contrasted with 13 percent of the fifth quintile households. As well as the parents with higher household income also the parents with higher socioeconomic status suffer less for unemployment. Approximately 16 (15) percent
of higher managerial mothers (fathers) were unemployed during the time; compared to over 40 (37) percent of the working class mothers (fathers). Higher educated mothers (fathers) were much less likely to be unemployed than low educated mothers (fathers). Partnership separation predicts a greater probability to be unemployed. Separated parents had the 45 percent probability of experiencing unemployment whereas parents who were married or cohabitating had only the probability of 25 percent.

Our descriptive statistics show clearly that higher socioeconomic status, higher income, higher education and cohabitation and marriage protect parents from unemployment, somewhat more for fathers than for mothers.

< Table 2. Parental unemployment by background variables (1987-1994) >

The overall effect of parental unemployment

Our analysis on the effects of parental unemployment on children begins by examining whether parental unemployment in general is harmful for the adult socioeconomic attainment of the children. We do this by comparing the ISEI of the children experiencing any form of parental unemployment compared to a control group with similar family background but not experiencing unemployment (Figure 3). First of all we can note that the SES of the children experiencing parental unemployment is almost 5 points lower than average of the cohorts on ISEI scale. When comparing the children with similar family background characteristics (control group) with children experiencing parental unemployment the difference is still significant, but decreases significantly. ATT is nonetheless clearly negative: on the average parental unemployment in Finland has a negative impact on children, also after taking into account various factors related to negative background selection.

< Figure 3. Means and 95 percent confidence intervals of ISEI for control groups and children experiencing any form of parental unemployment and reference line for average ISEI. >

This confirms our hypothesis concerning the first research question: parental unemployment has a negative effect on children even in the context of Nordic welfare state model. The result suggesting that parental unemployment can have a negative intergenerational effect also in a society with extensive financial support for the unemployed is in line with most of the previous literature on the topic (Miller 1998; O’Neill and Sweetman 1998; Oreopoulos et al. 2008; Rege et al. 2011), but in contrast with some of the results from Norway (Bratberg et al. 2008). The contrast with the Norwegian study might result from the differences in the type of unemployment analyzed: we analyze all the forms of parental unemployment whereas Bratberg et al (2008) applied plant closures as an instrument, thereby restricting their results only on this specific non-individual form of unemployment.

All in all the statistically significant ATT observed in ISEI was not as large as the effect of other family background factors of the children in question. However, although the difference is relatively small in absolute terms, for an effect of a single childhood event it is relatively large. When compared to negative selection due to other family background variables it consisted of almost one third of the impact on the children in question. As we know that the unemployed
children’s family background is clearly disadvantageous to begin with, the negative effect is also substantially significant.

*Parental unemployment and economic situation*

Our second research question considered whether the negative effect of parental unemployment is smaller during a period of recession than during a period of growth. This is what stigmatization theories would suggest. Our results in Figure 4 suggest that economic conditions do not make much of a difference. Children experiencing parental unemployment in the time of growth have about as much lower ISEI as the children experiencing it at the time of recession. The negative background selection appears to matter about as much in both cases. However, the ATT is not statistically significant during growth due to the lower case numbers. This implies little support for the negative intergenerational effect due to stigmatization; in that case clearly stronger negative effect should have been observed during growth.

< Figure 4. Means and 95 percent confidence intervals of ISEI for control groups and children experiencing parental unemployment according to economic situation and reference line for average ISEI. >

Figure 4 also suggests that the children experiencing parental unemployment both at the time of growth and depression are doing worst. This is both the case in absolute terms as well as considering the ATT. This is to be expected as this group consists of parents experiencing either long-term unemployment or multiple short-term unemployment spells and can therefore be expected to be both more stigmatized as well as financially deprived. Note, however, that also in this case the confidence intervals are relatively wide.

*Long or multiple unemployment spells*

The strong negative effect of people experiencing parental unemployment both during growth and depression suggests that the length or the number of unemployment spells may be related to the negative intergenerational effect. The question is which one of them matters more. Answering this question should provide further evidence on the importance of economic and stigma effects related to parental unemployment. As already mentioned above, the Finnish unemployment benefit system gives salary dependent and relatively high benefits for the first 500 days of unemployment. Thus the multiple short unemployment spells are not necessarily economically equally constraining as a single, prolonged spell. Thus if the economic resources matter, the negative effects should be weaker in the case of multiple spells and stronger if a spell lasts longer than two years in a row.

We report the results in Figure 5. Indeed it suggests that those with long-term unemployed parents fare clearly worse than those with single or multiple short-term spells. Further, the ATTs for the latter two groups are not statistically significant. The finding on the especially strong ATT related to long-term unemployment does not appear to be simply related to the background selection, as the effects for treatment groups for both long term and multiple short term unemployment were more or less the same. We would not expect the children with the long-term parental unemployment to be more selective group than those with multiple short term experiences on parental unemployment.
The results further indicate that the reduction of economic resources associated with parental unemployment is indeed a key mechanism at work when it comes to negative effects of parental unemployment. Multiple short term unemployment spells should be even more stigmatizing than a single long-term spell. This is why the results suggest that the negative stigma associated with unemployment might not be that important explanation for the negative intergenerational effects of parental unemployment.

*The sins of the fathers*

In the final part of the analyses we will consider the differences between the effects of maternal and paternal unemployment. If the economic resources mattered, father’s unemployment would have a slightly stronger negative impact than that of the mother, resulting from the higher average income of the first group, whereas having both mother and father unemployed should have the strongest negative influence. We assume the stigmatization effects of father and mother to be relatively same as Finland is one of the most gender neutral countries in the world.

The ATT associated with the unemployment of the father is indeed stronger than that of the mother (Figure 6). Children experiencing fathers’ unemployment do slightly worse in terms of ISEI and a smaller part of this could be attributed to negative selection due to family background. We interpret that this difference results from the higher average income of the fathers.

The children experiencing the unemployment of both parents indeed do worst in adulthood. Those with both parents unemployed have the lowest level of socioeconomic attainment. However, this is mostly due to the negative background selection as the ATT is not statistically significant for this type of unemployment. This might be due to even stronger negative selection according to other family background characteristics than expected. The children might come from such a disadvantageous family background that further reduction of economic resources is almost completely buffered by the state and increase in stigmatization is unlikely.

We conclude that the comparison of maternal and paternal unemployment provides some support for the economic disadvantage assumption. Paternal unemployment matters more and the most logical explanation would the increased economic hardship associated with the loss of on average higher income of fathers compared to those of mothers.

**Conclusion**

In 2010s many developed societies are witnessing maybe the most severe economic crises since the great depression of 1930s, shown as, for example, increasing and persistent unemployment (OECD 2014). Although opinions on how society should react to unemployment can vary, there is a wide consensus that children should not suffer from their parent’s misfortunes or mistakes.
this study we test some assumptions on the key mechanisms that are responsible for the negative effects of the parental unemployment on children and whether the children are experiencing the negative effects equally strongly during a period of severe economic recession as well as during growth.

According to our results parental unemployment can have serious negative effects on children’s socio-economic outcomes. Even in the context of Nordic welfare state the effects of parental unemployment experienced in adolescence are observable at the age of 30. The results further indicate that from the point of view of the children, parental unemployment seems equally bad during any phase of the economic cycle. Our results show that the parental unemployment had a statistically significant negative effect on children’s SES measured in ISEI also during the time of deep economic recession. Theories assuming stigmatization effects predicted the opposite, a reduced impact during recession.

Further, the results indicate that the negative effects of parental unemployment are stronger in the case of long-term unemployment. As unemployed people in Finland receive higher salary dependent benefits for the first 500 days of unemployment, stronger economic deprivation could explain the stronger effect of parental long-term unemployment. Multiple short-time unemployment spells of parents during adolescence did not seem to influence SES in adulthood as strongly.

Finally, we found implications that paternal unemployment may have stronger negative effects on children than maternal unemployment. We see two possible reasons: either stronger stigmatization associated with father’s unemployment or even in Nordic countries still prevailing higher income of men and thus increased economic deprivation. Based on the other results and previous research of Finnish gender norms, we conclude that economic resources are most likely candidate in explaining the differences between paternal and maternal ATT.

All our results fit with the assumption that the strongest mechanism behind the effects is economic deprivation. The results are quite different to what could easily be assumed in the context of generous welfare state. In Finland there are welfare benefits especially targeted at reducing economic constraints related to unemployment and their level can be considered comparatively speaking very high. When this is the case, one could expect that parental economic resources mattered less. Thus our findings are rather surprising. Could it be the case that the results do not actually reflect the importance of the lost economic resources but the other, non-economic resources often correlated with them? Although our data does not allow us to draw definitive conclusions on this, some of our results contradict the argument. For instance, if the social networks associated with work should matter, the negative effect should be weaker during recessions because the networks should presumably be easier to maintain when many others are also unemployed. On the other hand negative effects of long-term unemployment compared to multiple short unemployment spells might well be presumed to result from weakening social networks and weak ties.

When we look back to the situation of the father quoted in the beginning of the paper, we see suffering, humiliation and mental distress. However, this might well not result from the unemployment per se, but from the diminished economic resources that can even lead to hunger.
and a soaring stomach. One of the interpretations for the importance of economic resources is indeed a social one. Hanging on the edge of absolute poverty through unemployment is a stressful situation. It is important to note that although we underline the importance of economic resources we are not claiming that the association between them and negative consequences is a simple one. It is probably that it is at least in part mediated by the social consequences of material deprivation including stigmatization.

Our evidence thereby suggests that economic resources still matter and implies that in countries with less generous unemployment benefits the effects can be expected to be even higher. This does not mean that no other mechanisms could play a role, but implies that whenever unemployment leads to significantly reduced income, we should expect there to be negative consequences for the children. In the current context of great economic depression this means that children will most likely suffer from the unemployment of their parents and this burden is not significantly lessened by possibly diminishing stigma associated with unemployment in general and parental unemployment in particular.

It would seem that the quite strong unemployment benefits for the first 500 days were able to counterbalance all of the negative effects. The policy implications of our study would therefore lead to direction of economic support for the unemployed parents with children. Further, our results suggest that government policies aiming at reducing the stigma effects of parental unemployment most likely do not reduce the harmful consequences for children as efficiently as increasing economic support for the families would.

Three methodological limitations should be kept in mind when evaluating the results of the current study. First, even though with the counterfactual approach adopted here the results can be considered to measure causal treatment effects better than normal regression approach and solve many of the issues associated with causality, they do not completely eradicate the problem of unobserved third factors. Thus any causal interpretations of the results should be made with care. The second issue concerns the natural limitations associated with unemployment during the different phases of economic cycle. Unemployment was not experienced too often during growth in our data, thus making the confidence intervals of those estimates quite wide. Although we feel that the main arguments presented here do not depend on specific coefficients, the reader should pay attention to the confidence intervals and cautiously interpret results concerning specific groups. Thirdly, although Finland in the end of 1980s and beginning of 1990s presents a unique possibility for exploring the effects of parental unemployment during depression and studying different mechanisms behind negative effects of unemployment, it should be noted that the effects are measured in the context of Nordic welfare state model. The results can easily be different in different institutional contexts. Based on Gangls (2006) international comparison, we would expect the effects to be stronger in other institutional contexts including US. In this way we feel safe to conclude that our main argument of the significant negative effects during depression and importance of economic mechanisms behind that should be more pronounced in many other countries if different at all.
References


Figure 1. Unemployment rate and GDP annual change in Finland from 1985 to 2000. (Source: Statistics Finland, Labour Force Survey)
Figure 2. The balance of the matching variables before and after the matching in the first model including all forms of parental unemployment. (For other balance plots see supplementary material.)

Figure 3. Means and 95 percent confidence intervals of ISEI for control groups and children experiencing any form of parental unemployment and reference line for average ISEI.
Figure 4. Means and 95 percent confidence intervals of ISEI for control groups and children experiencing parental unemployment according to economic situation and reference line for average ISEI.

Figure 5. Means and 95 percent confidence intervals of ISEI for control groups and children experiencing parental unemployment according to length of unemployment spell and reference line for average ISEI.
Figure 6. Means and 95 percent confidence intervals of ISEI for control groups and children experiencing paternal, maternal or unemployment of both and reference line for average ISEI.
Tables

Table 1. Maternal and paternal occupational standings used in the study

**Maternal class status**
- I Higher managerial and professional occupations
- II Lower managerial and professional occupations
- IIIa Routine non-manual in admin and commerce
- IIIb Routine non-manual in sales and services
- IVa+b Self-employed
- IVc Farmers
- V-VIIb Working class occupation

**Paternal class status**
- I Higher managerial and professional occupations
- II Lower managerial and professional occupations
- IIIb Routine non-manual occupation
- IVa+b Self-employed
- IVc Farmers
- V Lower supervisors and lower technical occupation
- VI-VIIb Other working class occupation
Table 2. Parental unemployment by background variables (1987-1994)

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1. quintile: 43.05
2. quintile: 37.94
3. quintile: 26.21
4. quintile: 21.09
5. quintile: 13.21

M. Working class occupation: 40.92
M. Farmers: 18.29
M. Self-employed: 25.53
M. Routine non-manual in admin and com.: 31.9
M. Routine non-manual in sales and serv.: 19.5
M. Lower manag. and prof. occup.: 18.22
M. Higher managerial and prof. occup.: 16.39
F. Other working class occup.: 37.99
F. Low. supervis. and low. tech. occup.: 38.51
F. Farmers: 18.87
F. Self-employed: 24.99
F. Routine non-manual occup.: 27.48
F. Lower manag. and prof. occup.: 20.15
F. Higher managerial and prof. occup.: 14.58
M. Elementary: 34.23
M. Lower secondary: 30.2
M. Secondary: 18.22
M. Lower univ./polytech: 11.76
M. Higher university: 9.25
F. Elementary: 32.55
F. Lower secondary: 31.69
F. Secondary: 20.6
F. Lower univ./polytech: 16.34
F. Higher university: 8.17
Marriage or cohabitation: 24.5
Separation: 45.72