Social capital at work

How family, friends and civic ties relate to labour market outcomes

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Contents

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Abstract

In Australia, as in many other nations, there is an emphasis upon paid work as a primary means for achieving economic independence, alleviating poverty and avoiding welfare dependency. Much of this attention focuses on an individual's skills and attributes, or upon characteristics of the labour market. In this paper, we extend these analyses, by investigating the extent to which an individual's "stock" of social capital relates to labour force outcomes, over and above more well established determinants. In particular, it examines how family and kinship networks, friends and neighbours relate to individual labour market outcomes, compared with the role of civic ties and institutional networks.

Using data collected from a national random sample of 1500 Australians, we use both a network and typology approach to social capital to investigate the relative impact of trust, bonding, bridging and linking relationships upon labour force status and successful job search method. In doing this, we are able to examine what social capital adds to established understandings of labour market determinants and job search. As well, the paper provides one of the few accounts of how the various dimensions and types of social capital relate to each of these outcomes.

We find social capital does matter, but that its effects are uneven, and in some cases may reflect existing inequalities in the labour market. For example, whereas family and other informal relationships are relied on by those with more limited involvement in or access to paid work, professional contacts act to support and reinforce the labour market status of those with the strongest attachment to paid work. These findings lend some support for Granovetter's (1973, 1974) strength of weak ties theory – but show that the relative advantage of weak ties is not universal.

Social capital at work

Introduction

The extent and nature of an individual's paid employment has significant implications for both their own and their family's wellbeing. For example, paid employment is a major source of income and hence living standards. It can be an important source of social contact and has impacts on identity, self-efficacy and self-worth. Paid employment, and its absence, also have important effects on the nature and quality of family relationships.

Conversely, the relationship a person has with their family and friends can impact upon the likelihood that they will be in paid employment and the number of hours they work. The importance of family and other social relationships in facilitating a range of outcomes for individuals and communities is currently the focus of much government policy. Most notable is the growing awareness that higher levels of economic wellbeing are not in themselves sufficient to achieve a range of positive community outcomes, but that social relationships are also essential (Narayan 1999). An important theoretical development in this area has been the development of the concept of "social capital" – a concept that emphasises not only the structure of social relationships but also their quality.

While the term "social capital" has been used in varied ways, it can be defined as networks of social relations which are characterised by norms of trust and reciprocity and which lead to outcomes of mutual benefit (Bourdieu 1993; Coleman 1988; Putnam 1993; see Winter 2000 for discussion). Thus, social capital can be understood as a resource to collective action. For individuals, this can mean access to social connections that help the processes of getting by or getting ahead. For communities, social capital reflects the ability of community members to participate, cooperate, organise and interact (Putnam 2000). Included in this definition are a person's family relationships, kinship networks, friendships, acquaintances, civic attachments and institutional ties.

There have now been a number of studies of the role of social capital in assisting individuals and communities to achieve a range of outcomes. At an aggregate level, there is evidence that social capital influences economic and political outcomes (Arrow 1972; Fukuyama 1995; Knack and Keefer 1997; Putnam 1993). At an individual and family level it has been found that social capital is related to a range of outcomes including health status (Baum et al. 2000; Lochner et al. 1999) and educational attainment and child wellbeing (Coleman 1988; Marjoribanks and Kwok 1998).

The relationship between social capital – defined in this way – and labour market outcomes has received relatively less attention, possibly due to conceptual difficulties in measuring social capital and associated limitations in social capital measures available in existing data (see Stone and Hughes 2000 for discussion). This link is of interest because of the importance of employment in determining access to resources.

Yet it has long been recognised that social relationships and social context are important factors in determining success in the labour market. Much of the research in this area has focused on the role of social connections in the job search process. Early work by Granovetter (1973, 1974) developed the strength of weak ties theory, which argues that having ties with persons in networks distant from oneself enables a person to access the resources of that network, for personal gain. Another branch of the literature has focused upon the role of social resources within networks in determining labour market outcomes and on the role of 'network capital' (Barbieri 2000; Lin et al. 1981; Lin 1999).[1]

This paper explores the links between an individual's social capital and their labour market outcomes. The empirical analysis fits within the micro-economic approach to the analysis of the labour market. The relationship between an individual's social capital and their employment status is estimated. The relationship between social capital and the job search method used to find employment is also explored. The focus upon job search method is of particular interest given that the most obvious mechanism by which social capital may impact upon labour market outcomes is through the job search process. The extent to which social capital relates to labour market outcomes is of interest, given that this approach draws attention to the role of one's family, informal, civic and institutional ties in terms of how these networks support labour market engagement.

The main contribution of this paper is to provide estimates of the impact of both the structure of social networks and the quality of social relationships on labour force status. The empirical analysis is based upon data from the Families, Social Capital and Citizenship (FSAC) 2001 survey. In contrast with many social capital studies, this dataset contains multi-dimensional measures of social capital, including the quality of social relationships, network size, density and diversity.

Indeed, given the purpose-designed nature of this survey, and the way measures of social capital have been developed using these data, the analysis presented in this paper is able to isolate statistically the unique relationship between various aspects of social capital (for example, trust, network size, network density) at various levels of analysis (such as, in relationships with family and kin, civic groups, institutional ties) with labour market outcomes. Additionally, the combined effect of these social capital variables is able to be considered in terms of labour market outcomes at the individual level.

This multi-dimensional and multiple level approach represents a significant methodological advance on much previous work that has attempted to isolate the relationship between social capital and various economic outcomes, but that has relied on either too few measures or on measures designed for other purposes. Hence, this approach overcomes many of the problems that have led to criticism of previous social capital research (Durlauf 2002; Paxton 1999; Portes 1998; Stone 2000; Stone and Hughes 2001).

The rest of this paper is structured as follows. The next section discusses the concept of social capital, and the ways in which social capital may impact upon labour market outcomes. This is followed by a discussion of the data used in the analysis and the approaches used to measure social capital. Then follows an analysis of how social capital relates to labour force status, and a discussion of the relationship between social capital and the ways in which employment is found. The final section makes some concluding comments.

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1. The social resources literature has focused on the role of social resources within networks in determining the quality of jobs found, as measured by occupational status and income, also termed "status attainment".

Social capital and the labour market

This section outlines the definition of social capital used in this paper. The links between social capital and an individual's labour market outcomes are then discussed using a simple theoretical model of the determinants of labour supply and employment and available literature.

Defining and measuring social capital

Social capital is a multi-dimensional concept that emphasises both the quality and structure of social relationships. In social capital terms, both network structure and quality of relationships are thought to be important in achieving various outcomes. The different dimensions of social capital are discussed briefly below.

Social networks can be categorised into three types (for details of the operationalisation of social capital used here see Stone 2001 and Stone and Hughes 2002). The first type of social network is "informal ties", which include relationships with members of household, family and family in-law, friends, neighbours, and workmates. The second type is "generalised relationships", which are community based, and "societal" relationships people have with people they do not know personally, including local people, people in general, and people in civic groups. The third type of social network is "institutional relationships", which are the ties individuals have with institutions including the legal system, the police, the media, unions, governments, political parties, universities, and the corporate world.

The quality of social relationships refers to the extent to which they are characterised by norms of trust and reciprocity. Clearly, trust and reciprocity mean different things in each of these types of networks. For example, trust and reciprocity in informal networks involve network members who know one another personally, whereas in the generalised realm, they concern the extent to which trust and reciprocity are extended to strangers, often on the basis of expectations of behaviour or a sense of shared values. Within the institutional realm are the norms governing people's confidence in institutions. These norms concern trust in the formal institutions of governance and markets and include, for example, fairness of rules and official procedures (Uslaner 1999).

Social capital theory also argues that the structure of networks is important. Structural characteristics of networks include the size of the network, the density of social ties within the network, and the diversity of the backgrounds and social situations of the network members.

The degree to which networks are dense or closed is also argued to have implications for the quality of the relationships they embody, and their productive output (Coleman 1988). A dense network is one in which network members overlap and know one another, and a closed network is one in which social relationships exist between all parties. Dense, closed networks are argued to better facilitate the enforcement of group norms and sanctions. Heterogeneity of group or network membership is argued to influence the levels of trust within networks, the extent to which trust of familiars translates into generalised trust of strangers, and the extent to which norms within networks are shared. Heterogeneity of social ties may promote linkages with a diverse range of networks and hence access to a broad range of resources or opportunities (Grootaert 1998; Narayan 1999). On the other hand, heterogeneity of social ties may limit the extent to which social relationships are characterised by high levels of trust and reciprocity (Stolle 1998).

The size of social networks may affect the overall stocks of social capital. Individuals and families with large numbers of social ties may have high levels

of bonding, bridging or linking social capital, whereas those with few social ties may thus have little access or opportunity to invest in social capital.

The existing empirical evidence suggests that different patterns of network characteristics will impact on the nature of a person's social capital. One influential classification divides social capital into three types – bonding, bridging, and linking (Narayan 1999; Woolcock 2000). *Bonding* social capital is argued to exist in dense or closed networks, and helps people "get by" in life on a daily basis. *Bridging* social capital involves overlapping networks that may make accessible the resources and opportunities which exist in one network to a member of another. This type of social capital is particularly useful in helping people to "get ahead". Heterogeneity or diversity of network members (in informal or formal groups) is also argued to enhance the bridging capabilities of social capital. *Linking* social capital involves social relationships with those in authority or positions of power and is useful for garnering resources.

Generally speaking, family, friendship and neighbourhood ties can be thought of as "bonding" ties; civic linkages and other more distant ties are "bridging", since these often provide contact with people different from one's self and with varied opportunities; and institutional connections are "linking" ties.

Implicit in this approach is a focus upon individuals and a recognition that individuals do not exist in isolation, but are embedded within a series of social relationships and networks that shape, and are shaped by, the experiences of that individual (Wellman and Gulia 1999). These include family relationships and households, which are in turn embedded within kinship and friendship networks, and linkages with a range of other types of social networks. For example, individuals may also be engaged in civic life via involvement in groups or volunteering, will interact with people they do not know (particularly in urban environments) and may have linkages with a range of systems and institutional settings, including work environments.

Importantly, some of these types of relationships will be localised, whereas other types of relationships and networks will cross geographic boundaries, and exist outside an individual's local area. Arguably, the extent to which an individual's social relationships are localised will impact upon their feelings about their neighbourhood and local area, that may lead to increased community involvement and attachment, which may in turn have other positive spin-offs (Lochner et al. 1999).

Role of social capital in the labour market

Conceptualising particular types of social relationships as "social capital" enables us to consider how such relationships relate to employment status and the job search methods used to find employment. The concept can be readily incorporated into micro-economic models of labour force status since it has been operationalised within sociology as an individual actor, rational choice approach to the classical sociological tenet that individuals are embedded in networks of social relations.

This approach, most well developed in the work of James Coleman (1988, 1990), has influenced the way the concept of social capital, that started from broader beginnings, is typically used today[2]. The way in which Coleman views social capital is that: "Actors committed to pursuing their own aims rationally weave together a network of social relations and mobilise their social capital. The latter is to be treated and analysed like any other sort of capital – economic and human – at an actor's disposal" (for discussion see Barbieri 2000: 204). This interpretation hinges on the idea that social relationships of a particular type

2. For a comparison of the main approaches see Winter (2000).

and quality can lead to other benefits. This is consistent with economic approaches (Bowles and Ginitis 2002; Glaeser et al. 2002; see also Durlauf 2002 and Spies-Butcher 2003 for discussion), and is also the approach taken throughout this paper.

In order to clarify the potential ways in which social capital may impact upon labour market outcomes, we begin with the conventional micro-economic labour supply model. According to the neo-classical analysis, labour force status is determined in a two-stage process. In the first stage an individual decides whether or not they wish to supply their labour to the market. In the second stage whether or not they are employed is determined by a combination of factors including labour demand conditions, their incentives to actively search for work and accept any job offers they may receive.

In the neo-classical model, an individual makes labour supply decisions by maximising a utility function subject to a wealth or budget constraint. An individual's decision to participate in the labour market (and work a desired number of hours) can be explained in terms of a trade-off between time spent at home on market-substitution activities, leisure, and paid work. The decision to work or not work depends on a comparison between the wage that can be obtained in the market and their reservation wage (Blundell and MaCurdy 1999).

The simple neo-classical model of labour supply described above is somewhat unsatisfying in that it only allows a limited role for family factors. To address this limitation, a range of models of family labour supply have been developed. See Blundell and MaCurdy (1999) for a detailed discussion of these models. The standard approach to family labour supply modelling is to extend the consumption-leisure choice problem to include two leisure decisions (the "unitary model of family labour supply"). In this class of model the family aims to maximise total family utility, which is assumed to depend on total family consumption and on the leisure of each family member. The family is assumed to pool the total earnings and, implicitly, consumption spending so that utility is maximised subject to a family budget constraint.

A major limitation of the unitary model of family labour supply class of models is that they imply that as far as the household's utility-maximising choice of family labour supplies are concerned, all sources of non-labour income can be combined into a single, unearned income measure. This has led to recent research seeking solutions from efficient bargaining theory (collective model of family labour supply). These models set up a competitive "game" between family members.

These theoretical labour supply models have a number of implications for what factors will determine labour supply. The wage that can be obtained in the labour market is a key factor. Another important factor is the amount of unearned income received. Clearly specialisation with in the household between the production of home and market based goods is important. For women, the age of their children is likely to be important as the balance between paid work and child bearing and child rearing responsibilities change over the lifecycle (Killingsworth 1983; Hersch and Stratton 1994).

Given that a person wishes to mother, employment will be determined by whether they receive job offers with a wage greater than their reservation wage. This will be depend, in part, upon a woman's marketable skills and hence productivity. In addition, the number and quality of job offers will be affected by the extent to which there is discrimination in the labour market.

We now consider ways in which social capital may impact upon an individual's labour market outcomes, focusing in turn on issues of supply and demand for the two outcomes of interest in this paper: labour force status and job search.

Social capital and labour force status

In terms of labour force status, we hypothesise social relationships may effect labour force status in several ways. First, a person's networks may affect the value an individual places upon non-market time as compared to market time. Within a household or family system, individuals' preferences and requirements to work will depend upon the needs of network members for care at any point in time as well as life cycle stage and the extent to which their social networks can assist to meet these needs. Providing child care or elder care, for example, has obvious impacts on an individual's, most often a woman's, capacity to engage in paid work – as well as their likelihood of being employed full-time versus part-time. Consistent with this argument, having support networks may make it possible to sustain being employed.

As well, where individuals are embedded within networks of family, friends, community and institutional ties that support the normative aspects of work, these are likely to reinforce the value of work for that individual, thereby acting to increase a person's likelihood of being employed. Some authors have emphasised the possible "negative" consequences of some types of social capital (Portes 1998; Cox 1997). For example, some networks may be governed by norms of behaviour that are inconsistent with maintaining employment. That is, where relationships between individuals and institutions are generally negative, or if informal networks are characterised by a non-work ethic. This latter point is consistent with welfare discourse from the United States that emphasises ghettoisation and intergenerational welfare dependence as undermining fulfilment of individuals' responsibility to work (see, for example, Murray 1994; for an Australian example, see McCoull and Pech 2000).

From a labour demand perspective, the types of relationships and networks a potential employee has could be seen as attractive attributes by an employer, thereby increasing the likelihood of that individual securing employment. Restated in economic terms, on the labour demand side, if having a high level of social capital or certain types of social capital increases an individual's productivity in the workplace and hence value to the employer, then in a labour market in which there is unemployment, they are more likely to be able to find employment and remain employed.

Social capital and job search

Perhaps the most obvious way in which social capital may affect labour market outcomes is via its effect on the efficiency and effectiveness of job search. One of the major tasks of the labour market is to coordinate information or signals between employers and their potential workforce (Ehrenberg and Smith 1997). Matching workers and employers is a formidable task because workers have varying skills and preferences for work and because jobs differ in requirements. Because information about job opportunities and workers' characteristics is imperfect, the process of job search takes time and effort and is therefore costly. The process of finding the appropriate worker–employer matches can be facilitated by the job search behaviour of workers, the recruitment procedures of employers and the institutional systems in place to coordinate signals of the respective parties.

Within this framework we anticipate that the nature of an individual's networks – the focus of this paper – may impact on the process of job search in a range of ways, many of which are well supported by recent job search literature within economics.[3]

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3. Detailed reviews of the empirical literature examining the role of job search method choice and job search intensity in determining labour market outcomes can be found in Devine and Kiefer (1991) and Heath (1999).

First is evidence that informal channels as well as formal job search mechanisms are important in the process of job matching. Holzer (1988) examines the effect that different job search method choices have on the probability of receiving a job offer. He shows that the two most commonly used methods, "friends and relatives" and direct approaches to employers are also the most effective in terms of generating job offers. Job offers generated through "friends and relatives" also have a much higher acceptance rate than for offers generated by other search methods.

While informal methods of job search are clearly important, an earlier study by Holzer (1987) confirms that informal methods may not work for everyone. Holzer shows that virtually all of the difference in employment probabilities between black and white Americans can be explained by differences in the number of job offers produced by each search method. That is, the lower employment probabilities for black Americans are not due to differences in search methods used or the rates at which job offers are accepted.

In the Australian context, Carson (1995) points to differences in job search methods and their relative success according to ethnicity, and shows how these relate to structural characteristics of an individual's networks. Data from that study showed that despite best intentions, family connections were limited in the extent they could provide assistance with successful job search due to their own sometimes limited experiences. Rather, in support of Granovetter's work, mentioned above, which highlights the importance of weak ties for professionals and executives in job search, Carson indicates friends and acquaintances are the most important source of informal job search support and close ties are most important for migrant workers in the Australian labour market.

In a British study, McGregor (1983) suggests that the job-information network provided by friends and relatives is local in nature. If this is correct, then job seekers, who live in depressed local labour market regions, are likely to have particular trouble in finding a suitable job. While McGregor's findings indicate that neighbourhood unemployment rates do influence the probability that friends and relatives are used for search, his empirical results do not provide any information about how effective these direct job search methods are in locating suitable job offers.

There is evidence that the resources of one's networks also matter. Specifically, status attainment research in the United States, finds the employment and occupational status of the people in an individual's informal network and type of job they have are likely to affect the quality of a job found through informal channels (Lin et al. 1981; Lin 1999).

On the demand side of the labour market, Holzer (1988) suggests that employers regard referrals from employees as more informative and reliable than direct applications and use them as a relatively cheap screening and signalling mechanism. Rees (1966) argues that employees only refer capable workers to ensure that their own reputation with their employer is not tarnished, and suggests that good jobs are usually found through informal networks and personal contacts. Montgomery (1991) develops a search model in which employers use informal information recruitment methods (for example, friends and relatives) as a way of screening potential employees to ensure that they are of high productivity, suited to the job and workplace culture. Marsden (2001) finds informal referrals are most effective for complex jobs, and can benefit managerial or professional employees most.

In sum, this literature suggests that various types and patterns of social networks impact on successful job search by reducing the cost of job search for potential employees and employers and by producing a better quality of job match.

By using a multi-dimensional approach to the analysis of the impact of an individual's social capital on job search, this paper explores some of the above findings in the Australian context – for example, by evaluating the relative worth of informal and formal networks on successful job search, for people in different circumstances. In addition, this paper makes the further contribution of investigating the relative impact of different types of network characteristics on job search, including the density, diversity and scope of networks in informal, civic and institutional realms – as well as the quality of relationships in each of these realms.

Impact of labour market experience on social capital

We have described ways in which social networks may interact with usual predictors of employment outcomes, and relate to labour force status and job search. However, we need also to acknowledge that labour force status and factors associated with this may also affect an individual's social capital. That is, the fact of being in paid work may increase one's social capital, just as the social capital available to an individual may lead to particular benefits within the labour market. It is plausible, for example, that being in paid work might increase the extent of connections a person has, including facilitating the development of bridging and linking ties associated with "getting ahead" (see, for example, Bettertogether 2002).

At the other end of the continuum of social and labour market attachment, a different body of research suggests that in some cases the experience of unemployment, particularly long-term unemployment, can cause the social networks of a person experiencing unemployment to decline. For example, much of the "social exclusion" literature from Europe points to a correlation between unemployment and low levels of social connections (Paugam 1995; Paugam and Russell 2000). One interpretation offered for this decline is that, without income associated with paid work, unemployed people can no longer participate in usual social activities with family and friends and are unable to reciprocate in usual ways. The same research also shows unemployed persons are less likely than others to engage in civic groups and other types of community action (Paugam and Russell 2000).

We therefore expect the relationship between social capital and work to have a reinforcing effect under some circumstances whereby having access to social capital might facilitate labour market outcomes, as well as leading to increased (or at least diversified) social capital by virtue of being at work.

A further point relating to causality concerns the extent to which individuals are embedded in range of networks. As described above, implicit within the social capital framework is the concept that individuals are embedded within various types of networks such as family, neighbourhood, civic and institutional types of relationships.

While it is difficult within this analysis to control for the impact of these different types of relationships on an individual's labour market experience, it must be acknowledged that these relationships may also affect labour market outcomes. For example, there may be trade-offs made between household labour supply decisions and engagement and interactions within networks, since being at work may alter a person's opportunities to engage in a given network, which may in turn act to change the nature of the relationships within that network. Similarly, the types of neighbourhoods individuals live within and the labour market opportunities that operate in or near those localities will also impact upon their relationship to the labour force. Hence these relationships are potentially bi-directional.

Data and measures of social capital

The analysis is based upon data from the *Families, Social Capital and Citizenship* 2001 survey, conducted by the Australian Institute of Family Studies. Data were collected for 1,506 Australians using Computer Aided Telephone Interviewing (CATI). Respondents to the survey were selected using a national random sample of households (with at least one person aged 18 years or over) who are included in the residential phone books (the "Whitepages").

Hence, the sampling frame comprises members of the population who have a telephone number listed in the Whitepages. Potential respondents who have moved recently are less likely to have their numbers in the electronic Whitepages and thus will be under-represented in the survey. Similarly, respondents who "vet" calls via answering machines will also be under-represented. The survey was only conducted in English, so non-English-speakers are excluded. Further details on the conduct of the fieldwork and representativeness of the sample can be found in Stone and Hughes (2002) and Hughes and Stone (2002).

The survey collected detailed information about respondents' social networks and the quality of relationships in those networks. Information was also collected about labour force status, including how jobs were found and a range of other demographic information.

Given the focus of this study on labour market outcomes, the representativeness of the sample with respect to labour force status is important. The distribution of labour force status in the data is broadly consistent with estimates from the Australian Bureau of Statistics (ABS) *Labour Force Survey*. The main differences between the two sets of data are that: the proportion of the sample unemployed is a little lower in the Institute data (3.9 per cent) than it is in the ABS data (4.7 per cent); the proportion not-in-the-labour force is lower in the Institute data (32.4 per cent) compared with ABS data (36.2 per cent); and the proportion employed is higher in the Institute data (63.7 per cent) than the ABS data (59.1 per cent). See Hughes and Stone (2002) for a more detailed analysis.

There are a number of approaches that can be taken to constructing measures of an individual's social capital. These were explored in detail by Stone and Hughes (2002). Here, we use two of the approaches developed in that work. The first approach is to measure each of the dimensions of social capital separately for informal networks, generalised relationships, and institutional relationships. This approach is termed the "core measures" approach. The second approach is based upon the idea that individuals can be categorised into a discrete number of social capital types based upon the combination of the characteristics of their social networks (that is, the various dimensions of social capital). This approach is termed the "social capital type" approach.

The Institute's *Families, Social Capital and Citizenship* 2001 survey data contain measures of each of norms of trust and reciprocity within each of the types of networks (informal networks, generalised relationships and institutional relationships), as well as each of the structural characteristics of the networks (size, density and diversity). The measures of social capital used in this paper are described in detail below and further details can be found in Appendix A.[4]

Core measures of social capital

Informal networks consists of relationships with several different groups including: family and kin; friends; neighbours; and colleagues or work contacts.

4. A full discussion of the development of the measures and information on their statistical validity and reliability can be found in Stone and Hughes (2002).

The extent to which these relationships are characterised by trust and reciprocity are measured using a composite index derived using a series of questions about the extent to which the respondent trusts their friends, workmates or associates, and neighbours to act in their best interest, and the extent to which the respondents friends, workmates or associates are willing to help each other out.[5]

The index takes values in the range zero to ten, with a higher value indicating a greater level of trust and reciprocity. The size of the informal network is measured by the actual number of friends, relatives and in-laws. The density of the respondent's informal networks is measured by the extent to which respondents report their friends know one another. As discussed above the heterogeneity or diversity of networks is another theoretically important aspect of social capital. Network diversity is measured by asking about the educational attainment and languages spoken of the respondent's three close friends.[6]

Within the generalised realm, social capital relates to the sense of trust and reciprocity that exists between people within a local area, and among people in general. The extent to which the respondent perceives this realm to be characterised by reciprocity is measured by responses on a scale ranging from zero to ten to the question "People around here are really willing to help each other out". The extent to which the respondent trusts people in their neighbourhood is based upon answers to the question "Most people in my neighbourhood can be trusted". Perceptions of more general forms of trust and reciprocity were also sought, with respondents being asked the extent to which they agreed that, "Generally speaking, most people can be trusted" and that "Generally speaking, most of the time people try to be helpful". The size of networks in the generalised realm is measured by the number of different groups of which the respondent is a member.

Institutional ties include both the relationships people have with various institutions as well as the extent to which people personally know people within a range of institutional settings. The data include ten items measuring trust in institutions. These have been combined into a composite index of trust in institutions.[7] The extent to which the respondent has links to different institutions is measured by number of different institutions the respondent has personal ties. This variable reflects the breadth of institutional ties rather than the actual number of links, although they are clearly related.

Measures of social capital type

Although the measures of core elements of social capital provide a great deal of information about informal, generalised and institutional ties respectively, it is possible that it is the combination of network characteristics and relationship quality across these different realms which is important in determining the overall capacity of an individual's social capital. This suggests combining the core measures of social capital into a single measure, but in a way that incorporates the multi-dimensional nature of the concept. This suggests the approach of developing social capital types based on an individual's profile of social capital. A technique which can be used to group

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5. While respondents were asked about trust and reciprocity within their family, responses were in a very narrow range of high levels of trust and reciprocity. This means that this variable has very little capacity to distinguish between respondents and is therefore excluded from the statistical modelling.
6. These measures are based upon the assumption that the diversity reflected in three close friends is representative of the diversity of the respondent's entire network.
7. For details of the construction of this index see Stone and Hughes (2002).

individuals into social capital types is cluster analysis. This technique provides a statistical basis for classifying respondents into groups with similar social capital profiles. The chief advantage of this approach is that a single measure of social capital that takes into account the multi-dimensional nature of the concept.

We use a cluster-based typology of social capital developed by Stone and Hughes (2002). The variables included in the derivation of the social capital clusters are: trust and reciprocity in informal networks; generalised trust and reciprocity; institutional confidence; number of informal ties; number of group memberships; breadth of institutional ties; density of friendship network; educational diversity of friendship network; linguistic diversity of friendship network; and values in the neighbourhood. Four clusters were identified, described as follows.

- ***Social capital rich:*** Respondents in this group have high levels of connectedness across the board – to informal networks, organisations and institutions, as well as high levels of generalised trust and reciprocity.
- ***Strong norms and civic connections:*** Respondents in this group have high levels of trust and reciprocity across all types of networks, a high level of civic and community group membership, but a relatively small informal network of family, friends, neighbours and workmates.
- ***Informal emphasised:*** Respondents in this group have small but dense informal networks. They have high levels of trust and reciprocity within their informal networks. They have few connections at the neighbourhood level, with community groups, organisations or institutions. Low levels of trust and reciprocity within these types of networks are reported. Thus trust and reciprocity in informal networks of familiars is not extended to people generally in the community, including strangers.
- ***Social capital poor:*** Respondents in this group have small informal networks, few connections with the wider community or with institutions. Low levels of trust and reciprocity across the board are reported. For this group of respondents informal networks are also sparse — that is, their friends tend not to know one another.

Modelling the determinants of labour force status

This section presents an analysis of the relationship between an individual's social capital and their labour force status. Given one aim of this paper is to determine what social capital theory adds to existing knowledge about labour force outcomes developed in economics, the method used adds social capital to usual economic modelling techniques.

Three labour force states are examined: full-time employee, part-time employed, and not employed. Full-time employment is defined as working more than 30 hours per week. Full-time and part-time employment are distinguished because it is expected that social capital may relate not only to whether or not a person is employed, but, if employed, their working hours. It is not possible to include unemployment as a separate labour force state because there are too few unemployed respondents to permit a reliable statistical analysis of the probability of being unemployed.[8]

In this section the statistical model used is discussed, and the specification of the model to be estimated is described.

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8. There are 52 respondents who were unemployed at the time of the interview.

Analytic approach and empirical model

Given that three possible labour force states are considered, the appropriate statistical technique is the multinomial logit model, which allows the dependent variable to take one of three mutually exclusive and exhaustive values, *j*=1, 2, and 3:

$Y_i = 1$ if person *i* is part-time employed

$Y_i = 2$ if person *i* is full-time employed

$Y_i = 3$ if person *i* is not employed,

The multinomial model is given by:

$$\text{Probability } (Y_i = j) = \frac{e^{\beta_j' x_{\ddot{y}}}}{\sum_{m=1}^{3} e^{\beta_m' x_{im}}} \qquad (1)$$

The specification of the multinomial logit model includes a number of variables which both economic and sociological theory suggests will be related to labour force status or which previous empirical studies have shown to be important determinants.[9] The models estimated are reduced form; structural labour supply and labour demand models are not estimated. The remainder of this section provides a rationale for the empirical specification used. The omitted categories of the respective variables are also listed in Appendix A with summary statistics being provided in Appendix B.

Age is included to capture lifecycle effects and an age-squared term is included to allow for a potentially non-linear relationship. A control for gender is included to take account of gender differences in labour force status. The highest level of educational attainment is also included to capture differences in respondents' levels of human capital, which will affect both the chances of finding employment and hours worked if employment is found. The highest level of educational attainment is specified as a set of dummy variables indicating degree or diploma level qualification, vocational or trade qualification, and having left school prior to completing secondary schooling. The omitted category is having a highest level of educational attainment completed secondary school.

Family structure is measured by whether a person has a partner, rather than being single, and the number of dependent children aged 15 years or younger. Differences in traditional gender roles regarding work and family responsibilities and the implications this has for the value placed on time outside of the work force, means that the effects of family structure are likely to differ by gender. Consequently we interact relationship status and the number of dependent children with gender. Theoretical models of labour supply suggest that partner's employment status will be an important determinant of labour supply decisions. Therefore a measure of whether the respondent has an employed partner is included. The effect of this is likely to vary by gender and so partner's employment status is interacted with gender. We also expect the employment status of an individual's friends will relate to their socio-economic status and we include a measure of the employment status of respondents' three closest friends.[10]

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9. See Ehrenberg and Smith (1997) and Birch (2002) for a discussion of the theoretical literature. Relevant empirical studies include Beggs and Chapman (1990), Birch 2002 and Le and Miller (2000).
10. Note in some ways this variable merges in conceptual terms socio-economic status with network status, as in the approach taken by authors such as Lin et al. (1981), Lin (1999).

Having poor health can severely limit a person's chances of finding employment and if employed their working hours. We therefore include a variable that measures whether the respondent has poor health. Other variables control for whether a migrant comes from either an English-speaking background or a non-English-speaking background which has been found to be an important determinant of labour market outcomes (Le and Miller 2000). Region of residence is included to take account of the fact that labour market opportunities differ between rural and other areas with more concentrated populations.[11]

In addition, we distinguish between areas according to their relative socio-economic advantage. The relative socio-economic advantage of an area is measured using the Australian Bureau of Statistics SEIFA index derived from the 1996 Census. Combined, these variables take account of the fact that labour market opportunities differ between rural and metropolitan areas and that labour market opportunities for an individual vary depending upon the socio-economic status of the region in which they live.

As outlined above, social capital is measured using two approaches. We therefore estimate two separate specifications. The first includes social capital measured using the core measures approach (model 1). The second includes social capital measured using the social capital type approach (model 2).

A key issue in interpreting the estimated effects of social capital upon labour force status is the direction of causality. That is, access to social capital and ability to generate social capital and labour force status are likely to be interrelated within a dynamic cycle of feedback effects, discussed above. This means that interpreting any relationship between social capital and labour force status as meaning higher levels of social capital lead to improved labour market outcomes is problematic.

Estimation results

This section presents the results of the estimates of the factors underlying labour force status. The validity of the estimated multinomial logit model depends partly on whether the assumption of Independence of Irrelevant Alternatives (IIA) is acceptable. This can be tested using a Hausman test. The models presented in this section passed the Hausman test, suggesting that the following models are well specified, at least in terms of IIA (Greene 2000). The factors underlying labour force status were also estimated excluding the social capital variables. While the inclusion of the social capital variables led to some changes in the estimated effects of the non-social capital variables the differences were relatively small.[12]

The multinomial logit regression coefficients are a function of the "log odds ratio" – that is, the probability of being in a particular labour force state divided by the probability of being part-time employed (the omitted category). Given the complexity of interpreting the log odds ratios, the results are reported using marginal effects. The marginal effect is the effect of a change in an explanatory variable from its sample average on the probability of being in each of the labour force states after 12 months, holding all other variables at their average value. For continuous variables, the marginal effect shows the change in the probability of being in a labour market state arising from a one-unit increase in the characteristic. Alternatively, if the characteristic is a binary variable, the

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11. It is not possible to differentiate between capital cities and other metropolitan centres due to the relatively small number of respondents in other metropolitan centres.
12. The lack of change in the non-social capital variables, and particularly the family structure variables, suggests that the estimates are not biased by a potential endogeneity between these variables. The estimates are available from the authors on request.

coefficient should be interpreted as the change in the probability of being in a labour market state that results from an individual having the characteristic. The marginal effects for each variable sum to zero across the labour market states since each respondent must be in one, and only one, labour force state.

The marginal effects for the model, including the core measures of social capital (model 1), are presented in Table 1, and the underlying coefficient estimates are presented in Appendix C.

The estimated effects of the non-social capital variables are broadly consistent with theoretical explanations and the findings of other empirical studies (see, for example, Birch 2002 and Chapman et al. 2001). These results are well known and are not discussed in detail in this paper. There are some effects from the socio-economic disadvantage of the area in which the respondent lives. The respondents living in neighbourhoods which are in the 10 per cent of most socio-economically disadvantaged neighbourhoods are much less likely to be employed full-time than are otherwise similar respondents living in a region which is in the 10 per cent of least socio-economically disadvantaged neighbourhoods (20.7 percentage points) and are correspondingly 19.3 percentage points more likely to be not employed.

The proportion of the respondent's three close friends who are employed is very strongly related to labour force status. A one-unit increase in this proportion is estimated to decrease the probability of being not employed by 32.1 percentage points and to increase the probability of being full-time employed by 32.0 percentage points. There is virtually no impact on the probability of being part-time employed. This finding is particularly interesting given that this variable is a measure of both the social context the respondent lives in as well as the level of resources in their friendship network.

Within the informal realm, the extent to which the respondent's informal networks are characterised as having trust and reciprocity is significantly related to labour force status. A one-unit increase in the level of trust and reciprocity in informal networks is estimated to decrease the probability of not being employed by 2.4 percentage points and to increase the probability of being part-time and full-time employed by 1.7 and 0.7 percentage points respectively. Yet while the effect of trust and reciprocity in informal networks is statistically significant, the size of the effect is quite small.

Turning to the size of informal networks, the only significant relationship is that having a large number of friends is estimated to increase the probability of being not employed and decrease the probability of being full-time employed. The effect however is very small. There are no statistically significant relationships between number of relatives and in-laws and labour force state. There are no significant relationships between network density and labour force status. Nor is there any relationship between labour force status and educational diversity or linguistic diversity of friendship network.

Turning now to consider social capital in the generalised realm, perception of generalised reciprocity and generalised trust are not related to labour force status. The extent to which the respondent reports high levels of trust of people in the neighbourhood is statistically significant and the effect is quantitatively small. Similarly, perception of reciprocity among people in the neighbourhood is statistically significant. However, the effect is relatively small with a one-unit increase in the index of perception of reciprocity among people in neighbourhood estimated to increase the probability of being not employed by 2.0 percentage points and to decrease the probability of being part-time and full-time employed. This may simply reflect the fact that those who are not employed spend more time in the local neighbourhood and hence are more

aware of the extent to which people help each other out. The number of groups an individual is a member of is not related to labour force status.

Within the institutional realm, there is no relationship between confidence in institutions and labour force status. However, the breadth of institutional ties – having ties to a range of types of institutions – is related to labour force status, with individuals with a greater breadth of institutional ties being more likely to be full-time employed and less likely to be not employed. A one-unit increase in the number of institutions the respondent has a personal tie with being estimated to decrease the probability of being not employed by 3.3 percentage points and to increase the probability of being full-time employed by 3.6 percentage points. As discussed earlier, it is difficult to determine the nature of the causal relationship in this case. It is likely that having institutional ties leads to increased probability of employment, which in turn leads to an increase in the range and number of institutional ties accessible by any individual.

Table 1. Marginal effects of determinants of labour force status, network based approach model (model 1)

	Part-time employed %	Full-time employed %	Not-employed %
Age	-0.9	6.4*	-5.5*
Female	7.6	-6.5	-1.1
Less than Year 12	10.3	-8.2	-2.1
Trade	5.9	3.1	-9.0*
Degree	2.8	10.1	-12.9*
Rural	0.5	-4.5	4.0
Poor health	-8.5	-19.1	27.6
Migrant from ESB country	-0.8	4.6	-3.8
Migrant from NESB country	2.3	0.5	-2.8
Partner	-2.0	-0.7	2.7
Partner*female	1.8	-16.6	14.7
Partner working	-12.2	28.7*	-16.5*
Partner working*female	17.6	-10.1	-7.5
Number children	-5.9	5.9	0.0
Number children*female	15.7*	-29.5*	13.8*
Percentile of socioeconomic disadvantage (least to most disadvantaged)			
76 to 90 percentile	-3.4	-4.2	7.6
51 to 75 percentile	-4.3	1.6	2.7
26 to 50 percentile	-4.3	1.7	2.7
11 to 25 percentile	-0.6	-1.4	2.0
1 to 10 percentile	1.4	-20.7*	19.3*
Friends employed	0.2	32.0*	-32.1*
Informal realm			
Trust and reciprocity in informal networks	1.7	0.7	-2.4*
Number of friends	0.0	-0.1	0.1*
Number of relatives and in-laws	0.0	-0.1	0.1
Density of friendship network			
A few or some friends know each other	2.2	1.7	-3.9
Friends mostly know each other or all know each other	-2.9	6.2	-3.3
Educational diversity of friendship network			
Somewhat mixed levels of education	5.6	-3.9	-1.6
Very mixed levels of education	7.2	-4.8	-2.4
Linguistic diversity of friendship network	4.6	-0.6	-4.0
Generalised realm			
Perception of generalised reciprocity	-0.4	0.8	-0.5
Generalised trust	-0.7	1.3	-0.6
Trust of people in neighbourhood	1.9*	-0.7	-1.2
Perception of reciprocity among people in neighbourhood	-0.7	-1.2	2.0*
Number of group memberships	0.1	0.1	-0.2
Institutional realm			
Confidence in institutions	0.7	-2.1	1.4
Breadth of institutional ties	-0.3	3.6*	-3.3*
Base case probabilities	23.0	55.9	21.1

Notes: Estimates are restricted to the working age population (18 to 64 years). The base probabilities in the last row indicate what the probability is that a reference person is in the various labour force states. The marginal effects in the other rows indicate the change in this probability from a change in the respective explanatory variables. Since the reference person is still in one of the labour force states, the marginal effects must sum to zero in each row. * denotes that the marginal effect is significant at the 5 per cent significance level.
Source: FSAC, 2001.

The model of labour force status estimated includes a large number of measures of social capital and so a potential issue is multi-collinearity between the social capital variables. To the extent to which there is multi-collinearity between the social capital variables, the magnitude of the effects of the social capital variables will be understated, hence. In order to investigate this issue, the model of the determinants of labour force status was estimated excluding all of the non-significant social capital variables.[13] While this leads to some changes in the estimated effects of the remaining social capital variables, the marginal effects remain small and are consistent with those presented in Table 1. This means that multi-collinearity between the social capital variables is not a problem.[14]

The marginal effects of the model that includes measures of social capital type are presented in Table 2 (model 2), with the underlying coefficient estimates being presented in Appendix C. The estimates of the non-social capital variables are very similar to those for the core measures of social capital model. The omitted social capital type is "strong norms and civic connections". In contrast to the estimates of the effects of the separate dimensions of social capital, social capital type is strongly and statistically significantly related to labour force status after taking account of the effects of other determinants of labour force status. The social capital poor are estimated to be 10.9 percentage points less likely to be full-time employed than the average respondent, and 6.1 percentage point more likely to be part-time employed, and 4.8 percentage points more likely to be not-employed.

There are few differences between the social capital rich and strong norms and civic connections social capital types. Those who are members of the "informal emphasised" social capital type are estimated to be 8.4 percentage points less likely to be part-time employed and 11.1 percentage points more likely to be full-time employed as compared to the average respondent.

An alternative way of illustrating the relationship between social capital type and labour force status is to present the predicted probability of being in each labour force state, holding constant all non-social capital variables at the sample average. These probabilities are presented in Table 3.

The social capital poor have a predicted probability of being full-time employed of 42.9 per cent, a predicted probability of being part-time employment of 30.9

Table 2. Marginal effects of determinants of labour force status, social capital type (model 2)

	Part-time employed %	Full-time employed %	Not-employed %
Social capital clusters			
Social capital rich	-1.0	2.5	-1.6
Informal emphasised	-8.4*	11.1*	-2.6
Social capital poor	6.1	-10.9	4.8
Base case probabilities	23.0	55.8	21.2

Notes: Estimates are restricted to the working age population (18 to 64 years). The base probabilities in the last row indicate what the probability is that a reference person is in the various labour force states. The marginal effects in the other rows indicate the change in this probability from a change in the respective explanatory variables. Since the reference person is still in one of the labour force states, the marginal effects must sum to zero in each row. * denotes that the marginal effect is significant at the 5 per cent significance level.
Source: FSAC, 2001.

13. These estimates are available from the authors on request.
14. The sensitivity of the results to potential multicollinearity between the social capital variables was further investigated by estimating the model including separately the "norms" variables, the network structure variables", the informal realm social capital variables, the generalised realm social capital variables and the institutional realm social capital variables. For each of these specifications the results are consistent with those presented in Table 1.

per cent, and a predicted probability of being not employed of 26.1 per cent. The social capital poor have a much lower rate of full-time employment than do any of the other social capital types, with the strong norms, civic connections group, social capital rich and informal emphasised groups having predicted probabilities of full-time employment of 53.8, 56.4 and 64.8 per cent respectively.

The social capital poor are more likely to be part-time employed than any other group (30.9 per cent) but the net effect is that the social capital poor are less likely to be employed and more likely to be not employed than any other group (26.1 per cent). Amongst the other social capital groups there is little difference in the probability of being not employed, but there are some differences between the probability of being part-time as compared to full-time employed, with the social capital informal emphasised group being more likely to be full-time employed than either of the social capital rich groups. This pattern is probably the result of the full-time employed having less time to spend in extensive civic engagement and neighbourhood events or perhaps the result of having less interest in the activities that lead to the development of these types of linkages.

Table 3. Predicted labour force status by social capital type

	Social capital type			
	Social capital rich	Strong norms and civic connections	Informal emphasised	Social capital poor
	%	%	%	%
Labour force status				
Part-time	23.6	24.6	16.2	30.9
Full-time	56.4	53.8	64.8	42.9
Not employed	20.0	21.6	18.9	26.1

Notes: The predicted probability of being in each labour force state is calculated by setting the non-social capital variables to their sample average and then varying the social capital group type holding all other variables constant at their sample average.
Source: FSAC, 2001.

Social capital and job search

Another way of exploring the relationship between social capital and labour force outcomes is to consider the relationship between social capital and methods of successful job search. This link is of particular interest because one of the most direct ways in which social capital is expected to impact upon an individual's labour market outcomes is via the job search process. As well, the causal relationships in this analysis are clearer than in the analysis of labour force status presented in the preceding section.

Again, social capital is compared with known predictors of job search used in economic analyses, and this section presents the results of a formal econometric analysis of the determinants of the job search method used to find the respondent's current job. The analysis is restricted to successful job search behaviour because the FSAC 2001 survey data do not contain any information on the job search method used by respondents who were searching for work at the time of the survey.

The survey asks respondents "How did you find your last job?". While multiple job search methods were allowed to be reported, only a very small number of respondents reported using more than one search method. The job search methods named by respondents were categorised into five types of search method: advertisement (newspaper or other advertisement and through the internet); direct approach to an employer (either through employment agency or personal contact); family and friends; professional contacts; and other (which is primarily comprised of direct approach from an employer and internal promotion).

Given the focus upon successful job search, the analysis is based upon those who were employed at the time of the survey. The self-employed are excluded from this analysis since the process of setting up a business clearly differs from that of finding employment with an employer.

Overall, the most common way in which employment was found was via an advertisement, with 29.3 per cent of respondents reporting having found their job in this way. A very similar proportion found their job via directly contacting the employer (26.8 per cent). The numbers using personal contacts are also high with 25.5 per cent reporting using professional contacts, and 18.4 per cent reporting having found their job through family or friends.[15]

Given that there are four job search methods, the appropriate statistical model is the multinomial logit model.[16] While the specification used to estimate the determinants of job search method are similar to those included in the model of the determinants of labour force status, there are some differences. A number of variables, for which there are no theoretical reasons to expect them to be related to the job search method, are excluded. The variables excluded are those measuring family structure and partner's employment status. The specification includes one additional variable, which measures whether the respondent had been unemployed in the previous two years. As for the models of labour force status two models are estimated. The first includes the core social capital measures (model 3) and the second, social capital type (model 4). Summary statistics for the estimation sample are presented in Appendix D.

The marginal effects for the model that includes the core social capital measures are presented in Table 4 (model 3) and the full coefficient estimates are presented in Appendix E. Educational attainment is an important determinant of job search method used. Respondents with less than a Year 12 level of educational attainment are estimated to be 10.3 percentage points less likely to have found their job through professional contacts and 12.5 percentage points more likely to have found their job through direct contact with the employer. Having a degree or higher level of qualification is estimated to increase the probability of using professional contacts by 9.6 percentage points and the probability of having used a job advertisement by 5.9 percentage points. There is a corresponding decrease in the probability of having found their job through family or friends by 15.2 percentage points.

Living in a rural area is estimated to decrease the probability of respondents having found their current job through family and friends by 10.8, and to reduce the probability of having found current job through an advertisement by 9.6 percentage points. Living in a rural area is estimated to increase the probability of having found current job through direct contact with employer and professional contact by 13.1 and 7.3 percentage points respectively. This finding is probably explained by the smaller populations in rural areas meaning that job seekers and employers are more likely to personally know one another than is the case in urban areas. Employers may therefore be less likely to go to the expense of advertising. Family and friends are less likely to be used because the job seeker personally knows the employer.

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15. It is important to benchmark the FSAC data on job search method against estimates from other sources. The key source of information on job search method in Australian is the Australian Bureau of Statistics (ABS) Labour Force Survey. While there are differences between the FSAC Labour Force Survey questions, the estimates from the two surveys are broadly consistent (Australian Bureau of Statistics 2000).
16. Thirty-nine respondents reported having found their job through an "other search method". Given the small number using this search method, they are excluded from the statistical modelling.

Having been unemployed in the last two years is found to decrease the probability of using professional contact by 14.1 percentage points, and to increase the probability of respondents having found their job via direct contact with the employer by 8.9 percentage points and via an advertisement by 3.8 percentage points.

Regarding the estimates of the social capital variables, there is no relationship between trust and reciprocity in informal networks and job search method or between the size of informal networks and search method used. Interestingly, density of friendship network is not related to job search method. However, the educational diversity of friendship networks is an important determinant. Having diversity in educational attainment of friendship networks is estimated to increase the probability of finding employment through family and friends and to reduce the probability of having found work via an advertisement. These findings lend support to the idea that network diversity acts to increase the resources a person can access, by connecting them to a range of other network types.

The estimates reveal that there is no significant relationship between the extent of employment among one's friends and job search method used to find current job. This finding is surprising given that it is expected that having a job will increase a person's ability to help some one else find employment. The explanation may lie in that friends being employed is not highly correlated with the labour force status of a person's broader network. This is consistent with the theory of the importance of "weak ties" in the job search process (Granovetter 1973). As well, it is likely that the employment status of one's friends is more highly related to whether a person is in paid work at all (as seen above) than on differences in job search method of those who are already employed. Within the generalised realm, none of the dimensions of social capital are statistically significant. Within the institutional realm, an increase in breadth of institutional ties is estimated to increase the probability of having used professional contacts.

Perhaps the most significant finding is that that trust and reciprocity in informal networks are not related to job search method used to find employment. Nor is trust and reciprocity in the generalised or formal realms related to job search method used to find employment. This finding is difficult to reconcile with the views of a number of social capital theorists that trust and reciprocity are crucial elements of well functioning social networks that can result in various outcomes, including for individuals.

What matters more are the structural characteristics of networks, particularly having a network that is educationally diverse. There is some evidence that the density of friendship network is important, although the effects are only significant at the 10 per cent confidence level and so caution is needed in interpreting this result. The point estimates show that more dense networks of friends are associated with an increased likelihood of having used professional contacts and a decreased likelihood of having used direct contact with the employer or family or friends. This finding is again consistent with the strength of weak ties theory developed by Granovetter (1973).

As was the case for the analysis of labour force status, a potential issue is multi-collinearity between the social capital variables. A similar analysis of the sensitivity of the results to excluding the non-significant social capital variables and including measures of the different realms of social capital separately was undertaken. The results are robust to these tests and we therefore can conclude that multi-collinearity between the social capital variables is not a problem.[17]

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17. These estimates are available from the authors on request.

Table 5 presents the estimates of the relationship between social capital type and job search method (model 4). Given the similarity of the estimates for the non-social capital variables, only the estimates for the social capital variables are discussed. The estimates reveal that there is a strong relationship between social capital type and job search method successfully used. The social capital rich are 2.3 percentage points more likely to have used a professional contact and 5.9 percentage points more likely to find their job via direct contact with the employer. The coefficient on social capital rich is not statistically significant.

The "informal emphasised" group are 7.0 percentage points less likely to have found their job through an advertisement and 10.2 percentage points more likely to have used a professional contact than the average respondent. The social capital poor are much less likely to have used a professional contact (15.1 percentage points) and 3.6 percentage points less likely to have found their job

Table 4. Marginal effects of determinants of job search method used, employed respondents, core social capital measures (model 3)

	Advertisement	Direct contact with employer	Family or friends	Professional contact
Age	1.4	-1.2	-1.0	0.7
Female	5.6	-6.9	-0.2	1.4
Less than Year 12	-1.9	12.5	-0.3	-10.3
Trade	-2.5	5.0	-1.7	-0.7
Degree	5.9	-0.3	-15.2*	9.6
Rural	-9.6	13.1	-10.8*	7.3
Poor health	-13.1	29.6	-3.4	-13.1
Migrant from NESB country	11.2	-7.0	-0.6	-3.5
Migrant from ESB country	-3.4	15.8*	-5.0	-7.3
Unemployed in last two years	3.8	8.9	1.4	-14.1*
Percentile of socioeconomic disadvantage (least to most disadvantaged)				
76 to 90 percentile	-5.2	13.4*	-5.7	-2.5
51 to 75 percentile	-11.4*	11.2	4.0	-3.8
26 to 50 percentile	2.1	3.2	0.6	-5.9
11 to 25 percentile	-0.6	5.5	-8.0	3.1
1 to 10 percentile	5.4	1.0	-7.8	1.4
Friends employed	2.8	-7.1	3.7	0.6
Informal realm				
Trust and reciprocity in informal networks	0.5	-0.7	0.3	-0.1
Number of friends	-0.1	0.1	0.0	-0.1
Number of relatives and in-laws	0.0	0.1	-0.2	0.1
Density of friendship network				
A few or some friends know each other	0.1	-7.8	-5.5	13.2
Friends mostly know each other or all know each other	0.3	-7.0	-5.4	12.1
Educational diversity of friendship network				
Somewhat mixed levels of education	-5.1	-0.3	9.8*	-4.4
Very mixed levels of education	-13.0*	-3.6	15.2*	1.3
Linguistic diversity of friendship network friends	-1.1	4.9	3.6	-7.5
Generalised realm				
Perception of generalised reciprocity	-2.6	0.3	0.3	2.0
Generalised trust	0.6	-1.0	-0.1	0.5
Trust of people in neighbourhood	-0.7	-0.6	1.2	0.2
Perception of reciprocity among people in neighbourhood	0.9	-0.1	0.4	-1.3
Number of group memberships	0.3	-0.1	-0.5	0.3
Institutional realm				
Confidence in institutions	-1.1	2.1	0.2	-1.2
Breadth of institutional ties	-0.5	-0.8	-1.1	2.3*
Base case probabilities	31.5	28.1	15.3	25.1

Notes: Estimates are restricted to the working age population (18 to 64 years). The base probabilities in the last row indicate what the probability is that a reference person is in the various labour force states. The marginal effects in the other rows indicate the change in this probability from a change in the respective explanatory variables. Since the reference person is still in one of the labour force states, the marginal effects must sum to zero in each row. * denotes that the marginal effect is significant at the 5 per cent significance level.
Source: FSAC, 2001.

via direct contact with the employer. However, they are relatively more likely to have found their job through an advertisement (5.3 percentage points) and through family or friends (13.4 percentage points). It is important to note these estimates control for having been unemployed in the previous two years and so cannot be explained simply in terms of those who have not been employed having fewer professional contacts.

Table 5. Marginal effects of determinants of job search method used, employed respondents, social capital type (model 4)

	Job search method			
	Advertisement %	Direct contact with employer %	Family or friends %	Professional contact %
Social capital clusters				
Social capital rich	-4.0	5.9	-4.2	2.3
Informal emphasised	-7.0	-1.9	-1.4	10.2*
Social capital poor	5.3	-3.6	13.4	-15.1*
Base case probabilities	30.2	28.5	15.3	26.0

Notes: Estimates are restricted to the working age population (18 to 64 years). The base probabilities in the last row indicate what the probability is that a reference person is in the various labour force states. The marginal effects in the other rows indicate the change in this probability from a change in the respective explanatory variables. Since the reference person is still in one of the labour force states, the marginal effects must sum to zero in each row. * denotes that the marginal effect is significant at the 5 per cent significance level.
Source: FSAC, 2001.

As for the estimates of the determinants of labour force status, an alternative way of illustrating the results is to present the predicted job search method used for each of the social capital types. These probabilities are presented in Table 6. The social capital poor are by far the least likely to have used workmates or professional contacts with 7.2 per cent having found their current job in this way. This compares to rates of use of workmates or professional contacts of 17.4 per cent amongst those with strong norms and civic connections, 19.0 per cent among the social capital rich and 25.7 per cent among the informal emphasised social capital group. The social capital poor are also less likely to have obtained their job via direct approach to employers. The social capital poor are much more likely to have used family and friends (31.6 per cent) and responding to a job advertisement (35.3 per cent) than are the other social capital groups.

Amongst the other groups, the job search methods used are broadly similar. The social capital rich are the least likely to have used family and friends and the most likely to have used a direct approach to employers. This is presumably because the social capital rich have other options. This finding is particularly significant because it means that the social capital poor have a much higher reliance on family and friends for finding employment – although they also have fewer of these types of connections on average than respondents in other social capital types.

Table 6. Predicted job search method by social capital type

	Social capital type			
	Social capital rich %	Strong norms and civic connections %	Informal emphasised %	Social capital poor %
Advertisement	28.4	32.5	26.3	35.3
Direct approach to employers	39.3	32.2	31.2	25.9
Family and friends	13.3	17.9	16.9	31.6
Workmates or professional contacts	19.0	17.4	25.7	7.2

Notes: The predicted probability of being in each labour force state is calculated by setting the non-social capital variables to their sample average and then varying the social capital group type holding all other variables constant at their sample average.
Source: FSAC, 2001.

Conclusions

This paper has investigated how social capital relates to individuals' labour market outcomes, focusing specifically on labour force status and job search method. To do so, social capital has been interpreted within a rational actor framework consistent with much of its current sociological use, and which fits readily into individual level modeling. By including measures of social capital within standard micro-economic models of individuals' experiences of the labour force, the paper provides estimates of the role of social capital in determining labour market outcomes.

Two types of measures of social capital were used. The first was a core network based approach, that measured the quality and structure of networks in informal, generalised and institutional realms separately. This approach enabled analysis of the relative importance of family, friendship and other informal relationships, with civic connections and institutional ties in relation to labour market outcomes. The second was a social capital typology approach, that provides a single overall measure of social capital type. This approach enabled a comparison of the relationship between social capital and labour market outcomes for individuals with different social capital profiles.

Summary of key findings

In terms of the link between social capital and labour force status, using the core network measures approach, we found that within the informal realm there are few significant relationships between social capital and labour force status. Where effects are significant they are small in size. The only exception is the variable measuring the extent of employment among one's friends. In contrast, social capital type is found to be strongly and statistically significantly related to labour force status. The social capital poor are more likely than any of the other social capital groups to be not employed, and if employed to be much more likely to be employed part-time. The informal emphasised social capital group are the most likely to be employed, and if employed are substantially more likely to be full-time employed than the other groups.

One of the limitations of this analysis is the difficulty in determining causation. While we found significant relationships between social capital type and labour force status, it is impossible to determine to what extent the relationship is causal. Analysis of the relationship between social capital and job search does allow us to comment more confidently about the causal relationship between social capital and labour market outcomes at the individual level. Overall, consistent with other literature we find both informal and formal channels are important for successful job search. Additionally, our findings suggest that while it is customary to divide the channels through which information about job opportunities is obtained into two categories, formal and informal (Norris 1996), a more fine-grained classification of network types, according to their role in successful job search that includes "professional contacts" as a key category, is useful.

In terms of network characteristics and relationship quality, we find few significant relationships between the measures of social capital in the informal realm and job search, the exception being network diversity which increases the likelihood of a person gaining work via family or friendship connections. Similarly we find little relationship between generalised or institutional social capital variables and job search method – with the important exception that having a breadth of institutional connections increases the probability that jobs will be found through professional contacts.

In contrast with the analysis using core measures of social capital, measures of social capital type are found to be strongly statistically significantly related to

job search method, pointing to the usefulness of the typology approach for explaining outcomes at the individual level. The differences found are striking, particularly in the differential rates at which jobs are found through professional contacts and family and friends. The job search methods used by the social capital poor demonstrate this. Respondents in this type rely on informal channels to a far greater extent than any other social capital type and are considerably less likely to gain employment through professional contacts.

Concluding comments

Combined, these findings point to several key conclusions. First, the analysis indicates that social capital does have some role to play in determining labour force status, but perhaps not in ways that might be expected. For example, our second key finding is that whereas trust is often thought to be the aspect of social capital that is critical to achieving a range of outcomes, we find it is the characteristics of networks that are more important in predicting labour force status and job search method.

These findings are in part consistent with the "strength of weak ties" theory (Granovetter 1973, 1974). Most notably, professional contacts were an important means of finding employment. However, this was not the case for everyone. In fact, the paper suggests that the "strength of close ties" is particularly important for those with limited social capital and more vulnerable ties to the labour market, where friends and family were relatively important in finding employment.

Restated in terms of the bonding, bridging and linking social capital classification, these findings point to the important role both bonding and bridging forms of social capital can play in determining labour force outcomes. Bonding ties appear more important for those with limited connections, whereas for others bridging ties (such as professional ties) are useful. An exception relates to network diversity; here, informal networks comprised of members with diverse levels of educational qualifications appear to increase the bridging capabilities of social capital, and increase the likelihood of successful job search through friends and family.

However, what we also find is that it is not one type of network or network characteristic that alone predicts labour force outcomes. Rather, our findings suggest that it is the combination of various types of social capital that is important in determining labour market outcomes rather than the core dimensions of social capital in informal, generalised and institutional realms treated separately.

Related to this is a further finding. It is that when we use the social capital typology, we find an interaction effect between a person's socio-economic status and the types of social capital they have, and the impact of these two factors on labour market outcomes.

Pursuing this argument further, we can draw a final key point. While social capital does relate to both the labour force status and the job search methods people use, it does this unevenly. Social capital may act to mirror or exacerbate existing inequalities or differences between people from higher and lower socio-economic circumstances, in terms of their labour force outcomes. As already mentioned, it is likely that the use of friends and family connections by those from low socio-economic backgrounds for finding jobs is less likely to result in high quality work, than for those from higher socio-economic circumstances, who would be more likely to use professional contacts. Similarly, those out of the labour force are less likely to have existing ties to paid work.

The extent of these differences and inequalities is a topic worthy of further research. What this paper has shown is that people's social capital varies, and that these different social capital profiles relate to different types of labour force outcomes.

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Appendix A. Variables used to estimate labour force status and job search method

Age Age of the respondent in years.

Female is set to one if the respondent is female, and zero otherwise.

Less than Year 12 is set to one if the respondent has a highest level of educational attainment of less than Year 12.

Year 12 is set to one if the respondent has a highest level of educational attainment of Year 12.

Trade is set to one if the respondent has a highest level of educational attainment of a trade, apprenticeship, certificate or diploma level qualification.

Degree is set to one if the respondent has a highest level of educational attainment a degree level qualification.

Rural is set to one if the respondent lives in a rural or remote area, and zero otherwise

Poor health is set to one if the respondent has poor health, and zero otherwise.

Migrant from NESB country is set to one if the respondent is a migrant from a non-English-speaking country, and zero otherwise.

Migrant ESB country is set to one if the respondent is a migrant from an English-speaking country, and zero otherwise.

Unemployed in last two years is set to one of the respondent has been unemployed in the previous two years, and zero otherwise.

Percentile of socio-economic disadvantage

91 to 100 percentile	takes the value of one if the respondent lives in a postcode that is ranked in the 91 to 100 percentile of postcodes according to the ABS SEIFA index of relative socio-economic disadvantage, and zero otherwise.
76 to 90 percentile	takes the value of one if postcode is in the 76 to 90 percentile of postcodes, and zero otherwise
51 to 75 percentile	takes the value of one if postcode is in the 51 to 75 percentile of postcodes, and zero otherwise
26 to 50 percentile	takes the value of one if postcode is in the 26 to 50 percentile of postcodes, and zero otherwise
11 to 25 percentile	takes the value of one if postcode is in the 11 to 25 percentile of postcodes, and zero otherwise
1 to 10 percentile	takes the value of one if postcode is in the 1 to 10 percentile of postcodes, and zero otherwise

Friends employed proportion of three close friends who are employed.

Partner is employed is set to one if the respondent has a partner who is employed, and zero otherwise.

Partner is set to one if the respondent has a partner who they share a house with or they are married to but are not living with, and zero otherwise.

Number of children under 15 measures the number of children aged under 15 years living in the household.

Informal realm

Trust and reciprocity in informal networks Respondents were asked, on a scale of 0 to 10, the extent to which they believed that their family outside the household and friendship networks respectively: "Could be trusted to act in [the respondent's] best

interests"; and on the same scale of 0 to 10, how much they believed their family and friends were : "Really willing to help each other out". These variables were combined to produce an overall index of trust and reciprocity for informal networks.

Number of friends Total number of friends.

Number of relatives and in-laws To measure the size of kinship networks respondents were first asked to count all parents, children and siblings outside the household (including own and/or partners' children) and were then asked how many other relatives and in-laws they had in total. These variables were used to compute a measure of the total size of kinship networks.

Density of friendship network Respondents were asked "Are your friends also friends with each other?" The options are "yes", "mostly"; "some"; "a few"; or "no"). A set of three dummy variables are created from this variable: friends do not know each other; a few or some friends know each other; and friends mostly know each other or all know each other.

Educational diversity of friendship network Respondents were asked about the level of educational attainment of their partner (if they have one) and three closest friends. A set of dummy variables constructed for: Same education level; somewhat mixed levels of education; and very mixed levels of education.

Linguistic diversity of friendship network Respondents were asked about whether their partner (if they have one) and three closest or their family speak a language other than English at home. Answers to this question combined to construct the proportion speaking a language other than English at home.

Generalised realm

Perception of generalised reciprocity Respondents were asked, on a scale of 0 to 10, how much they agree with the following statement: "Generally speaking, most of the time people try to be helpful".

Generalised trust Respondents were asked, on a scale of 0 to 10, how much they agree with the following statement: "Generally speaking, most people can be trusted".

Trust of people in neighbourhood or local area Respondents were asked, on a scale of 0 to 10, how much they agree with the following statement: "Most people in my neighbourhood can be trusted".

Perception of reciprocity among people in neighbourhood or local area Respondents were asked, on a scale of 0 to 10, how much they agree with the following statement: "People around here are really willing to help each other out".

Number of group memberships Respondents were asked about whether they belonged to a series of different types of groups and organisations ranging from parent teacher groups to sporting groups to professional groups and organisations. Memberships of all types of groups and organisations were combined to calculate the total number of group memberships. The different types of groups included groups related to children and parenting, sports/recreation and hobby groups, trade unions, professional and technical associations, political parties, environmental, human rights, community or welfare groups, arts, culture or educational groups and self help or support groups.

Institutional realm

Confidence in institutions Respondents were asked, on a scale of 0 to 10, about their level of confidence in the following institutions: the legal system; the churches; the police force; the media; trade unions; federal government; state government; local government; the public service; and major companies.

Respondents were asked whether they have personal ties to each of the following institutions: the legal system; the churches; the police; the media; unions; government; political parties; universities; and big business. The total number of types of institutional ties is calculated by adding the number of types of institutions the respondent has personal ties to.

Appendix B. Summary statistics for estimates of determinants of labour force status

Table B.1 Summary statistics for estimates of determinants of labour force status

	Mean	Standard deviation
Age	42.045	11.400
Age^2	1897.624	964.978
Female	0.694	0.461
Less than Year 12	0.252	0.435
Trade	0.201	0.401
Degree	0.404	0.491
Rural	0.207	0.405
Poor health	0.035	0.184
Migrant from NESB country	0.116	0.320
Migrant from ESB country	0.129	0.336
Partner	0.704	0.457
Partner*female	0.509	0.500
Partner working	0.642	0.480
Partner working*female	0.482	0.500
Number children	0.730	1.065
Number children*female	0.562	0.990
Percentile of socioeconomic disadvantage (least to most disadvantaged)		
76 to 90 percentile	0.243	0.429
51 to 75 percentile	0.215	0.411
26 to 50 percentile	0.157	0.364
11 to 25 percentile	0.116	0.320
1 to 10 percentile	0.069	0.254
Friends employed	0.785	0.285
Trust and reciprocity in informal networks	8.471	1.280
Perception of generalised reciprocity	6.926	1.586
Generalised trust	6.393	1.945
Trust of people in neighbourhood	7.220	1.997
Perception of reciprocity among people in neighbourhood	6.671	2.212
Confidence in institutions	5.160	1.488
Number of friends	30.609	32.717
Number of relatives and in-laws	25.987	22.688
Number of group memberships	4.524	6.540
Breadth of institutional ties	3.740	2.149
Education diversity of friendship network		
Somewhat mixed levels of education	0.588	0.492
Very mixed levels of education	0.186	0.389
Density of friends network		
A few or some friends know each other	0.488	0.500
Friends mostly know each other or all know each other	0.397	0.490
Linguistic diversity of friendship network	0.182	0.267
Strong norms and civic connections	0.546	0.498
Social capital rich	0.199	0.400
Social capital poor	0.070	0.255
Number of observations	1113	

Appendix C. Multinomial logit estimates of determinants of labour force status

Table C1. Coefficient estimates of determinants of labour force status, core social capital measures model (model 1)

	Full-time employed		Not employed	
	Coefficient	T-stat	Coefficient	T-stat
Age	0.1541	2.29	-0.2286	-3.22
Age^2	-0.0022	-2.64	0.0030	3.51
Female	-0.4671	-1.18	-0.4065	-0.88
Less than Year 12	-0.5575	-1.87	-0.5068	-1.68
Trade	-0.1867	-0.61	-0.7336	-2.29
Degree	0.0589	0.21	-0.7666	-2.5
Rural	-0.1025	-0.41	0.1612	0.61
Poor health	0.0424	0.07	1.3133	2.37
Migrant from NESB country	0.1140	0.39	-0.1590	-0.49
Migrant from ESB country	-0.0873	-0.33	-0.2336	-0.79
Partner	0.0708	0.13	0.2134	0.34
Partner*female	-0.3814	-0.62	0.6233	0.9
Partner working	1.0780	2.03	-0.2106	-0.33
Partner working*female	-0.9387	-1.53	-1.1182	-1.58
Number children	0.3599	1.11	0.2551	0.66
Number children*female	-1.2122	-3.63	-0.0301	-0.08
Percentile of socioeconomic disadvantage (least to most disadvantaged)				
76 to 90 percentile	0.0750	0.28	0.4807	1.55
51 to 75 percentile	0.2257	0.8	0.3237	0.98
26 to 50 percentile	0.2315	0.73	0.3242	0.90
11 to 25 percentile	-0.0005	0.00	0.1156	0.30
1 to 10 percentile	-0.5054	-1.19	0.6184	1.42
Friends employed	0.5650	1.55	-1.5287	-4.26
Trust and reciprocity in informal networks	-0.0627	-0.82	-0.1884	-2.3
Perception of generalised reciprocity	0.0302	0.39	-0.0075	-0.09
Generalised trust	0.0558	0.91	0.0047	0.07
Trust of people in neighbourhood	-0.0930	-1.5	-0.1384	-1.98
Perception of reciprocity among people in neighbourhood	0.0098	0.18	0.1241	2.03
Confidence in institutions	-0.0687	-1.04	0.0358	0.49
Number of friends	-0.0017	-0.56	0.0054	1.57
Number of relatives and in-laws	-0.0004	-0.09	0.0042	0.89
Number of group memberships	-0.0050	-0.21	-0.0175	-0.62
Breadth of institutional ties	0.0779	1.64	-0.1418	-2.63
Density of friends network				
A few or some friends know each other	-0.0658	-0.21	-0.2783	-0.83
Friends mostly know each other or all know each other	0.2371	0.75	-0.0289	-0.08
Education diversity of friendship network				
Somewhat mixed levels of education	-0.3169	-1.32	-0.3236	-1.18
Very mixed levels of education	-0.3750	-1.31	-0.4058	-1.24
Linguistic diversity of friendship network	-0.2092	-0.62	-0.3866	-1.00
Constant	-0.2146	-0.14	8.0252	4.84
Number of observations		1113		
Pseudo R2	0.2593			

Table C2. Coefficient estimates of determinants of labour force status, social capital type model (model 2)

	Full-time employed		Not employed	
	Coefficient	T-stat	Coefficient	T-stat
Age	0.1411	2.13	-0.2681	-3.82
Age^2	-0.0020	-2.43	0.0034	4.02
Female	-0.4783	-1.25	-0.4115	-0.92
Less than Year 12	-0.5134	-1.73	-0.4882	-1.64
Trade	-0.1995	-0.65	-0.7429	-2.34
Degree	0.2256	0.81	-0.7957	-2.65
Rural	-0.1105	-0.46	0.2262	0.90
Poor health	-0.2579	-0.42	1.1188	2.09
Migrant from NESB country	-0.0808	-0.28	-0.0559	-0.18
Migrant from ESB country	-0.1271	-0.49	-0.2696	-0.92
Partner	0.0376	0.07	0.3385	0.56
Partner*female	-0.3827	-0.63	0.5767	0.84
Partner working	1.1520	2.20	-0.3442	-0.54
Partner working*female	-0.9162	-1.50	-0.8575	-1.21
Number children	0.3567	1.11	0.1593	0.40
Number children*female	-1.2276	-3.69	0.0295	0.07
Percentile of socioeconomic disadvantage (least to most disadvantaged)				
76 to 90 percentile	0.0850	0.32	0.4732	1.55
51 to 75 percentile	0.2727	0.98	0.2817	0.86
26 to 50 percentile	0.2209	0.70	0.3109	0.87
11 to 25 percentile	0.0768	0.23	0.1478	0.39
1 to 10 percentile	-0.3523	-0.83	0.7618	1.75
Friends employed	0.7034	1.97	-1.5884	-4.59
Social capital clusters				
Social capital rich	0.0885	0.39	-0.0320	-0.12
Informal emphasised	0.6039	2.34	0.2876	1.00
Social capital poor	-0.4523	-1.40	-0.0337	-0.09
Constant	-1.2922	-0.97	6.4502	4.60
Number of observations	1113			
Pseudo R2	0.2533			

Appendix D. Summary statistics for estimates of determinants of job search

Table D1. Summary statistics for estimates of determinants of job search

Variable	Mean	Standard deviation
Age	39.823	10.448
Age^2	1694.892	844.103
Female	0.663	0.473
Less than Year 12	0.207	0.406
Trade	0.188	0.391
Degree	0.462	0.499
Rural	0.152	0.360
Poor health	0.019	0.138
Migrant from NESB country	0.130	0.337
Migrant from ESB country	0.138	0.345
Unemployed in the previous two years	0.127	0.333
Percentile of socioeconomic disadvantage (least to most disadvantaged)		
76 to 90 percentile	0.263	0.441
51 to 75 percentile	0.226	0.419
26 to 50 percentile	0.128	0.335
11 to 25 percentile	0.112	0.316
1 to 10 percentile	0.063	0.242
Friends employed	0.843	0.229
Trust and reciprocity in informal networks	8.465	1.250
Perception of generalised reciprocity	6.852	1.498
Generalised trust	6.424	1.877
Trust of people in neighbourhood	7.112	1.916
Perception of reciprocity among people in neighbourhood	6.454	2.222
Confidence in institutions	5.231	1.415
Number of friends	29.242	29.150
Number of relatives and in-laws	25.679	22.686
Number of group memberships	4.217	3.884
Breadth of institutional ties	3.833	2.094
Density of friends network		
A few or some friends know each other	0.488	0.500
Friends mostly know each other or all know each other	0.408	0.492
Education diversity of friendship network		
Somewhat mixed levels of education	0.586	0.493
Very mixed levels of education	0.183	0.387
Linguistic diversity of friendship network	0.202	0.279
Strong norms and civic connections	0.530	0.500
Social capital rich	0.196	0.398
Informal emphasised	0.205	0.404
Social capital poor	0.069	0.253
Number of observations	623	

Appendix E. Multinomial logit estimates of determinants of job search method

Table E1. Coefficient estimates of determinants of job search method, core social capital measures (model 3)

	Direct contact with employer		Family or friends		Professional contact	
	Coefficient	T-stat	Coefficient	T-stat	Coefficient	T-stat
Age	-0.0868	-1.11	-0.1123	-1.29	-0.0165	-0.2
Age^2	0.0007	0.71	0.0011	1.06	0.0004	0.37
Female	-0.4184	-1.64	-0.1938	-0.66	-0.1267	-0.49
Less than Year 12	0.4555	1.1	0.0424	0.1	-0.4121	-0.92
Trade	0.2499	0.6	-0.0331	-0.08	0.0545	0.12
Degree	-0.2004	-0.54	-1.2054	-2.99	0.1922	0.52
Rural	0.7576	2.07	-0.6158	-1.34	0.6178	1.64
Poor health	1.2637	1.59	0.2836	0.23	-0.1896	-0.2
Migrant from NESB country	-0.5906	-1.64	-0.3548	-0.93	-0.4648	-1.3
Migrant from ESB country	0.5856	1.79	-0.2608	-0.64	-0.2173	-0.58
Unemployed in the previous two years	0.1705	0.51	-0.0245	-0.06	-0.8444	-1.97
Percentile of socioeconomic disadvantage (least to most disadvantaged)						
76 to 90 percentile	0.6038	1.73	-0.2343	-0.61	0.0704	0.21
51 to 75 percentile	0.7682	2.03	0.6490	1.64	0.2457	0.66
26 to 50 percentile	0.0422	0.1	-0.0275	-0.06	-0.3225	-0.73
11 to 25 percentile	0.2021	0.44	-0.6488	-1.18	0.1364	0.32
1 to 10 percentile	-0.1230	-0.23	-0.8340	-1.29	-0.1023	-0.19
Friends employed	-0.3411	-0.67	0.1502	0.25	-0.0655	-0.12
Trust and reciprocity in informal networks	-0.0386	-0.4	0.0034	0.03	-0.0184	-0.18
Trust and reciprocity in informal networks	0.0951	0.94	0.0994	0.87	0.1635	1.54
Perception of generalised reciprocity	-0.0558	-0.69	-0.0229	-0.24	-0.0012	-0.01
Generalised trust	-0.0013	-0.02	0.0970	1	0.0287	0.33
Trust of people in neighbourhood	-0.0298	-0.4	0.0015	0.02	-0.0776	-1.07
Confidence in institutions	0.1080	1.24	0.0439	0.45	-0.0145	-0.17
Number of friends	0.0074	1.58	0.0048	0.86	0.0001	0.01
Number of relatives and in-laws	0.0029	0.52	-0.0094	-1.31	0.0044	0.83
Number of group memberships	-0.0142	-0.46	-0.0460	-1.22	0.0003	0.01
Breadth of institutional ties	-0.0138	-0.22	-0.0547	-0.75	0.1082	1.74
Density of friends network						
A few or some friends know each other	-0.2866	-0.71	-0.3696	-0.83	0.5203	1.13
Friends mostly know each other or all know each other	-0.2675	-0.65	-0.3795	-0.83	0.4545	0.97
Education diversity of friendship network						
Somewhat mixed levels of education	0.1499	0.52	0.8350	2.1	-0.0138	-0.05
Very mixed levels of education	0.3444	0.9	1.2517	2.66	0.5344	1.46
Linguistic diversity of friendship network	0.2072	0.5	0.2720	0.56	-0.2642	-0.62
Constant	1.7330	0.95	1.1653	0.55	-1.5824	-0.8
Number of observations	623					
Pseudo R2	0.1045					
LR chi2(96)	178.62					

Table E2. Coefficient estimates of determinants of job search method, social capital type (model 4)

	Direct contact with employer		Family or friends		Professional contact	
	Coefficient	**T-stat**	**Coefficient**	**T-stat**	**Coefficient**	**T-stat**
Age	-0.0835	-1.10	-0.1275	-1.50	0.0134	0.17
Age^2	0.0006	0.68	0.0014	1.29	0.0001	0.09
Female	-0.3921	-1.59	-0.1186	-0.41	-0.0548	-0.22
Less than Year 12	0.4797	1.18	-0.0393	-0.09	-0.1490	-0.33
Trade	0.1261	0.30	0.0122	0.03	0.2459	0.55
Degree	-0.3183	-0.88	-1.6483	-4.16	0.4290	1.15
Rural	0.7841	2.28	-0.6870	-1.49	0.5000	1.41
Migrant from NESB country	-0.4052	-1.18	-0.4397	-1.15	-0.5917	-1.72
Migrant from ESB country	0.4441	1.40	-0.3689	-0.94	-0.3937	-1.12
Unemployed in the previous two years	0.2557	0.79	0.1577	0.43	-0.7070	-1.73
Percentile of socioeconomic disadvantage (least to most disadvantaged)						
76 to 90 percentile	0.3829	1.15	-0.2100	-0.56	0.0519	0.16
51 to 75 percentile	0.5247	1.45	0.4540	1.16	0.1681	0.47
26 to 50 percentile	-0.3959	-0.91	-0.2025	-0.44	-0.3473	-0.82
11 to 25 percentile	0.0027	0.01	-0.8504	-1.58	0.1315	0.32
1 to 10 percentile	-0.3340	-0.66	-1.0134	-1.64	-0.4634	-0.89
Friends employed	-0.1166	-0.23	0.3127	0.53	-0.0253	-0.05
Social capital clusters						
Social capital rich	0.3341	1.13	-0.1605	-0.44	0.2236	0.77
Informal emphasised	0.1818	0.59	0.1551	0.44	0.6027	2.01
Social capital poor	-0.2995	-0.63	0.4864	1.10	-0.9717	-1.63
Constant	2.1635	1.38	2.9828	1.72	-0.9357	-0.55
Number of observations	624					
Pseudo R2	0.0852					
LR chi2(57)	145.96					

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