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Activation as a tool to bypass the ordinary recruitment process

Active labour market policy, network and discrimination

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Understanding the transition from unemployment to employment is of crucial importance for European scholars and policy makers. The focus on the micro-level has become more evident because the belief in - and possibility of - macro-economic demand steering, e.g. by means of fiscal policy, has declined. The supply-side steering can be divided into two overall strategies. One is to generate larger economic incentives to work, e.g. by lowering social benefits. This neo-liberal strategy of bringing the market back in is largely dismissed in most European countries. The other strategy is bringing the state back in. Thus, in most European countries one can observe a shift towards more active labour market policy, where the state through various forms of public policies tries to facilitate the transition from unemployment to employment.

Active labour market policies have many different meanings but in most countries mandatory participation in activation programs, e.g. job search courses, education and job training, is the most important component. Generally these measures are believed to work in two ways. First, a qualification effect is expected. The need for new qualifications have been linked to the discourse of globalisation, where it is stated that due to competition from low-wage countries and technological development it is difficult for low-skilled workers to find jobs. It is also said that instead of lowering wages, Europe will take the "high road" of increasing productivity. Activation programs are believed to be part of this "taking the high road". Secondly, activation measures are believed to have a motivation or deterrence effect. Thus, instead of motivating unemployed by increasing the economic incentives it is believed that the threat of participation in activation will stimulate search behaviour prior to activation.

There is a large emerging literature, which tries to evaluate whether these qualification and motivation effects actually exists. It is fair to conclude that so far it has been difficult to demonstrate that these activation measures actually have an independent causal effect on employment chances (e.g. Martin & Grubb, 2001). In contrast to this literature – which has become more and more methodologically sophisticated and complicated – this report returns to the basic theoretical arguments. The point is that the "qualification-motivation framework", in our opinion, builds on a too simple neo-classic understanding of how transitions take place at the labour market. To put it boldly the "qualification-motivation framework" perceives activation as a functional equivalent to the neo-liberal strategy. The deterrence effect is seen as a functional equivalent to the better economic incentives that reductions in benefits levels and durations periods would provide and the qualification effect is seen as a functional equivalent to the strategy of lowering wages until they match the productivity level. However, inspired by the sociological literature and more advanced neo-classic labour market models our argument is that these "supply-side arguments" ignore the fact that especially when it comes to the "weakest" groups in the labour market, it is crucial to understand the importance of discrimination and network.

Figure 1: Informal network and job information. How employed (and former employed) got information about their job. 2001 ISSP
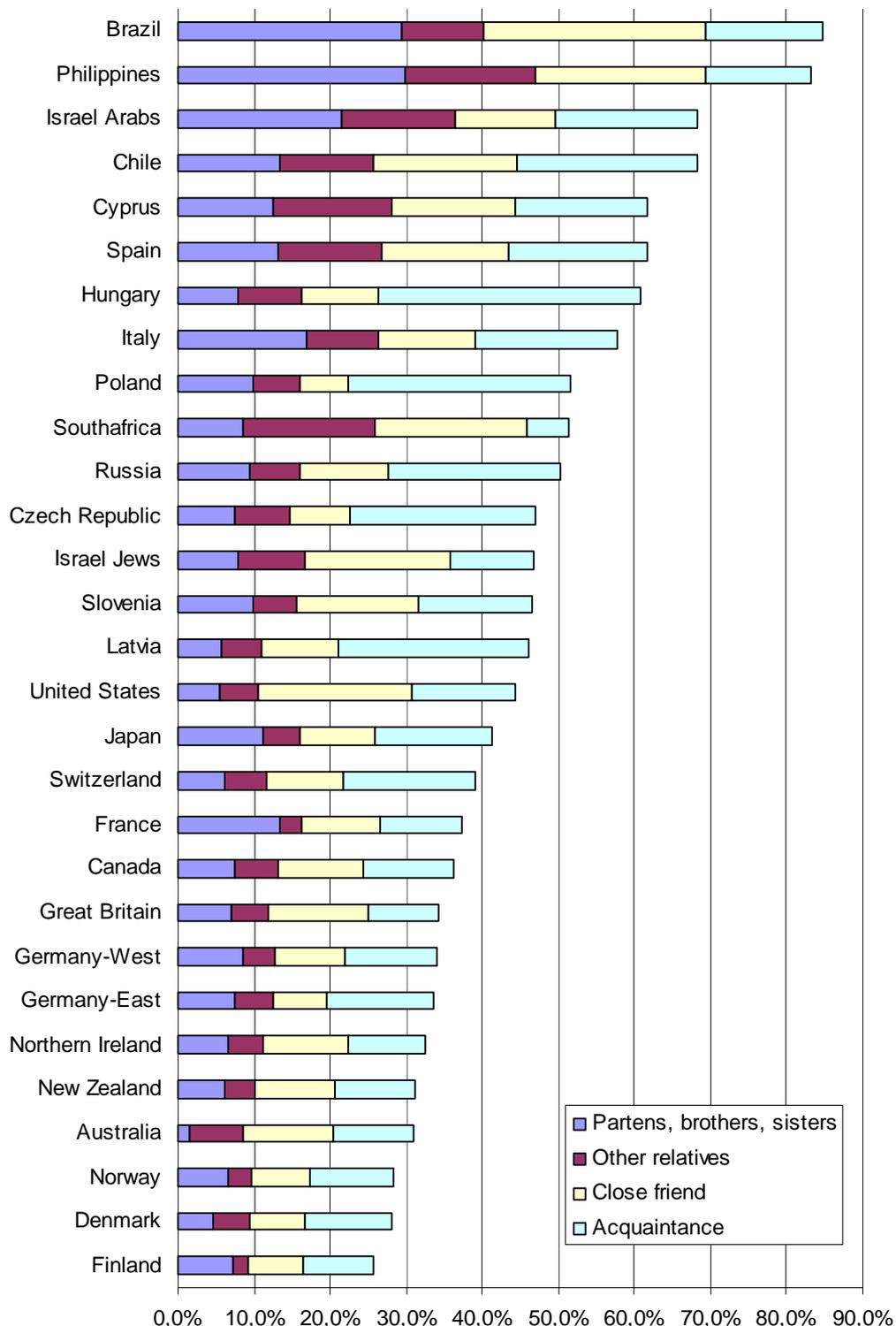
Other possibilities of information about job were information through the public employment agency, private employment agency, school or university office, advertisement, contact by employers or direct contract to employer. The options "Don't know", "never worked", and "refused" are excluded.
Source: ISSP 2001, data not weighted

As a small foretaste figure 1 provides a brief summary of how, in various countries, employed (and former employed) heard about their jobs. The first conclusion one can make is that information through informal networks (family, relatives, close friends, and acquaintances) is indeed of importance. In those countries, where informal networks are of least importance (Finland, Norway, Denmark) still approximately one out of four heard about their job through informal networks. The second conclusion is that we find large cross-national differences. In the Southern European countries around 60 percent got job information through informal networks. In Brazil and the Philippines the share is actually above 80 percent. Thus, just by looking at these simple figures, there are reasons to believe that it could be of relevance to add a sociological perspective to the simple prevailing neo-classic lines of reasoning.

Basically, our theoretical argument is that activation might work as a tool to bypass the normal recruitment processes, which include use of network and discrimination. Thus, the report suggests that some activation schemes might be effective because they help otherwise (statistically) discriminated groups and groups with a modest network. That might e.g. explain the finding that private job training, controlled for anything else, seems to be more effective among immigrants than among the majority population (Rosholm, 2005). The argument being 1) that private job training generates a link to the labour market, which can give information on job openings, and 2) that groups normally exposed to (statistical) discrimination will be given a chance to show their real productivity and ability to work with colleagues and customers. In the following, we will substantiate this line of theoretical reasoning.

The paper is divided into six sections. In the first section we advance the theoretical argument by focusing on lack of information in the labour market, which potentially explains both the existence of network and (statistical) discrimination. In the second section we present the previous theoretical discussion about different kinds of discrimination. In the third section we present some of the main empirical findings of discrimination. Then we turn to the previous research on the importance of networks. In the fourth section we elaborate on the theoretical arguments and in the fifth section we report some of the main empirical findings within this field of literature. In the last section we discuss how the previous findings on discrimination and networks can be linked to the current discussion about activation labour market policy and flexicurity.

The information problems in labour market

In this section we try to develop a theoretical framework that allows us to understand how recruitment normally takes place. The idea is that insight into to this process allows us better to understand how public policies potentially could influence these transitions.

In economic text books the labour market is often presented as any other market; the commodity is labour, the price is the wage, the buyers are employers and the sellers are workers. The market fluctuates (in the short run) until it clears and thereby finds an equilibrium. If the demand is larger than the supply then the wages will increase, whereby

workers will supply more labour. If supply is higher than demand, then wages will decrease, whereby more employers will demand more labour. In this perfect market there is only voluntary unemployment. If unemployment was not voluntary then unemployed would offer their labour at a lower price. Thereby demand for labour would increase until everybody works for the new equilibrium wage. This elegant package is, with a number of modifications, the point of departure for neo-classical labour market theory. Therefore it is a main line of reasoning that unemployment is either caused by unions or state interventions that hinder wage decline; be it in the form of collective agreements or in the form of unemployment benefits and social assistance schemes.

However, the idea of the perfect market is also a good point of departure for our alternative line of reasoning. The smooth mechanisms of the perfect market are namely dependent on full information and the exchange of standard commodities. Thus, employers are assumed to be aware of all potential workers (and their wage demands) and workers are assumed to be aware of all job openings (and the wage offered). It is also assumed that one worker easily can be replaced by another worker (who demands a lower wage) and that an employer can easily be replaced by another employer (who offers a higher wage). In any market it is impossible to fulfill these assumptions, but the labour market comes close to a worst case. Human beings are clearly not a standard commodity and it is obvious that workers cannot be aware of all job openings and employers cannot be aware of all (potential) workers. Therefore the market mechanisms do not work smoothly, which especially becomes problematic for unemployed (see below).

The information problem is actually well recognised within modern neo-classic economic theory. In 2001 Spence, Akerloft and Stiglizt got the Nobel Prize in economy for their work on economic models with lack of information. Most famous is Spence's Job market signalling model (1973). The idea is that employers cannot observe the true productivity of a given worker, which makes hiring a risky business. In such a market the applicants will be judged on some average assumption about productivity, the so-called statistical discrimination. The media example is a high productive immigrant who never makes it to the job interview due to the fact that the average productivity of immigrant workers is low. However, Spence makes an important distinction between indices and signals. Indices are personal characteristics such as age, sex and ethnicity, which the workers cannot change. Signals are personal characteristics such as education, appearance etc., which the workers can change and invest in. Now the idea is that high productive workers can obtain educational degrees more easily than low productive workers. Therefore high productive workers will be inclined to invest in education, which then is a signal of their true productivity. Thus, the provoking claim is that education is a selection mechanism that works even in the case when education does not contribute to increased productivity in itself.

Though information problems are recognised, most economic theories are reluctant to see the market as an institution embedded in, and dependent on, a larger social context. This is the main claim within the small sociological tradition labelled economic sociology. Within this tradition the seminal work on labour market is Mark Grannovetter's book from 1974, "Getting a job", which had networks as the focal point. The crucial point is that net-

works, i.e. ties to family, friends and acquaintances, carry information about job openings In the Boston area, Grannovetter analysed 282 men working in professional, technical, or managerial occupations who had changed job within the last year. The main finding was that informal networks were used intensively when these workers got a new job. The high degree of informal recruitment has been confirmed by a number of following studies (see Grannovetter, 1995, Lin, 1999, or Marsden & Gorman, 2001 for an overview). Sociologists tend to take for granted that societies are made of networks and therefore they have not felt a strong need to explain why network actually are of high importance for getting a job. However, by combining the idea of network with the economists' thinking of markets and information problems the line of reasoning can be improved quite a lot. Recently economists have started mowing in this direction. Work by Calvó-Armengol & Jackson (2004) provides a nice example of how sociological insights in network can improve economic theories, in ways that can be empirically tested.

First of all, a network is an easy and cheap way to announce a vacancy, i.e. the transition costs connected to spreading and gathering information (Williamson, 1985) are relatively low. Secondly, networks offer information that cannot be observed from either indices or signals. The employers do not only want to know about sex, age, race, educational level etc. Employers also want to know, especially when hiring an unemployed, about the general job motivation, whether he/she will be able to socialise with other employees, customers etc. In other words, employers care just as much about cognitive as about non-cognitive skills (Heckman et al. 2006). Thus, networks give access to more sufficient information. Finally, and most interestingly for economic theory, networks also give access to trustworthy information.

The market failure described by Akerloft, in his famous article about used cars (1970) is caused by the fact that the information is asymmetrically distributed. The owner knows something about the car that the buyers do not know, e.g. whether it is a "lemon" (a bad assembled car). And the owner has a clear incentive to hide the facts if the car actually is a "lemon". Therefore the buyers are extremely cautious when buying a used car and the price is typically too low. The same is the case concerning the labour market. The workers have information about themselves, which the employers cannot access, and the workers have a clear incentive to present themselves in the best manner. And the other way around; employers have information about themselves, e.g. about the work pressure, limited carrier possibilities etc, which the applicants cannot access. Therefore there is a large demand for trustworthy information in the labour market. Especially in the case of hiring an unemployed, employers can be expected to be cautious; the person could be a "lemon", which already has been dismissed by other employers. When employers hire through an already employed the latter can provide trustworthy information about the new worker (given the assumption that the already employed wants to maintain a good relationship with the employer). Thus, based on an economic theoretical framework we can give an overall theoretical explanation of the presence of statistical discrimination and informal recruitment (see Larsen & Pedersen 2009 for a further development of the argument).

To our knowledge there is no research or evaluations that have looked at the "anti-discrimination" and network effects of active labour market policy suggested by this report. Therefore we cannot summarize empirical studies that could tell us whether we are right or wrong. Instead we will summarize the literature on statistical discrimination and networks in relation to unemployment and wage gaps. We start out with the discrimination studies, which especially have a long tradition within the American economic literature.

The theory of regular and statistical discrimination

This section presents the traditional theories of Becker (1957, 1972) and Arrow (1973) dealing with gender and race differences in labour market outcome. We also present the classic divide between taste discrimination and statistical discrimination and introduce the human capital theory as a competing theory. Finally we also briefly mention new models that integrate cost search into models of discrimination.

Why do race and gender create difference in labour outcome? This had been the central question for much of the research on discrimination. There are two main hypotheses: 1) the preference/human capital hypothesis and 2) the hypothesis of discrimination. Both are based on the neoclassical model, a model that many economists have modified and elaborated. Labour outcome is measured as labour force participation, occupation and wage.

The preference theory claims that people differ in their preferences for leisure and particular types of jobs, which affect labour outcome. The human capital theory is concerned with family background, neighbourhood and schools. The literature on discrimination, distinguishes between past discrimination and current discrimination, both affecting the labour market outcome. The theories of discrimination are concerned either with prejudice or statistical discrimination. The discrimination theory is founded on a dislike for certain characteristics that are observed (prejudice). In the statistical discrimination theory people are treated differently based on observed characteristics expected to be correlated with performance (unobserved characteristics). Prejudice arises if ethical minority does not get hired because of their skin colour. Statistical discrimination arises if they do not get hired because the employer expects them to be less productive based on their ethnicity. Most research in this field has a hard time distinguishing the two effects, as it is not possible to separate the selection on observed and unobserved characteristics in the regression models[1]. Furthermore discrimination can have both, a pure effect, as some do not get hired due to the employers, and a spill-over effect, implying that due to homophile and informal recruitment, special groups will be "sorted" into low-wage sectors.

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[1] One of the best attempts is done by Knowles, Persico and Todd (1999). In their model the police exhibits statistical discrimination if they have no taste for discrimination and yet their search probability differs across different groups. They exhibit pure discrimination if they have a preference searching particular races more. They find that police are searching cares of African-American more frequently than those of whites. However, the probability that a driver is found carrying drugs is the same across races. They conclude that this is due to statistical discrimination. Hispanics on the contrary are also searched more than Whites. However the probability of finding drugs is smaller, indicating that pure discrimination is present, though the sample size is too small for final conclusions.

Regarding the likelihood of discrimination, the disciplines of economy and sociology have taken very different views. From the economic point of view, Becker (1957, 1971) starts the discussion by concluding that prejudice implies an indirect cost and that therefore the market mechanisms would drive discrimination down. It was further developed by Arrow (1973) trying to explain the paradox that prejudice has persisted, implying that the rational model of Becker has been wrong in its predictions. The consensus is that discrimination exists but it is hard to explain with the economic model. Sociology on the other hand claims that stereotypes are strong, persistent and reproduced.

According to Becker, "a taste of discrimination" implies a cost associated with having a certain race or gender (because employers hire by taste and therefore do not get the most productive workers). Becker both looks at *employer-worker discrimination* and *worker-worker discrimination.* The employer discrimination arises when some employers have prejudices against a minority group, which typically is measured as a wage gap. But in the long run this wage gap will be eliminated due to free entry, implying that discrimination will not persist. The worker discrimination arises if some of the majority workers do not like to work with minority workers, which implies segregation. However, if there is more low skilled than high skilled among the minority workers, some majority workers need to work with minority workers which implies a wage gap as they need a compensation for doing this. In equilibrium unskilled minorities will therefore earn less than unskilled majorities and skilled minorities will earn more than skilled majorities. This implies that the returns to skills are higher for the minorities than the majorities so in the long run a segregated equilibrium will arise, but there will be no wage gap. So goes the simple neoclassic argument about discrimination not being a problem in the long run.

Introducing imperfect information, which makes searching costly, overcomes some of the main objections to Becker's model. These models are more consisted with the empirical finding of a persistent wage gap. The search cost can be beared either by the worker (Black, 1995) or by the employer (Bowlus & Eckstein, 1998). In the "Black model" employer discrimination implies that the reservation wage of the minority is reduced due to a higher search cost of the minority worker. An increase in the fraction of worker from the minority group will reduce the wage gap as prejudiced companies will not do well in the competitive market. In the "Bowlus & Eckstein model", the workers from the minority group will receive less job offers than workers from the majority group, therefore lowering their reservation wage.

Arrow (1973) focuses on *employer-worker statistical discrimination* based on race and gender. He develops an alternative model, using "perception of reality" instead of "taste for discrimination", due to imperfect information about the workers. With limited information the employer often uses observable characteristics such as race and gender, in order to statistically discriminate among workers. This research has taken two main directions: 1) The effect of prior beliefs and 2) The effect of precision of information. The effect of prior beliefs about the productivity of a worker can affect the employment decision. An important issue in this field is whether stereotypes are self confirming, as the return to investment depends not only on skills acquired, but also on employers' believes (Arrow,

1973). It has also been argued that policy interventions can make the situation either better or worse, e.g. it can induce employers to hold the same beliefs of the two groups, reducing the different incentives to invest in skills or it can signal that the minority can get the desired jobs without investing in skills implying that the skill differences persist or increase. The accuracy of information that employer have, differ across group (Aigner & Cain, 1977; Lundberg & Startz, 1983)[2]. This has three implications (Lundberg, 1991): First, productivity will be lower due to a lower match quality for the minority workers compared to the majorities. Secondly, the return to job matching might be heterogeneous. Finally, the wage of minority might be less responsive to performance because it is harder to observe for the employer. It is especially this accuracy of information which can be improved through an active labour market policy as the unemployed get a change to prove their "true" qualifications.

Another approach challenging the simple neo-classical model is the dual labour market thesis and the radical thesis, which both look at the *employer-worker discrimination*. The hypothesis of dual labour markets (Kerr, 1953; Fisher 1954; Killingsworth, 1968 and Piore, 1970) analyses a labour market divided in primary and secondary sectors or good and bad jobs. Discrimination or segmentation arises as certain workers are selected into bad jobs due to observed and unobserved characteristics. The Radical hypothesis (Gordon, 1972; Franklin & Resnik, 1974) is based on the Marxist tradition and according to this tradition, race is one of the factors that divide the working class producing a segmented labour market.

To sum up, the main theory of discrimination (Becker, 1957) concludes that in the long run discrimination will not exist in a competitive market. But the model has been challenged by Arrow (1973), who created a model that can explain the persistence of discrimination. This model includes imperfect information, which it rational to use statistical discrimination. The empirically findings, reviewed in the next section, seem to be consistent with the model that expect persistence of wage gaps, but it is not an easy task to prove that it actually is due to discrimination.

The empirical evidence on discrimination

The empirical studies on discrimination theory look either at prejudice or statistical discrimination. Prejudices are often analysed by using audit studies (see Heckman & Siegelman, 1992 for an overview); that is comparing the outcome of identical persons except for race and gender. However these studies cannot control for unobserved characteristics (Heckman, 1998). Turner et al. (1991) analyse the differences in hiring rate between black and white men, Cross et al. (1990) compare Hispanics and whites, James & DelCastillo's (1991) look at Hispanics, blacks and whites. The results vary considerably, indicating that not all relevant characteristics are controlled for. Regarding gender, Neumark (1996) finds

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[2] Althonji (2005) puts up a model of statistical discrimination that can explain why some get trapped in low skilled jobs. Here high-skilled with observed characteristics that are associated with low-skilled would be trapped for a while in low skilled jobs as the marked learn there true ability, this would influence there upward mobility

evidence of discrimination, but the study is too small to conclude anything. Hellerstein et al. (1996) find evidence of gender discrimination. However, the endogenous problem is still present, implying that the choice of workers might not be random. Thus, even though wage gaps have proved to be persistent it is due to methodological problems still up for discussion whether these wage gaps actually are caused by prejudices.

One way to solve this problem is to conduct experiments. Here the experimental research by Fershtman & Gneezy (2001) finds that women do not discriminate but men do. Furthermore, they found no group bias - indicating that each prefer there own group (group affiliation) - though there was a systematic discrimination as all favour a special group. However, this study might be subject to the critique that there is a large gap between experimental outcomes and large-scale public interventions. Statistical discrimination is analyzed by Altonji & Pierret (1997) using a dynamic model, where the employers are believed to use statistical discrimination if the race wage gap does not vary with the experience of workers. They find that the employees are not statistically discriminated.

Furthermore, the discrimination studies have been challenged by a number of researchers that claim that much of the race wage gap can be explained by differences in human capital and much of the gender wage gap can be explained by the choice story. The human capital theory is studied by O'Neill (1995), Maxwell (1994) and Neal & Johnson (1996), who compare the "adjusted" race wage gap (implying that black have similar education, neighbourhood and school quality as whites). They find that most of the wage gap becomes eliminated. Bratsberg & Terrell (1998) study the return to experience finding that the racial gap increases, though the magnitude is sensitive to the estimation method. They find that whites have a greater return to actual experiences. Consistent findings obtained by Oettinger (1996) who assumes that the signals employer receives are noisier for blacks. Overall, there is reasonably strong evidence to conclude that both pre-labour market and during-labour market conditions are important, however little is known of the relative importance of this in the discrimination literature. The Human Capital literature, however claims that pre-market conditions are by far the most important. The choice story studied by Blau & Kahn (2001) looks at the gender wage gap and concludes that changes in experiences have been more important than changes in education, in closing the gap. Methodologically more rigorous studies, controlling for selection (Wellington, 1993), conclude that differences in return to experiences is a matter of choice. Light & Ureta (1995) use a work history specification and find that a gender difference in wage is caused by a gender difference in labour market participation, both timing and aggregated experience matter. A related issue is the turnover. Abbott & Beach (1994) find that women's turnover are lower, but imply a larger wage gain. However, this study does not take into account the selection problem. Light & Ureta (1992) find that statistical discrimination might influence training and promotion. Barrow & Hobson (1993) develop a model explaining that higher turnover implies a lower training, which is empirically supported (Royalty; 1996). One can conclude that gender differences in preferences and turnover matter, but how much is due to preferences and how much is due to statistical discrimination has not yet been determined. Similarly, the occupational effect has also moved from being a constraint towards becom-

ing a choice looking at gender but not for race where it is still a constraint. Thus, there are serious opponents to the "simple" discrimination theory, whereas effects of previous discrimination and spill-over effects are easier to combine with human capital and preference theory.

From the American research it is clear that wage gaps also persist in the long run, but at the same time it is difficult to prove that it is due to discrimination. Furthermore it is very difficult to decompose prejudice and statistical discrimination. The most common way to detangle prejudice and statistical discrimination has been experimental research, looking at the name disequilibrium. This method, however, has been subject to the Heckman critique of factors unobserved to the researcher affect the results. The main problem is that there is many unobserved variables that can affect the recruitment. Though audit pairs can find discrimination when there is not and fails to identify discrimination when it is present. Therefore the American literature turns out to be somewhat inconclusive.

Empirical research within this field is less developed in Europe – and the methodological discussion less advanced. However, before turning to the networks literature we will briefly mention a few Northern European studies. The main method used in these studies is either name discrimination, which is subject to the Heckman critique, or experimental research.

Carlsson and Rooth (2006) look at recruitment discrimination on the Swedish Labour Market against men with an Arabic sounding name. Using experimental methods, they find clear evidence of discrimination. They also found that discrimination is higher in low-skilled occupations than in high-skilled occupations. Interviewing the employers, they also found discrimination to be a male phenomenon and occurring more often in small firms with limited turnover. The interviews indicate that the observed discrimination might be due to network as most employers recruited from their own group rather than excluding individuals from other groups. They use the audit pair model, which is based on observable characteristics.

Husted, Nielsen, Rosholm & Smith (2001a) use Danish register data to test the double –negative effect on wage of immigrant women. Analysing the ethnic and gender discrimination, they found a general and pronounced gender gap, but the ethical gap was heterogeneous with only Pakistani women being double affected. Using a joint estimation method of selection and wage effect they can separate qualification from discrimination. Husted, Nielsen, Rosholm & Smith (2001b) look at wage gaps in Denmark, which can be due to assimilation- difference in human capital and it is temporary, or discrimination- difference in return to variable that determining wages. However, both these studies are also subject to the critique raised by Heckman (1998) of unobserved characteristics influencing the results.

Rooth (2002) use a data of Swedish adoptees trying to eliminate the Heckman (1989) critics that unobserved differences like living in an immigrant neighbourhood, which give rise to a lack of labour market network. The studies however are subject to the same critique as all other studies using adoptees; namely that this is a special group and

that outcome can not be generalised. He found that adoptee with a foreign look had a lower probability of being employed indicating the present of race discrimination.

Finally Rosholm, Scott & Husted (2000) find that not only the supply side matters, but also the demand side. Using a probit model corrected for individual-specific affects by a difference-in-difference approach they measure the net change in employment probability. They find that the immigrant in 1995 do worse in regard to employment than they did in 1985. This happened in both Denmark and Sweden, though they experienced different business cycles. This change in labour demand with an increase of language and cultural factors arise as new types of jobs are dominating the labour market. Their evidence suggests that the deterioration in employment for immigrants is caused more by statistical discrimination than by true discrimination.

To sum up, previous empirical work has shown that there is clear evidence of racial discrimination (Rooth, 2002 &2006), but due to methodological problems one can also challenge a number of the empirical findings. Furthermore it is very difficult to disentangle observed differences (prejudice) and unobserved differences (statistical discrimination). Different studies have attempted to overcome these problems. Appendix three provides an overview of the reviewed studies, the applied method, the data and the main conclusions.

The theory of network

The role of networks is a broad and more recent field that has received an increasing attention during the last decade and with a rapid growing literature. In the field of labour market network, Boorman (1975), Montgomery (1991, 1992, 1994), Borzekowski & Arrow (2004), Topa (2001) and Calvó-Armengol (2004) have modelled the ideas that originate from the older sociological literature on networks, see also Calvó-Armengol & Zenou (2003). Granovetter (1974; 1995) for instance argued that the key feature determining the network effect on labour market outcome, is the strength of the social ties. He finds that "weak ties" are more efficient than "strong ties". Korpi (2001) claims that the "size of the network" matters. However, he found in contrary that it is strong ties that increase the changes of unemployed to get a job. This finding is confirmed by Podolny & Baron (1997). This "weak versus strong ties" is one of the most classic discussions in the sociological literature but no final conclusion seems to be made. Other sociological researchers claim that social resources have to be included to fully understand the importance of networks. Lin (1999) includes "strength of social position" and argues that individuals are sorted based on social and occupational position.

The network theory also claims that the composition of the network (neighbourhood effects) influence the wage and employment inequality. Here, two models have been proposed: 1) social interaction models and 2) spatial mismatch models. Social interaction models based on the *worker-worker network* claim that low labour attachment in the neighbourhood affect individual labour attachment, either because of a behavioural spill-over or informational spill-over. Spatial mismatch models based on a *worker-employer network*, arguing that it is the longer commutes or lack of information that affect labour

attachment. The social interaction models with information spill-over can be used to explain why some networks cannot be used to pass on information on job openings- the so called "wrong" networks.

The models on job information networks also mainly look at the *worker-worker network* and can be divided into exogenous and endogenous models. In exogenous models the networks of connections are given, whereas in the endogenous model they vary (Calvó-Armegnol & Jackson, 2002). Montogomery (1991) formulates a model including "inbreeding social bias" arising as the establishing of network is more likely among same groups and across same generations. It is a simple two period model, where individuals make choices regarding respectively education and work. Calvó-Armegonol & Jackson (2004, 2007) explicitly construct a network model, where information about job opportunities is transmitted through networks. Labour market turnover arises due to new jobs, where the unemployed obtain the job. Employed either keep the job, passes on the information or break ups (fired). Further network is endogenized, by allowing agents to drop out of networks. The drop out rate is negatively correlated with wage and positively correlated with costs. This model implies a contagion effect, where an increase in the dropout rate has a snowball effect. Further, the dropout rate is sensitive to the initial conditions and creates an inequality that persists. Cabrales and Calvó-Armengol (2008) extend the model to include the well-being of other persons. This model can explain the non expected results from experimental research due to fairness (social preferences). Boorman 1975 formulated a networks model where the choice between strong and weak ties depends on a trade-off between getting a job through network and time invested in social relations. Jackson & Wolinsky (1996) model network as a function of cost. Calvó-Armegnol (2004) develops a model distinguishing between direct and indirect contacts, where the probability of getting a job increases with the number of direct contacts, and decreases with the number of indirect contracts as the competition for information increases. Indirect contacts are inefficient as they can be over-connected, under-connected or geometrically inefficient. He links this information to the sociologists distinguish between strong ties (transitive triad) and weak ties (intransitive ties), where strong ties are more costly.

To sum up, there is a large theoretical interest in the role of networks. In the classic sociological studies networks are seen as medium for information exchange, which then afterwards – in various forms – have been introduced into sophisticated micro-economic models. The theoretical argument is fairly straightforward; lack of networks, e.g. caused by a long period of unemployment, or lack of relevant networks, e.g. caused by negative neighbourhood effects, might constitute a serious obstacle for success on the labour market; either measured in terms of transition into employment or wage levels. In the next section we turn to empirical findings in this field.

The empirical evidence of networks effect

The classic empirical studies of networks and labour market outcome often report – as we did in the introduction – how many found their current job through informal channels. The

use of informal recruitment channels varies across countries but all previous studies report an intensive use of networks (see Grannovetter 1995 for an overview). The more advanced studies of networks look either on social interaction models or the spatial mismatch models, a very limit amount of studies take both effects into account. The social interaction model is used in Munshi (2003) looking at the job networks among Mexican migrants. Methodologically he uses individual fixed effect combined with an instrumental approach using rainfall in the original country as an instrument for network. He finds that individuals are more likely to be employed and to hold a higher paying non-agricultural job when the network is large. Mouw (2003) studies the effect of network on labour market outcome and concludes that the effect of network social capital on wage is due to selection not causation. This arises as some unobserved characteristics are driving the results. Bayer, Ross & Topa (2005) look at network through social interactions using a robust model. They find significant evidence of social interactions studying the propensity of neighbours working together.

Oropoulos (2002) finds that the effect of neighbourhood is less than the family effect. This is the so-called indirect effect of network he is researching. He estimates the effect of the different residual housing projects in Toronto. Assuming that families are randomly assigned, they look at sibling outcome correlation. They found no neighbourhood income correlation, but a sibling correlation of 30 percent[3]. Earlier findings from the natural experiment find a positive correlation. For example the Gatreaux programme moving poor black from the inner Chicago to suburbs (Rosenbaum et al. 1995, 1999) and Moving to Opportunity (MTO) (Katz et al., 2001). The spatial mismatch models used in Conley & Topa (1999) are looking at unemployment in Chicago, considering different distance metrics e.g. physical distance. Estimating the correlation between unemployment and each distance and pairs of metrics the results they find is that all distance matter and that the effect is monotonical. However, most of the spatial clustering observed is driven by the selection effect, reflecting the choice of neighbourhood. Weinberg, Reagan & Yankow (2000) compare the social influence (social interactions models) and the job proximity (spatial mismatch models). Using a simple OLS regression, they find that the social influence effect dominates, however using a more proper model including fixed effects the job proximity effect dominates.

Again the empirical field is dominated by American discussion and American data. However, there are a number of European studies. Cahuc & Fontaine (2002) provides a matching model for measuring the effects of different search methods, formal and informal. They find that decentralized solutions can be inefficient due to over- or under-utilization and multiple solutions that exist. This implies that the low job search intensity found by using economic analysis can be too low if not including social network. The policy implication is that unemployment benefit might improve the efficiency of search by inciting individuals to search for better job match. Falk & Kosfeld (2003) proved an experimental analysis of network formation. They study the decision to form links based on

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[3] However, the sample might not be reprehensive missing "nontaxfilers"

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various parameter of benefit and costs. They find that predictions on strict Nash equilibrium work well for a 1-way model, but not for a 2-way model network, here fairness plays an important role in network formation. Hedeström, Kolm & Åberg (2003) extend the search model taking into account the social and psychological cost of being unemployed. This cost is inversely related to the unemployment level of the neighbourhood. Multiple unemployment equilibrium can emerge due to the present of social interactions. Low unemployment emerges if the costs of unemployment are high. Then employed and employers would do their utmost to avoid unemployment. For analogous reason high unemployment is possible. Harsløf (2006), using YUSE (European comparative Youth Unemployment and Social Exclusion) are analysing the effect of strong ties among youth in Europe. They found that informal recruitment is related to the lower class in the social strata. Unemployment benefit and duration affect the use of formal job search. Lars Behrenz (2001) uses a Swedish survey looking at which factors employers value the most in a written application and in an interview. And finally – as already mentioned - Korpi (2001) uses a Swedish survey to test whether quantity (size) or quality (ties) are two contradictory effects that may cancel each other out. Though, including additional variables, he still does not solve selection in use of network as unobserved variables are not included. Further, they only look at the strengths of the ties not who people are networking with. They find in contrary to Granovetter that it is the quality that matters, implying that small networks do best.
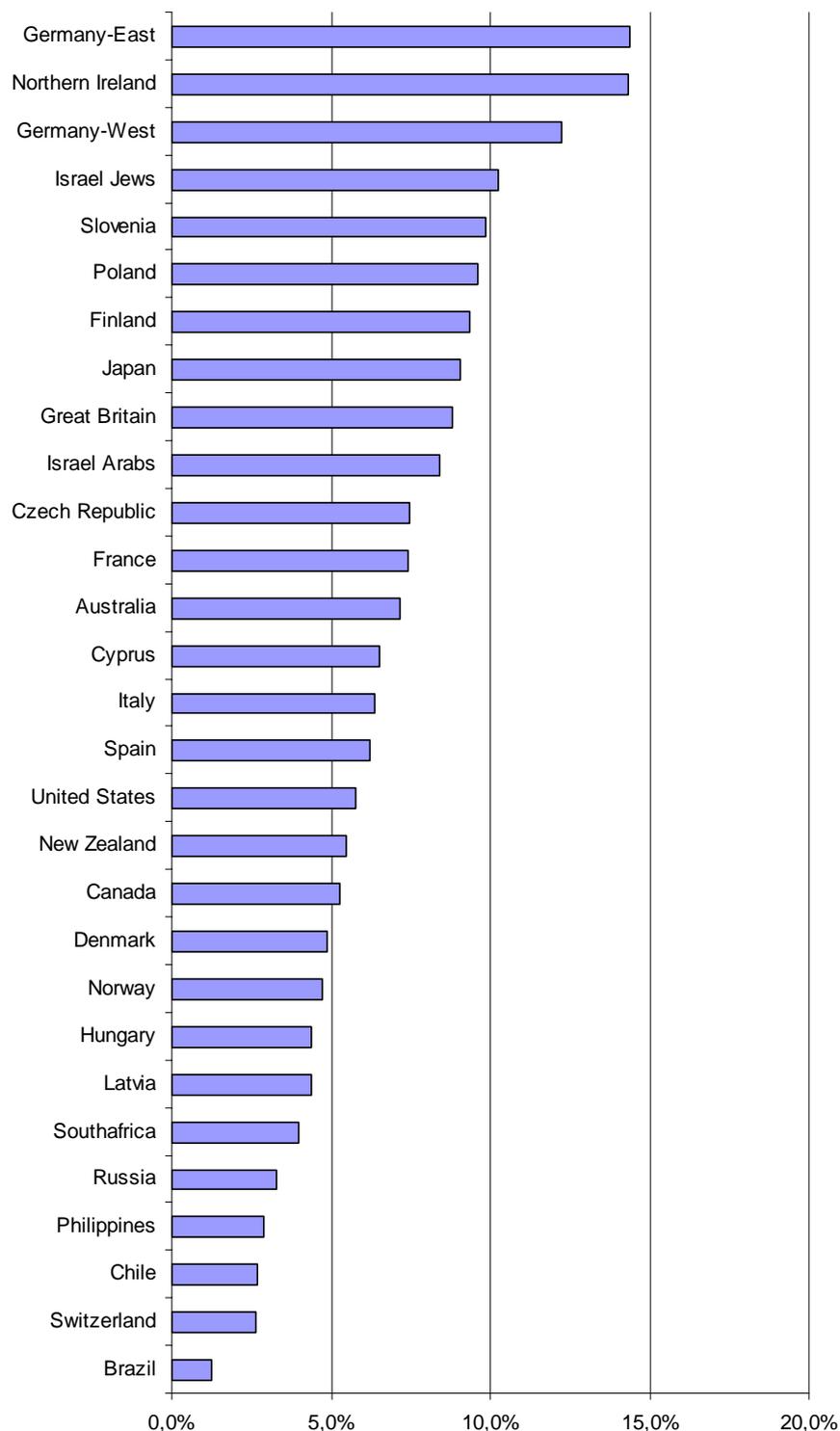
To sum up, earlier American literature on social interaction finds the expected effects. Informal job search is mostly used by the low-skilled, which also are those that can benefit from it. The amount of informal job search depends to a large extend on unemployment benefit level and the duration period. However most of these studies have been criticized for measuring selection instead of causation. Recent studies using proper identified models find a less severe network effect indicating that previous studies have overestimated the importance of networks. European research has been sparse, from what evidence there is, network has been proven to matter. The main conclusion is that network matter, but that identified and non-identified models provide us with widely different results. Appendix two give an overview of the reviewed studies, the method used, the data material, and the main results.

Linking network, discrimination, activation and flexicurity

So far the review of previous studies has given us reasons to believe that both (statistical) discrimination and networks are of importance for explaining differences in the transitions from unemployment to employment – even though the relative size of the effects can be discussed, especially in the case of discrimination. But naturally the crucial question is whether activation efforts are able to bypass the ordinary way of recruitment and thereby help groups that otherwise are subject to discrimination or simply have little network. As already mentioned we do not have previous studies that can provide us with an answer. Nevertheless, below we will present some preliminary findings that might give us some first insights.

First of all one should not be too optimistic about the possibilities of influencing the ordinary recruitment process at the labour market. In the first section we showed how employed got information about their jobs in various countries, which besides the general importance of informal network also highlighted large cross-national differences. However, the lower importance of informal networks in countries such as Finland, Denmark, and Norway is not an effect of public agencies crowding out informal recruitment. That can be seen from figure 2, which shows the share of people that got information through a public employment agency. In Finland it is still below 10 percent that got information through the public employment agency and in Denmark and Norway the share is below five percent.

Figure 2: Share of respondent that got job information through public employment agency. 2001 ISSP

Country	Share
Germany-East	~14.3%
Northern Ireland	~14.2%
Germany-West	~12.2%
Israel Jews	~10.2%
Slovenia	~9.9%
Poland	~9.6%
Finland	~9.3%
Japan	~9.0%
Great Britain	~8.8%
Israel Arabs	~8.4%
Czech Republic	~7.5%
France	~7.4%
Australia	~7.1%
Cyprus	~6.6%
Italy	~6.4%
Spain	~6.2%
United States	~5.7%
New Zealand	~5.5%
Canada	~5.3%
Denmark	~4.8%
Norway	~4.6%
Hungary	~4.4%
Latvia	~4.3%
Southafrica	~3.9%
Russia	~3.2%
Philippines	~2.9%
Chile	~2.7%
Switzerland	~2.6%
Brazil	~1.2%

Other possibilities of response choice was information through parents, sister, brothers, other relatives, close friends, acquaintances, private employment agency, school or university office, advertisement, contact by employer or direct call to employers. "Don't know", "never worked", and "refused" are excluded.
Source: ISSP 2001, data not weighted

Furthermore, bypassing the ordinary recruitment process is not simply a matter of delivering information about job openings. As discussed in section two it is also a matter of providing employers with trustworthy information. Here a number of case studies have shown that recommendations from already employed is of large importance; e.g. Fernandez and Weinberg (1997) who studied a bank, Fernandez et al. (2000) who studied a call centre, and Petersen et al. who (2000) studied a high-technology firm. In a Danish survey among private employers it has also been asked how much a recommendation from an agent at the public employment office matters. The finding was that compared to recommendations from already employed and former employers a recommendation from a public agent was close to worthless (Larsen, 2008). This is understandable as these agents are to help the "weakest" unemployed. Thus, the argument is that there are clear limits to what the state – in a market economy – can do.

Nevertheless, there is still the possibility that public intervention in the form of temporary subsidised jobs can create an important direct contact between groups of unemployed and employers. Such programs have proved to be the most efficient in the Danish context (e.g. Larsen, 2002), and especially in order to help immigrants (Rosholm 2005). The most obvious explanation is that these measures create a contact – which is of particular importance for persons, who have modest network or are subject to discrimination. Furthermore, one could argue that policies that bypass the recruitment procedure in order to help a certain individual might have an effect that goes beyond the pure/direct effect. The idea is that the person can give information of job openings to the target groups to which he or she belongs. The perceptions of the employers – which is the basis for statistical discrimination - might also change over time. Appendix 5 presents a theoretical model that tries to include some of these effects. Needless to say, we need specialised studies to confirm these suggested effects (see e.g. Holmgaard forthcoming).

Finally, one could argue that this kind of bypassing of ordinary recruitment processes could be of special relevance in countries with high employment protection. If it is difficult for the employers to dismiss hired workers we would predict that it makes the employers more cautious about not taken the chance of hiring a "lemon". Therefore employers would be more inclined the use statistical discrimination and networks. And the other way around; countries with low employment protection could benefit from less risk adverse employers. At least the lesson from the Danish case seems to be that flexicurity enhances the job possibilities of people at the margins of the labour market. This is often explained with the presence of an active labour market policy but it could also be caused by the fact that the flexicurity system alters the behaviour of employers. Thus, willingness to take the chance of hiring a person with a marginal labour market position could be an important mechanism when evaluating the social consequences of the flexicurity model.

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Appendix 1: Overview of discriminations theories

Model	Concept	Relation	Author
The preference hypothesis	Differ in preferences for leisure and job type		
The human capital hypothesis (gender)	Family background, neighbourhood and school		
The discrimination hypothesis (race)	Past/present Prejudice/statistical discrimination	Employer-worker Worker-worker	Becker (1957) –not persist Arrow (1973) – persist The effect of prior believes or the effect of precision of information

Appendix 2: Overview of network theories

Model **Sociological studies model**	Concept	Relation	Author
Imperfect information	Lemmon literature	Worker- employer	Akerlof (1970
Frequency of contracts	Strength or size of network	Worker-worker	Granovetter (1974, 1995) Korpi (2001)
Sorting	Status	Worker- worker	Nan Lin (2001)
Economic studies			
Social interaction model	Behavioural or information spillover	Worker-worker	
Spartial mitchmatch models	Longer commutes or lack of spillover	Worker-employer	

Appendix 3: Overview of reviewed discrimination studies

Title	Author(s)	Model	Data set	Variable	Empirical test	Results
Evidence of Ethnic Discrimination in the Swedish Labor Market Using Experimental Data	Carlsson and Rooth (2006)	Audit pair model	Experi-mental data	Y: net discrimination X: Arabic sounding name		Evidence of dis-crimination, which is more prevalent in lower level occupa-tion
			Interview	Y: call for an interview X: composition of employ-ees, responsibility charac-teristics, equal right, size of firm, discriminates female and occupation		Discrimination is nepotism
Qualifications, Dis-crimination, or Assimi-lation? An Extended Framework for Ana-lysing Immigrant Wage Gaps	Nielsen, Rosholm, Smith and Husted (2001)	Combine the discrimina-tion litera-ture and the assimilation literature Random effects model	Compare the perfect assimi-lated state with the unassimi-lated state	Y: Wage gap (employment and earning) – a qualifica-tion component, a dis-crimination component and a assimilation component X: ethnicity, years since migration, accumulated work experience, highest formal education, aggre-gated unemployment, occupational indicators and household composition indicators	Panel register Estimate jointly the wage and selection equa-tion Register data. Individuals age 20-59 native Danes and first generation non-refugee immi-grants	The immigrant wage gap is caused by lack of qualifica-tions and incom-plete assimiliation. Would disappear if only immigrants could find employ-ment and thug accumulate work experience
Hit Twice? Danish Evidence on the Dou-ble-Negative Effect on the Wages of Immi-grant Women	Nielsen, Rosholm, Smith and Husted (2000)	The dis-crimination literature Random effects model.	Test for a double-negative effect -the discrimi-nation due to gender and enthicity	Y: Wage gap (employment and earning) – a qualifica-tion component and a discrimination component X: ethnicity, years since migration, accumulated work experience, highest formal education, aggre-gated unemployment in the year of immigration, occupational indicators and household composition indicators	Panel register Estimate jointly the wage and selection equa-tion Register data. Individuals age 20-59 native Danes and first generation non-refugee immi-grants	There is a substan-tial gender dis-crimination in wage, the ethnical discrimination depend on the groups according to countries of original
Adoted Children in the Labour Market- Dis-crimination or Unob-served Characteristics?	Rooth (2002)					They found that adoptees with a foreign look have a lower probability of being employed- this difference can be explained partly by ethnical dis-crimination
The Times They Are A-Changin' Organiza-tional Change and Immigrant Employ-ment Opportunities in Scandinavia	Rosholm, Scott & Husted (2000)	Random effects probit model	Control for indi-vidual specific effects using DID	Y: employment X: years since migration, age at migration, education in host country, marital status, number of children and citizenship	Panel register data	They found that organizational changes in the labour marked has reduced the em-ployment prospects of immigrants

Appendix 4: Overview of reviewed network studies

Title	Author(s)	Model	Data set	Variable	Empirical test	Results
On the Efficiency of Job Search with Social Networks	Cahuc & Fontaine (2002)	Matching model	Administrative register		Theoretical model	Including social network in the search model can reveres the standard results that search is always to low.
Social interaction and unemployment	Hedeström, Kolm & Åberg (2003)	Deprivation culture- Bala & Goyal model	All 20-24 years old living in Stockholm from 1992-1999	Y: Transition out of unemployment X: Demograhic characteristics- age, sex, education, income, neighbourhood, and country of birth, neighbourhood unemployment level	Cox-proportional hazard model	The cost of being unemployed falls when being unemployed is a common phenomen. A social multiplier exist.
It's all about Connections: Evidence on Network Formation	A. Falk & M. Kosfeld (2003)	Matching	160 subjects in three games		Experiment	Predictions on strict Nash equilibrium work well fore 1-way model, but not fore 2-way model (fairness versus efficiency)
The Impact of welfare and labour market institutions on informal recruitment in European youth labour markets	Harsløf (2006)	logistical regression including control variable	YUSE (European comparative Youth Unemployment and Social Exclusion) Young long term unemployed	Y: reference job X: Gender, age, ethnic, education, father's education, total months as unemployed and having children (control variable) Sector (private or public), type of occupation, work time (number of hours) and type of contract (permanent or temporary), labour union, unemployment insurance	Survey	Informal recruitment especially among marginalised young.
Who gets the job and why? An explorative study of employers' recruitment behaviour.	Lars Behrenz (2001)	The lemon problem (Akerlof, 1970) with the Spence signal model (1973)	Behaviour of 1000 employers who had reported a vacancy	Y: Applications and job interviews	Survey	Depend on different variable that can be summarized as proxies for productivity. The Swedish employer are very risk adverse in there recruitment behaviour.
Good Friends in Bad Times? Social Networks and Job Search among Unemployed in Sweden	T. Korpi (2001)	Include additional variables partly controlling for the selection bias		Y: Transition from unemployment to employment X: network size, strong and week ties, age, health, gender, immigrant background. Education, employment experience, previous unemployment, frequent job shifts	Survey Swedish Longitudinal Study among Unemployed	The network do matter, however the results are not significant and doesn't fully control for selection

Appendix 5: A model to understand the effect of public intervention

The need for public intervention can be explained with market failures that relates to 1) the public good and externality aspect and 2) the imperfect information aspect. The public good aspect arises as some of the benefit from reduced unemployment rate is captured by other unemployed. Employment has a positive spilover, which implies that the private and social benefit differs. Therefore the true effect of the policy intervention is underestimated and that such an effect should bee included in evaluations. On the hand we might also have a free riding problem. The free riding arise as each person hopes the others will search for a job so that they through there network connection will get one as well. Capturing all the benefit from holding a job, but not paying the search cost of getting one. This implies that searching becomes to low. The Imperfect information arises as employer does not know the employee they get. They have no information regarding the potential workers both cognitive and non-cognitive qualifications. Here network can help providing trustworthy information or public policy directed towards matching can reduce this informational lack. One way to model the effect of activation from both the employer and worker would be to look at the outcome equalisation:

$$Y_{it} = \beta_0 + \beta_{Di} D_i + \beta_x X_i + \varepsilon_{it}$$

Where X_i is characteristics, β_{Di} is assumed constant over time

Then the decision to participate in activation is given by:

$$D_i^* = \gamma_0 + \gamma_1 Y_{0k} + \gamma_2 C_i + \eta_i$$

Where D_i^* is the utility received from activation, which arises due to the opportunity cost y, the direct cost c and the impact η. This can be analyzed from different angles. Looking at the *workers*, the opportunity cost is wage in jobs that they could have gotten or the unemployment benefit they could have received. The direct cost is the time invested in activation. The impact differ for high and low skilled. For the *employer* the opportunity cost is the pass over of well qualified candidates from the outsider group. The cost is out of pocket money, as they often pay part of the salary. The effect is the productivity effect which again is heterogeneous according to workers ability. Those that will participate in the programme are individual with a high effect, low opportunity cost and a low direct cost. The impact on labour outcome can be measured as employment after activation. The correlation between ε_i and η_i represent the selection on observables. The correlation between X_i and μ_i represent the selection on unobservables. The heterogeneous effect can be measured estimating the mean impacts by subgroups

$$E(\beta_{Di} | D_i = 1, X_i = x)$$

However it can still be difficult to interpret as a causal effect. Variation can arise due to socioeconomic standing, gender, race and age.

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