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The Future of Social Capital in Development Economics Research

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Abstract

Social capital is generally interpreted as the degree of trust, co-operative norms and networks and associations within a society. Economists have become increasingly interested in social capital, following the seminal work of Coleman (1988) and Putnam (1993). Since the publication of these studies a vast quantity of research on social capital has been published by economists, as well as researchers from other academic disciplines. This paper critiques a selection of the literature on social capital, in terms of its definition, measurement and effects. In terms of definitions, it is argued that social capital is a very similar concept to informal institutions, as defined by North (1990). It is argued that parallels can be drawn between the literature on social capital, and the empirical literature on the role of institutions as a deep determinant of economic development. Turning to the future of social capital research, it is argued that valuable insights can be gleaned from the institutions literature.

JEL Codes: Z13, O11

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1. Introduction

Social capital is generally interpreted as the degree of trust, co-operative norms and associational memberships or networks within a society. Economists have become increasingly interested in social capital, following the seminal work of Coleman (1988) (a sociologist) and Putnam (1993) (a political scientist). Since the publication of these studies a vast quantity of research on social capital has been published by economists, as well as by researchers from other academic disciplines. Isham, Kelly and Ramaswamy (2002) report that citations for social capital in the *EconLit* database have been doubling every year since the late 1990s. Further evidence of increasing interest in social capital by economists is that a new sub-category on social norms and social capital (Z13) was recently added to the Journal of Economic Literature codes. However, as noted by Fafchamps and Minten (2002), the concept of social capital is still regarded with suspicion by many economists.

Various arguments have been put forward as to why higher levels of social capital can lead to improved economic performance. These include the resolution of collective action problems without recourse to government intervention, a greater likelihood of revolving credit schemes being successful, less time spent monitoring workers, greater innovation, and a greater number of transactions taking place. However, there are also arguments to suggest that social capital can act as a brake on economic development. For example, some sets of norms discourage the introduction of new techniques and ideas. The effect of social capital on economic variables has been analysed using both cross-country data sets and micro data based on household surveys. Typically the cross-country, or macro, studies have focused on the effect of social capital on the rate of economic growth and the rate of investment, whereas the micro studies have focused on the effects of social capital on household income or expenditure.

The existing literature on social capital is vast, and this paper will in no way attempt to review it all. The focus of this paper is to ask what future there is for social capital in development economics research. This question is motivated, in part, by a recent survey paper by Durlauf and Fafchamps (2004), which argues that many of the claims made in the literature about social capital should be treated with caution. Durlauf and Fafchamps raise

concerns about the definition of social capital, the empirical proxies used to measure it, and whether causal inferences can be drawn from the existing empirical work on the effects of social capital. Narrowing the scope of the paper even further, the focus will be on the effects of social capital on economic outcomes in developing countries, or on empirical studies using a cross-country data set that includes developing countries.

A key argument of this paper is that in terms of its definition, social capital is a very similar concept to what North (1990) defined as informal institutions. This, in turn, implies that there are similarities between the social capital literature and the recent empirical work on the effects of institutions on economic development, although, strangely, the two literatures rarely acknowledge the existence of the other. Throughout the paper comparisons will be drawn between these two literatures, and it will be argued that the social capital literature, especially the empirical literature using cross-country data, could be enriched by incorporating some of the insights from the institutions literature. In particular, it will be argued that social capital could be modelled as a deep, or fundamental, determinant of economic development.

Discussing the future of social capital requires reviewing, to some extent, the existing literature. To this end, the remainder of the paper is organised as follows. Section 2 will briefly review the literature on defining social capital and discuss the overlap between the concepts of social capital and institutions. Section 3 will discuss how social capital may affect economic performance, which has implications for whether social capital can be modelled as a deep determinant of development. Section 4 will discuss the measurement of social capital and critique a representative sample of the empirical work on the effects of social capital on economic variables, using both micro and cross-country data. Section 5 will then discuss the future of social capital research and Section 6 will conclude.

2. Defining social capital: is it different to institutions?

Defining social capital is not an easy task, as social capital means different things to different people and many different definitions have been proposed in the literature. However, at the risk of generalising to some extent, most definitions of social capital include the concept of trust, networks and group memberships, and a shared set of co-operative norms. The term

social capital has been around for some time, with Woolcock (1998) arguing that it was first used in its modern sense by Hanifan (1920). Readers interested in the development of the term from that time are referred to Woolcock. For the purposes of this paper, we will confine our attention to how the term social capital has been defined since the work of Coleman (1988), focusing on some of the most commonly cited definitions.

An excellent review of how social capital is defined in the recent literature can be found in Durlauf and Fafchamps (2004). Table One, summarises the key definitions of social capital as summarised by Durlauf and Fafchamps, with some additions (Coleman, 1988; Narayan and Pritchett, 1999; Woolcock and Narayan, 2000; Knack and Keefer, 1997; Knack, 2002, Sobel, 2002; Durlauf and Fafchamps, 2004; World Bank, 2005). Note that Knack splits social capital into two components: government and civil, a point that is discussed more fully below.

[Table One about here]

A concept that appears in several of these definitions is that of cooperative norms. These norms may include forming orderly queues at airport check-ins, farmers helping their neighbours to harvest crops, showing respect for other drivers on the road, not parking in car parks reserved for the disabled unless you are disabled, etc. Networks and associational memberships also appear in several of these definitions. Associational memberships may include membership in sports teams, choral societies, church or religious groups etc. Networks can be thought of as the people you know or interact with, which includes informal interactions, in addition to associational memberships. Associations can be split into horizontal and vertical associations. Horizontal associations are those in which members relate to each other on an equal basis (eg. a sports club), whereas vertical associations are those “characterized by hierarchical relationships and unequal power among members.” (Grootaert, 1999, p.5). The Catholic Church is sometimes used as an example of a hierarchical association (eg. La Porta et al, 1997). Associations can also be split into those which promote the interests of their members only (eg. a revolving credit scheme) and those which aim to promote the interests of members and non members alike (eg. those formed for the purpose of charity work).

With regard to trust, it is important to note that there are different spheres of trust. At one end of the continuum is trust in people you interact with on a regular basis (such as friends and family) and at the other end is trust in people you do not know. Trust in those you do not know is sometimes referred to as generalised trust (eg. Whitely, 2000), given that it is referring to trust in people in general. Putnam (2000) and Holm and Danielson (2005) refer to trust in those you interact with regularly as thick trust, and trust in those you do not know as thin trust. Related to this notion is the distinction between bonding social capital and bridging social capital, where the former is defined as strengthening links with people who have similar demographic characteristics and the latter refers to strengthening links with people who do not share these characteristics (Putnam, 2000). It seems likely that trust and cooperation will be built up by repeated interactions with others; hence networks and associational memberships can be seen as a source of trust and cooperation. The more heterogeneous is group membership (eg. on the basis of kin, ethnicity, income levels, etc), the more generalised the degree of trust the group is likely to build.

The most commonly cited definition from Table One is probably Putnam et al (1993), which emphasises trust, norms and networks. These notions appear in most definitions, with norms and networks featuring the most prominently. Hence, although everyone has their own favourite definition of social capital, most researchers would not object too strongly to a definition which incorporated the notions of trust, networks (or group memberships) and cooperative norms.

As discussed in the introduction, a key argument of this paper is that there is a significant degree of overlap between the concepts of social capital and institutions. North's (1990) definition of institutions is probably the most frequently cited, in both the social capital and institutions literatures. North (1990, p.3) defines institutions as "the rules of the game in a society or, more formally, [they] are the humanly devised constraints that shape human interaction." If North's definition were to end here, then it would perhaps be possible to argue that the concept of institutions is quite different to that of social capital. Perhaps the rules of the game are those imposed by the state, with social capital referring to the informal norms or conventions that have evolved over time without these being codified in statute. However, on the next page, North goes further and distinguishes between formal and informal institutions.

Formal institutions are defined by North (1990) as rules that human beings devised (a good example being laws and regulations enacted by governments) whereas informal regulations include conventions and codes of behaviour. North uses the analogy of rules in sports to make the distinction clear. The written rules of a sport are analogous to formal institutions, whereas unwritten codes of conduct, such as an acceptance that it is unacceptable to kick an opponent in the head, are analogous to informal institutions¹. North (p.36) argues that people in the Western world tend to think of life being ordered by formal rules, when in fact their actions are guided more by informal constraints, such as “codes of conduct, norms of behavior and conventions.” He goes on to argue that “underlying these informal constraints/institutions are formal rules, but these are seldom the obvious and immediate source of choice in daily interactions.” The implication is that informal institutions are actually more important than formal institutions. It is also important to note that North acknowledges institutions are not always easy to classify into formal and informal, but suggests the two should be seen as opposite ends of a continuum, with taboos, customs and traditions at one end, and written constitutions at the other.

North’s notion of institutions, once broadened to include informal institutions, includes the concepts of norms of behaviour and social conventions, hence it seems to incorporate the notion of social capital. This is especially true if it is acknowledged that North discusses the importance of cooperation. Although North says little about trust, cooperation does presuppose some degree of trust. A key theme of North (1990) is that good institutions will encourage cooperation and reduce transactions costs, notions that also feature prominently in the social capital literature.

The above arguments suggest that the concept of social capital falls within North’s definition of institutions. However, it needs to be acknowledged that North’s followers tend to focus their attention on formal institutions, with informal institutions having disappeared off the radar. In the last few years a literature has flourished examining whether institutions or geography is the most important deep determinant of income per capita. Key papers in this area include Acemoglu et al (2001, 2002), Rodrik et al (2002), Sachs (2003) and Easterly and Levine (2003). In terms of definition, deep (or fundamental) determinants of income are distinct from proximate determinants. The proximate determinants can be thought of as

¹ It is true, of course, that in the vast majority of sports it is against the rules to kick an opponent in the head. However, in some sports, there is an unwritten code of conduct that although it may be acceptable to punch an opponent, which is also against the rules, that kicking an opponent in the head goes beyond the pale.

variables that would appear in the aggregate production function, such as labour, physical capital, human capital and technology, plus policy related variables such as the rate of inflation or the level of government consumption. The deep determinants can be thought of as the variables that affect the proximate determinants, and are hence the underlying determinants of income per capita. Deep determinants are not necessarily exogenous, but are thought to change only slowly, if at all, over time (Glaeser et al, 2004).

Within this deep-determinants literature, the focus is exclusively on formal, rather than informal, institutions. This literature typically cites North's notion of institutions defining the rules of the game, but when it comes to measuring institutions, the protection of property rights and the rule of law tend to feature prominently. Norms, conventions and codes of conduct do not feature. Hence in terms of how social capital and institutions tend to be defined in the post-North (1990) literature, the degree of overlap is more minimal than if informal institutions are included in the definition of institutions.

It is also interesting to consider the extent to which the two literatures (social capital and the institutions as a deep determinant) acknowledge the existence of the other. An interesting experiment is to compare the reference lists of two recent survey papers, both of which are to appear in the *Handbook of Economic Growth*: Durlauf and Fafchamps (2004) on social capital and Acemoglu et al (2004) on institutions. Of the more than 150 references cited in Acemoglu et al (2004), only three of them (Durlauf and Fafchamps, 2003 (an earlier version of Durlauf and Fafchamps, 2004); Knack and Keefer, 1997; Putnam et al 1993) are from the social capital literature. Durlauf and Fafchamps (2004) also cite just over 150 references, but none of them are from the deep determinants literature. They do, however, cite North (1990).²

The preceding discussion begs the question of whether 'informal institutions' more accurately describes the concept being defined than 'social capital'.³ Use of the term social capital has led to debates about whether social capital is social, and more commonly, whether it is capital, and, if it is, what this implies for how it enters the production function (see, for example, Woolcock, 1998; Collier, 2002; Paldam and Svendsen, 2000; Narayan and Pritchett,

² One paper that does explicitly discuss formal institutions *and* social capital is Zak and Knack (2001) who derive a model in which trust is determined, in part, by the quality of formal institutions, with respect to the regulation of financial markets.

³ Dasgupta (2000), in reviewing the social capital literature, uses the phrase informal institutions, and asks in passing whether social capital is merely another name for good institutions. However, this point is not developed.

1999; Arrow, 2000; Solow, 2000; Sobel 2002).⁴ Such debates could be avoided if the term ‘social capital’ were replaced with ‘informal institutions’.⁵ However, this is unlikely to happen. Social capital rolls a little more easily off the tongue and has a softer, more interdisciplinary ring to it. This may not be a bad thing. If use of the term social capital encourages communication across academic disciplines, then more social capital has been created in the form of networks. In the words of Woolcock (1998, p.188) “[i]n social capital, historians, political scientists, anthropologists, economists, sociologists, and policy makers – and the various camps *within* each field – may once again begin to find a common language within which to engage one another in open, constructive debate, a language that disciplinary provincialisms have largely suppressed over the last one-hundred-and-fifty years.” However, it is important to be careful that the social capital umbrella does not attempt to cover too much. In the words of Guinnane (2005, p.30), “[w]e would better understand some institutions and societies if scholars ... worried less about fitting their research into trendy paradigms”.

Returning to the definitions of social capital presented in Table One, Knack (2002) splits social capital into government and civil social capital. Grootaert (1999, p.5), in a definition not included in Table One, talks about a macro level of social capital which “includes institutions such as government, the rule of law, civil and political liberties, etc.” These notions of government and macro social capital sound identical to formal institutions. Collier (2002, p.19) notes that “many people restrict the term ‘social capital’ to civil social capital”. Given the similarity between institutions and government social capital, it would seem wise to restrict discussions of social capital to civil social capital.

This section of the paper has defined social capital and suggested that social capital is very close to the idea of informal institutions, as defined by North. However, for social capital to become a concrete concept, requires that it can be measured. The measurement of social capital, and a review of empirical work on the effects of social capital on economic performance, is the focus of Section 4. The fact that the social capital literature could be enriched with some insights from the deep determinants literature is a theme that will be explored further in Section 5. Before exploring these issues, Section 3 will briefly review

⁴ The standard argument against social capital being a form of capital is that the accumulation of social capital does not necessarily require sacrifice (see, for example, Arrow, 2000).

⁵ Arrow (2000) and Solow (2000) suggest abandoning the term social capital, arguing that social capital is not capital, but stop short of suggesting an alternative descriptor.

some of the arguments as to why social capital would be expected to affect economic performance.

3. Social capital and economic performance

Many arguments have been put forward in the literature as to why social capital may improve economic performance. Most of these arguments can be classified under the following headings: increasing the number of mutually beneficial trades, solving collective action problems, reducing monitoring and transactions costs (which could alternatively be referred to as solving principal-agent conflicts) and improving information flows. It is beyond the scope of this paper to review every argument in the literature as to why social capital may affect economic performance; instead a small number of examples will be reviewed under each of the headings listed above.

3.1 Increasing the number of mutually beneficial trades

It has been recognised for centuries that a high degree of trust and cooperation will increase the number of mutually beneficial trades. For example, the eighteenth century Scottish philosopher David Hume (cited in Putnam et al, 1993, p.163) discussed the importance of cooperation, and implicitly trust, using the example of two corn farmers. If two corn farmers' crops ripen at different times, but they do not have enough time to harvest their own crops, it makes sense for each farmer to assist with the other's harvest. However, this may not occur if the two farmers do not trust each other. The farmer whose crop ripens last may suspect that if she helps with her neighbour's harvest, this may not be reciprocated. In fact, in a one-shot game, such free riding is actually the optimal strategy, although it is not clear this will be the case in a repeated game.

It is, of course, possible to argue that a monetary transaction could take place to overcome the lack of cooperation outlined in Hume's example of the corn farmers. If Farmer B, whose crop ripens last, suspects Farmer A will not reciprocate she could offer to work for Farmer A for a day's wages, and then hire Farmer A to help harvest her own corn in the future. However, this transaction, like all transactions, will require a degree of trust. Farmer B may fear that having worked for Farmer A for a day, she may not be paid. Anticipating this, she may demand the wages in advance, but then Farmer A will worry that Farmer B will take the

money, and not provide a day's labour. At some point, an element of trust is required. As noted by Arrow (1972) virtually all transactions require an element of trust, meaning that an absence of trust reduces the number of mutually beneficial trades that can take place. Arrow suggests that it can be argued that a lack of trust explains much of the economic backwardness observed in the world.

Another example of trust leading to a greater number of trades is the development of revolving credit schemes to overcome incomplete, or non-existent capital markets. Revolving credit schemes are where the members all contribute an agreed sum of money each time period (eg. a month) to the fund. The money can then be borrowed by one member each month, if required, for financing a wedding, buying a piece of farm equipment, or some other form of expenditure. Once a member has borrowed money, they are no longer eligible to borrow again, but they are expected not only to repay the loan, but to keep making monthly contributions to the fund.

The success of such schemes requires that members do not free ride. In a world governed by self interest, some members may be tempted to borrow money from the scheme, and then refuse to continue to make contributions. It is also important that people have good information about those whom they are thinking of joining with in a scheme. A high degree of trust(worthiness) is required to ensure that members do not free ride, and individuals who are well networked will have good information about other potential members of the scheme (Narayan and Pritchett, 1999; Grootaert, 1998). In the words of Coleman (1988, p.S103) "one could not imagine a rotating-credit association operating in urban areas marked by a high degree of social disorganisation – or, in other words, by a lack of social capital." Social networks will also facilitate lending in the absence of revolving credit schemes. Grootaert (1998, p.5) argues that members of a soccer team will be more likely to lend money to each other than to people they do not know. Hence the existence of networks, and the trust associated with them, are likely to increase the supply of informal credit. Informal credit is going to be especially important in LDCs where formal credit markets are typically not as well developed as in the industrialised countries.

3.2 The resolution of collective action problems

Societies with high degrees of social capital may find it easier to solve collective action problems than societies less well endowed with social capital. For example, a set of norms may evolve over time governing the use of common property resources. A set of norms to prevent a fishery being over-fished may include not fishing during the spawning season, releasing under-sized fish and not catching more fish than a family can eat. With regard to the provision of public goods, these are more likely to be provided, without recourse to government funding, in societies where cooperative behaviour is the norm. The same can be said for internalising externalities.

Community-based institutions may also be formed to manage common property resources. Several examples are given in Ostrom (1990). For example, for many centuries Spanish farmers have formed organisations to manage irrigation canals (huertas). The farmers elect officials, whose job it is to determine who may draw water at what time, to police the system and to settle disputes between members. Similar community-based institutions have evolved to manage irrigation schemes in many other countries including Nepal and India. It could be argued that these community-based institutions sound like a form of *de facto* government, but, if they are, they represent a decentralised, bottom-up form of government. The fact that it may be difficult to determine whether these community-based institutions should be classified as formal institutions or social capital highlights the point that social capital (informal institutions) and formal institutions are at opposite ends of the same continuum, with, for example, community-based institutions falling somewhere in between.

The standard textbook solution to collective action problems requires some action on the part of the government: defining and enforcing property rights in the case of common property resources, public funding in the case of public goods, and taxes or subsidies in the case of externalities. However, this requires strong formal institutions. In cases where formal institutions are weak, which may well be the case in many developing countries, social capital may act as a substitute for formal institutions.

3.3 Reducing monitoring and transactions costs

In a low-trust environment, entrepreneurs will assume that workers will shirk unless closely supervised, so to reduce this risk supervisors will be hired, reducing productivity. Woolcock (1998) argues that in many developing countries hospitals and schools may exist, but the

doctors and teachers are often not at work. The issue of monitoring workers may also act as a constraint on firm size in low-trust economies. Once a firm reaches a certain size, the owner operator has to delegate a degree of managerial decision making to others, especially in semi-independent parts of the company. Paldam and Svendsen (2000) argue that a lack of social capital prevents small firms growing into large firms in many parts of Africa for this very reason. Fukuyama (1995) discusses the need for trust and cooperation between strangers if large firms are to be successful.

Anticipating problems with workers shirking, employers may respond by only employing people already known to them, rather than employing the person best qualified to do the job. In a society that is divided along ethnic or religious lines, preference may be given to hiring those from the same ethnic and/or religious group as the employer, in the belief that they can be trusted more. In this scenario, the most skilled workers may not be employed, which has obvious consequences for the productivity of the firm.

With regards to transactions costs, Fafchamps and Minten (2002, p.175) argue that when trust is present agents can “lower their guard and economize on transactions costs such as the need to inspect quality before buying, or the need to organize payment in cash at the time of delivery.” They go on to argue that trust “enables agents to place and take orders, pay by check, use invoicing, provide trade credit, and offer warranty”, noting that these features of markets are taken for granted in developed countries, but are often lacking in developing countries.

3.4 Improving the flow of information

The extent of networks and associational membership is a key facet of most definitions of social capital. The more people interact with each other, be this in choral societies, sports groups, religious or educational organisations, the better the information they will have about each other, making it easier, for example, to set up revolving credit schemes and the like. It may also improve the flow of information about best practise techniques, making the introduction of new technologies more likely. Networks and membership of groups may also help overcome the impediments to information flows due to social divergence: the phenomena whereby individuals are more likely to communicate with those with similar incomes, education, ethnicity, etc, as themselves, rather than with people from a diverse

range of backgrounds (see Grafton, Knowles and Owen 2004; Grafton, Kompas and Owen, 2004).

3.5 The negative effects of social capital

So far only the positive effects of social capital have been considered. It has to be acknowledged that there are also cases where social capital can have negative effects. It was argued above that social capital may have a positive effect on the adoption of new techniques. However, it is also possible that some customs or norms may hinder the introduction of new techniques. For example, Rogers (1983) discusses the example of a Peruvian village whose inhabitants largely refuse to boil their drinking water because, according to local custom, only the sick are permitted to drink boiled water. This example draws attention to the fact that social capital is not always a force for good. It is quite possible that farmers and business people may be reluctant to introduce new techniques that would improve productivity, because this would go against the established way of doing things.

It is also possible that some networks or associations may hamper the adoption of new techniques. As noted by Paldam (2000), guilds, trade organisations and unions often try to hinder change. Networks can also lead to collusion on the part of firms, at the expense of consumers (Fafchamps and Minten, 2002). Social networks, such as guilds, cartels, the mafia, political organisations and lobbying groups may provide benefits for members, but this can often come at the expense of non members (Ogilivie, 2004).

Ogilivie (2004), in a case study of guilds in 17th and 18th century Germany, concludes that guilds had a negative impact on women, arguing “[g]uild’s use of their social capital of shared norms, information and collective sanctions to enforce their monopoly undoubtedly benefited guild masters. But it forced many women into marginal activities such as spinning, begging, and the exploitive black-market ‘informal sector’.” (p.339) Although women faced very serious restrictions in all parts of Europe in pre-industrial times, due to the existence of patriarchal norms, Ogilivie (p.356) argues that “social capital made it easier to *enforce* these norms in societies with strong and closely knit guilds and communities.”

3.6 Modelling these effects

Arguments have been presented above as to why social capital may affect economic performance. An obvious question to ask is: how can these effects be modelled? It is

sometimes argued in the literature that social capital can be thought of as a new factor of production (eg. Paldam and Svendsen, 2000). However, the arguments discussed above tend to suggest that social capital will affect the accumulation of *other* factors of production, or affect the level of total factor productivity, rather than social capital being a new factor of production in its own right. For example, if social capital leads to the establishment of informal credit markets, this will facilitate the accumulation of physical, and perhaps human, capital. If social capital reduces transactions and monitoring costs, or leads to the introduction of new technologies, this will increase the level of total factor productivity. Hence, thinking of social capital as a new factor of production may not be the best way to capture the effect of social capital on output. A more useful way forward, especially in the cross-country literature, may be to think of social capital as a deep, or fundamental, determinant of income, in the same way it has become standard in recent times to model the effects of geography and institutions on income per capita. This possibility will be discussed in more detail in Section 5. Before doing so, Section 4 will discuss the existing empirical literature on social capital.

4. Measuring Social Capital and Estimating its Effects on Economic Variables

It is beyond the scope of this paper to discuss every study that has attempted to measure social capital and estimate its effect on economic variables. Readers interested in a more exhaustive treatment are referred to Tables One, Two and Three of Durlauf and Fafchamps (2004), which summarise a large number of studies. It should be noted, however, that some of the studies included in Durlauf and Fafchamps are not strictly speaking studies on social capital, a point they themselves acknowledge. For example, Easterly and Levine (1997) do not mention social capital, nor does their empirical work include any of the standard proxies for social capital.⁶

Rather than reviewing every empirical study conducted on social capital, this section will critique a representative sample of the existing empirical work, focusing in particular on how social capital has been measured. The discussion will be confined to measures of civil social capital, on the grounds that measures of government social capital are really measures of

⁶ Easterly and Levine's empirical work includes ethnic diversity as an explanatory variable. This is sometimes used as an instrument for social capital, but typically not as a proxy for social capital.

formal institutions.^{7,8} As well as discussing the social capital proxies that have been used in the empirical literature, this section will also discuss whether these variables have been found to be correlated with economic performance. Throughout this section, the emphasis will be on studies that relate to developing countries, or a broad cross-section of countries that includes developing countries. Studies focusing on developed countries only will not be discussed.⁹

The empirical literature on the economic effects of social capital can be split into two categories: the macro literature and the micro literature. The macro literature analyses the effect of social capital on economic variables across countries, and typically uses data from the World Values Surveys. The most common proxy for social capital in this literature is a measure of trust. The micro literature analyses the effects of social capital on different economic entities (normally households or villages) within an individual country. The data used are based on household surveys, with the most common proxy for social capital being group membership. The most common dependent variable in the macro literature is the rate of economic growth; in the micro literature the dependent variable is typically the level of household income or expenditure. The effect of social capital on other variables, such as education and health, has also been analysed, but not nearly to the same extent.¹⁰ We will begin by reviewing the macro literature.

4.1 Macro Studies

In Section 2, social capital was defined in general terms as the degree of trust, co-operative norms and networks within a society. A widely cited empirical paper that proxies for all three of these variables is Knack and Keefer (1997). Knack and Keefer use three different proxies for social capital: TRUST, CIVIC and GROUPS. These three measures of social capital are

⁷ Knack (2002), in a survey of existing empirical work on the effect of social capital on growth and poverty, lists the following variables that have been used as government social capital proxies in previous empirical work: civil liberties and political freedoms, frequency of political violence, subjective ratings of political risk (eg. the ICRG and BERI data sets), and contract intensive money. These variables can more appropriately be thought of as measures of formal institutions.

⁸ Studies on the effect of culture on economic performance, such as Granato et al (1996), which is included in Knack's (2002) survey, will not be discussed. Granato et al do not use the term social capital, and their measures of culture do not really capture any of the elements of social capital from Table One.

⁹ Helliwell (1996) is omitted from the discussion for this reason. Although the title of Helliwell (1996) suggests the paper is about Asian economies, the empirical work including social capital as an explanatory variable includes a sample of OECD countries only.

¹⁰ Analysing the effect of social capital on variables such as crime rates, education and health is more common when using data for developed countries. See, for example, Hagan and McCarthy (1995), Sun (1999), Kawachi et al (1997).

derived from the World Values Survey (Inglehart, 1994). There have been four different waves of the World Values Survey carried out at different points in time, although only two waves had been conducted at the time Knack and Keefer conducted their work.

TRUST measures the percentage of individuals in a country who answered “most people can be trusted” to the question “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people”. CIVIC is an index which ranges from 5 to 50, where respondents were asked to assign a score between 1 and 10 as to whether they agreed that certain behaviours were justified, with a 1 indicating the behaviour was never justified and a 10 indicating that the behaviour was always justified. The five behaviours are (1) claiming a government benefit to which you are not entitled, (2) avoiding a fare on public transport, (3) cheating on taxes if you have the chance, (4) buying something that you knew was stolen and (5) accepting a bribe in the course of one’s duties. Knack and Keefer transform the data so that a score of 50 indicates the *highest* possible level of CIVIC and a score of 5 indicates the *lowest* possible level of CIVIC. GROUPS is the average number of groups people belong to in each country.

Although these proxies, especially TRUST, have been used by researchers other than Knack and Keefer (e.g. Zak and Knack, 2001; Whiteley, 2000; La Porta et al 1997), it is important to acknowledge some potential problems with these measures of social capital. The coverage of the World Values Survey differs significantly from country to country. In the third wave of the survey the sample size has a range of 71 (Ghana) to 6000 (Colombia). In addition, the sample in some countries is not representative of the population as a whole. For example, in Argentina, the sample is limited to the urban population and in India only 10% of the sample is drawn from rural areas (Inglehart et al, 2000).

With respect to TRUST, Glaeser et al (2000) show that peoples’ answers to the trust question from the World Values Survey are not correlated with how trusting they are of others in economic experiments. This is a cause of concern to economists, who are often sceptical of surveys because they measure what people say, rather than what they do. However, Glaeser et al do find evidence of a positive correlation between TRUST and how *trustworthy* the individual is. In experiments conducted in both Tanzania and Sweden, Holm and Danielson (2005) find that there is no correlation between how trusting people claim to be (or how trustworthy they are) and their behaviour in experiments in Tanzania, but there is in

Sweden.¹¹ Also of concern is the fact that the trust question does not really pin down who “most people” are. Does this mean people you come into contact with regularly (thick trust), or anyone in your own village or country (thin, or generalised, trust)? As argued by Guinnane (2005), neither does the question make it clear *how much* trust you are being expected to place in others. If you say you do trust others, does this mean you would trust them with a small sum of money or a large sum of money, or perhaps even your life?

The validity of TRUST as a measure of trust(worthiness) is confirmed, to some extent, by an experiment conducted by the *Reader's Digest*, who dropped a number of wallets in various countries around the world to see how many would be returned and interpreted the proportion of wallets returned as a measure of trustworthiness. TRUST (from the World Values Survey) has a correlation of 0.67 with the *Reader's Digest* trustworthiness measure (Knack and Keefer, 1997).

Knack and Keefer suggest that CIVIC is a measure of the strength of norms of civic cooperation within a society. However, this variable may be better interpreted as a measure of civic virtue. This is because a country is assigned a low value of CIVIC if, for example, everyone thinks it is alright to cheat on their taxes. However, if *everyone* were to cheat on their taxes, this could represent a civic norm. One potential weakness of the GROUPS variable is that it only takes into account the number of associations an individual belongs to, rather than taking into account the strength of membership. For example, active membership of a volunteer fire brigade is treated as equivalent to occasionally attending church.

From the perspective of development economics, it needs to be noted that the sample of countries for which Knack and Keefer present data on TRUST, CIVIC and GROUPS is dominated by developed countries. Of the 29 countries included in their sample, only 10 (South Korea, India, South Africa, Argentina, Nigeria, Chile, Portugal, Mexico, Turkey and Brazil) are developing countries. Of these countries, three do not have data for the GROUPS variable. The developing countries do not fare particularly well in terms of the social capital measures, especially in the case of TRUST, with only South Korea getting an above average score. In Brazil, only 6.7 percent of the sample think others could generally be trusted; in Turkey the figure is only 10 percent, compared to a sample average of 36 percent. Two more

¹¹ These experiments are all conducted on under-graduate economics students, who may not be representative of the whole population.

waves of the World Values Survey have been compiled since Knack and Keefer was published. The latest wave (Inglehart et al 2004) includes data for 33 developing countries, as well as several former communist states from Eastern Europe. For the 33 developing countries, the average value of TRUST is 23.5, whereas for the developed countries in the sample it is 42.

Turning to the results of empirical work using the World Values survey data, Knack and Keefer find that TRUST and CIVIC are both positively correlated with growth in output per worker, and with the average rate of investment, across countries, when these variables are included in Barro-style regressions. The GROUPS variable is found to not have a statistically significant effect in explaining both investment and growth. To further explore this issue, Knack and Keefer split the GROUPS variable into groups they think will build social capital (which they term Putnam Groups), and those that may encourage rent seeking (which they term Olson Groups). The only significant correlation they find is a negative correlation between Putnam Groups and investment, which is counter to expectations. Zak and Knack (2001) update the empirical work of Knack and Keefer, with a larger sample of countries.¹² However, Zak and Knack include only TRUST as a social capital proxy, not CIVIC nor GROUPS. The empirical results obtained are broadly consistent with Knack and Keefer. In addition, Zak and Knack find that TRUST is higher in countries with stronger formal institutions, as measured by indices of property rights protection, contract enforceability and lack of corruption.

La Porta et al (1997) examine the effect of the World Values Survey measure of TRUST on a range of proxies for economic development, using cross-country data. Controlling for the level of income per capita, TRUST is found to be significantly positively correlated with the quality and adequacy of infrastructure, high school completions, the adequacy of the education system and the rate of economic growth. TRUST is found to be significantly negatively correlated with the infant mortality rate and the inflation rate. La Porta et al also examine the effect of hierarchical religions (defined as the proportion of the population that are Catholic, Eastern Orthodox or Muslim) on economic development and find this variable to be significantly positively correlated with the infant mortality rate and the inflation rate,

¹² The larger sample size is achieved by including data from a more recent wave of the World Values Survey (the third wave) than was available to Knack and Keefer, and by the addition of three other countries for which data are obtained from independent surveys.

and significantly negatively correlated with the quality and adequacy of infrastructure and high school completions.

Knack and Keefer's trust measure is based on a question about generalised trust. The World Values Survey also asks questions about peoples' trust in family and fellow nationals, as well as the more general question that Knack and Keefer focus on. Whitely (2000) combines the responses to all three questions into a social capital index using principal components analysis, and finds a significant positive correlation between this index and income per capita across countries, with social capital having a bigger influence on income per capita than does human capital.

The only papers that attempt to address the issue of simultaneity in the cross-country literature are Knack and Keefer (1997) and Zak and Knack (2001). Simultaneity is a potential problem in cross-country studies as it is possible that people can afford to be more trusting, or belong to more groups, in countries where the economy is growing more quickly. Controlling for such simultaneity bias requires finding instruments that are both correlated with social capital (good instruments), but which have no independent correlation with the dependent variable (valid instruments). Knack and Keefer instrument for TRUST with the percentage of a country's population belonging to the largest ethnolinguistic group and the number of law students as a proportion of all tertiary students. Whether these variables are valid instruments is questionable, given that they may well have an independent effect on the dependent variable. Rather than using the Knack and Keefer instruments for TRUST, Zak and Knack use the shares of the population that are Catholic, Muslim or Eastern Orthodox as instruments, arguing that these hierarchical religions have negative effects on trust. Again, it could be argued that these variables may have an independent effect on growth, making them invalid instruments.

Summarising the results from the cross-country literature, the most common measure of social capital included in cross-country regressions is TRUST, which tends to be significantly correlated with economic growth and investment. In addition, La Porta et al also find TRUST to be correlated with measures of education and health. The only studies to tackle the issue of simultaneity are Knack and Keefer and Zak and Knack, but it is questionable whether the instruments used are valid. This issue of instrument validity will be returned to in Section 4.3. Next, Section 4.2 will review a representative sample of the micro literature.

4.2 Micro Studies

There is a significant literature looking at the effect of social capital on economic outcomes using household data. These studies are more plentiful than cross-country studies, so only a representative sample of this literature will be reviewed. Micro studies typically estimate an equation similar to

$$(1) \quad E_i = \alpha + \beta_1 S_i + \beta_2 X_i + \beta_3 Z_i + u_i$$

where E is a measure of economic outcomes (typically expenditure), S is a measure of social capital, X is a vector of household characteristics, Z a vector of community characteristics and u the error term. The household characteristics can include the schooling of household members, whether the head of the household is male or female, the household's religion etc. The village characteristics can capture variables such as the quality of the village leadership. The subscript i can either denote the household, or the village, a point that is returned to below.

The majority of these micro-level studies use data on expenditure as the dependent variable, given that most surveys in developing countries collect data on household expenditure, rather than income. However, it is possible that E could measure other development outcomes such as education or health levels. Krishna's (2001) dependent variable is an index of development which contains information on the productivity of commonly owned land, poverty reduction, employment generation and the quality of health, education and water supply services.

The most commonly used proxy for social capital in this literature relates to group membership. Examples include Narayan and Pritchett (1999), Grootaert (1999), Krishna (2001) and Maluccio, Haddad and May (2000). Narayan and Pritchett's study is based on Tanzanian data, Grootaert's on Indonesian data, Krishna's on Indian data and Maluccio, Haddad and May's on South African data. Most studies focus on rural communities. As well as focusing on the number of groups households belong to, many studies also include information on the *characteristics* of the groups people belong to (eg. Narayan and Pritchett, 1999; Grootaert, 1999).

Narayan and Pritchett construct an index of social capital which is an increasing function of the number of groups households belong to, the degree to which group membership is heterogeneous in terms of income and kin, and whether groups were thought to be well functioning. Making the social capital index an increasing function of group heterogeneity can be seen as recognition that bridging social capital is more important than bonding social capital. Narayan and Pritchett find their index of social capital to be positively correlated with household expenditure, with social capital being more important in explaining household expenditure than is schooling.

Maluccio, Haddad and May (2000) construct a social capital index based on group membership, similar to that of Narayan and Pritchett's, for a random sample of households in KwaZulu-Natal in South Africa. Their index is made up of three variables: the number of groups a household belongs to, the average reported performance of groups and the frequency with which household members attend meetings. As well as this index of household group membership, they also construct an index of community group membership, which measures the quantity and characteristics of groups at the community level. The authors have data for two time periods (1993 and 1998), and exploit this time variation by estimating a fixed effects variant of equation (1), as well as cross-sections for both time periods. They find that the household group membership index is correlated with household expenditure in 1998, and in the fixed-effects model, but not in 1993. In contrast to Narayan and Pritchett, they find social capital to be less important than education in explaining household expenditure. The community group membership index is significant for the 1998 cross-section, but not the other specifications.

Rather than calculating a social capital index, Grootaert (1999) includes six dimensions of group membership as separate explanatory variables in the same estimating equation. The six dimensions are (1) density of membership, (2) a heterogeneity index, (3) regularity of meeting attendance, (4) an index of whether decisions are made democratically, (5) whether members pay membership fees and (6) a measure of whether the group was set up by the community, or some external agency. The empirical results obtained suggest that an additional group membership is associated with a 1.5% higher level of household expenditure. The returns to membership are higher for heterogeneous groups (especially when the heterogeneity is on the basis of income) and groups with democratic decision making. Regularity of attendance, whether membership fees are charged and whether the

group was community initiated are all insignificant. Grootaert also finds that the returns to social capital are higher for low-expenditure than high-expenditure households.

It is also possible to test whether it matters what sorts of groups individuals belong to. Grootaert splits group membership into government sponsored/national groups, religious groups, production groups (aimed at providing economic benefits for their members) and social groups. The number of memberships is only a significant predictor of household income in the case of voluntary production and social groups. The largest effect is for social groups, where one more membership is associated with an increase of 6.2% in household expenditure. The fact that membership of government organisations is not correlated with household expenditure is a sobering thought for governments wanting to create social capital.

Social capital measures other than those relating to group membership have also been included in equations similar to (1). Krishna (2001) includes six potential measures in an index of social capital, using factor analysis. The six components are: (1) membership in labour-saving groups, (2) the proportion of the village that respondents believe would act to prevent crop disease affecting the whole village, (3) the proportion of the village that respondents believe would help out during a natural disaster, (4) whether respondents think villagers would rather own a plot of land on their own, or own a plot of land that is 2.5 times larger, but with ownership being held jointly with one other person (a measure of trust), (5) whether respondents believe that a village leader would put personal concerns aside to act in the best interests of the village and (6) whether respondents believe villagers will correct other people's children (a measure of reciprocity). An advantage of these measures, over those used by Knack and Keefer in the macro literature, is that the questions make clear how wide the radius of trust, cooperation or reciprocity is. Krishna finds this social capital index to be positively correlated with her measure of development outcomes, but also finds the effect of the social capital index becomes insignificant once an interaction term between social capital and the capacity of village leaders is included in the regression. Haddad and Maluccio (2003), in an extension of Maluccio, Haddad and May (2000), include trust, as well as group membership, as an explanatory variable, and find this to be an insignificant determinant of household per capita income.

Given that the data used in these studies are typically collected at the household level for a large number of villages, the subscript i in equation (1) can either denote household i , or

average household income for village i . In addition, if E measures the expenditure of households, it is interesting to test whether this is determined more by the social capital of the household, or the social capital of the village. Narayan and Pritchett find that household expenditure depends on the village-wide level of social capital, whereas Grootaert finds that households benefit directly from their own density of participation in groups, not from the village-wide level of participation. As argued by Durlauf and Fafchamps (2004), it is questionable whether results such as Grootaert's can be taken as evidence of beneficial effects of social capital, as it could be that group members simply gain at the expense of non-members. If this is the case, then social capital (in this case group membership) simply has distributional consequences, rather than raising the welfare of the village.

A potential source of bias in OLS estimates of equation (1) is simultaneity. It is quite possible that social capital may be a consumption good, and hence increase with the level of income. Narayan and Pritchett use trust in strangers and trust in government officials as instruments for their index of group membership, and find that their results are robust when estimated using instrumental variables analysis. The instrument set passes the over-identification test for instrument validity of Davidson and MacKinnon (1993) when village-level data are used, but not when household data are used. However, even though the instrument set passes the test of instrument validity in one case, it should be noted that trust in either strangers or government officials is likely to have an independent effect on expenditure, and hence not be a valid instrument (Durlauf, 2002). For example, it was argued in Section 2 that higher levels of trust, including trust in strangers, will lead to more mutually beneficial trades taking place.¹³

Grootaert (1999) also uses instrumental variables analysis to check the robustness of his key results. The instrument set used comprises: (1) an index of ethnic and religious diversity, (2) the number of existing associations in the village, (3) the percent of institutions deemed effective, and (4) indices of community involvement in the provision of health and education services, water supply, road maintenance and irrigation. This instrument set passes the over-identification test for instrument validity of Davidson and Mackinnon (1993). Maluccio, Haddad and May (2000) use their community group membership index as an instrument for household community group membership, on the grounds that the community membership

¹³ Narayan and Pritchett (1999) also argue the finding that household expenditure depends on village-level social capital, rather than household social capital, is evidence that social capital is not a consumption good, undermining one of the reasons to suspect that social capital may depend on expenditure/income.

index was insignificant in the OLS and fixed-effects equations. This instrument also passes the over-identification test of Davidson and Mackinnon. Their OLS and fixed-effects results are robust to instrumental variables analysis.

Perhaps the most plausible set of instruments at the micro level have been proposed by Haddad and Maluccio (2003). They use a variety of instruments for trust and group membership, including lagged values of variables. The use of lagged values as instruments is not that convincing in a cross-country context, as these will still be correlated with the error term if there is any time persistence in the error term. However, some of the other instruments they use could be more valid. They suggest that the amount of time a household has been in the area can be used as an instrument for group membership. This variable would be expected to be positively correlated with group membership, if it takes time for people to join groups once they have moved to a new area.¹⁴ It will be a valid instrument as long as it is not correlated with the error term in the expenditure equation. Although it may be possible to construct arguments that the length of time spent in an area may be correlated with household expenditure, the question has to be asked as to how plausible these arguments may be. The more implausible these arguments, the more valid the instrument is likely to be. Haddad and Maluccio also suggest that trust can be instrumented for by a measure of whether the household has been the victim of crime in the past. It seems likely that this would affect the level of trust. Again it may be possible to construct arguments as to why this variable may be correlated with expenditure, but one has to ask how plausible or otherwise these arguments might be.

4.3 Potential Problems in the existing empirical literature

Durlauf (2002) and Durlauf and Fafchamps (2004) are critical of much of the empirical literature on social capital at both the macro and micro level, including all the studies summarised above. A criticism found in both of these papers is that social capital is often measured in a vague way, making it difficult to separate the social capital effect of a particular variable on economic performance, from other possible effects, of the same variable, on economic performance. For example, Durlauf and Fafchamps, commenting on the micro literature, question whether it is possible to distinguish between the social capital effects of group membership and the presence of other group effects “such as information

¹⁴ A counter argument is that people moving to a new area may join groups as a mechanism for establishing contacts. Which of these arguments is the more valid can be empirically tested.

spillovers, or the presence of common factors such as legal or political institutions” (p.46). With regard to information spillovers, whether this criticism is valid or not depends on one’s definition of social capital. If social capital is defined as including membership of groups, then all benefits accruing from that membership can be thought of as benefits from social capital.¹⁵ With regard to separating social capital effects from the effects of political institutions, it could be argued that this argument can hardly apply to different villages governed by the same central government institutions. It is true that village-level institutions may differ, but this was held constant in Krishna (2001), although when this was controlled for social capital became less significant, a point noted by Durlauf and Fafchamps. Durlauf and Fafchamps argue that more weight should be attached to studies that focus on “specific phenomena that have been placed under the social capital rubric” (p.46) and hold up Fafchamps and Minten (2002) as an example.

Fafchamp and Mintens (2002, pp.173-4) argue that definitions of social capital fall into two camps. The first, which they argue includes those of Coleman (1988) and Putnam et al (1993), sees “social capital as a ‘stock’ of trust and an emotional attachment to a group or society at large that facilitate the provision of public goods”. The second type of definition sees social capital as “an individual asset that benefits a single individual or firm”, which is sometimes referred to as social network capital to avoid confusion. Most of the definitions of social capital in Table One of this paper fall into the first category. Fafchamps and Minten’s empirical work focuses on the effect of social capital networks on the value added and total sales of a sample of agricultural traders in Madagascar. It is important to note that by focusing on social capital networks, this moves away from what most people think of as social capital. Fafchamps and Minten use three different proxies for social capital networks: the number of relatives in agricultural trade, the number of other traders known and the number of potential informal lenders. They find that these proxies all have a significantly positive effect on value added and sales, and that this result is robust to instrumental variables estimation. The instrument set used includes age and age-squared, indicators of the place of birth, religion, number of siblings, number of children and education. It is argued that these variables are beyond the control of respondents, or are the result of past activity. The instruments pass various tests of instrument validity. However, it is not clear that variables

¹⁵ Durlauf and Fafchamps (2004), on the other hand, seem to define social capital as the informal norms and trust that arise from group membership and networks. Hence, they do not see group membership *per se* as social capital.

like age or religion are any more valid as instruments than some of the instruments used by Haddad and Maluccio (2003). If, on the other hand, variables like religion are considered to be valid instruments, they could also be used as instruments in the macro literature.

With regard to the macro literature, Durlauf (2002) and Durlauf and Fafchamps (2004) level the standard criticisms of cross-country empirical work at the Knack and Keefer paper, using it as a representative example of cross-country empirical work on social capital. In particular, they focus on the problems of omitted variables, parameter heterogeneity and endogeneity. The possibilities of reducing the potential for omitted variables bias will be discussed in Section 5. With regard to parameter heterogeneity, it is of course true that the parameters obtained in cross-country regressions can only be interpreted as the average relationship between variables across countries, rather than the specific relationship in a given country, but information on the averages is still useful information. This does not, however, solve the problem that “if there is parameter heterogeneity between observations, this will imply that the distribution of a given error depends on which country it is associated with.” (Durlauf and Fafchamps, 2004, p.34). Durlauf is also critical of the instruments used by Knack and Keefer (1997), arguing that the ethnolinguistic fractionalisation index (a measure of ethnic diversity) can have an independent effect on growth. Durlauf and Fafchamps (2004, p.53) condemn the whole macro social capital literature when they argue “[w]e are not aware of any social capital study using aggregate data that addresses causality versus correlation for social capital and growth in a persuasive way. While this is a broad brush with which to tar this empirical literature, we believe it is valid.” The extent to which Durlauf and Fafchamps’s criticisms can be addressed will be discussed in Section 5.

5. The future of social capital research in development economics

The earlier sections of this paper have summarised the current state of social capital research from the perspective of development economics. The remainder of the paper will discuss the future of social capital research in development economics. The focus will be on discussing ways in which empirical work, using both micro and cross-country data, can be enriched. When discussing the future of cross-country empirical work, it will be argued that some insights can be gained from the formal institutions literature. First, the future of studies using micro data will be discussed.

5.1 The future of studies using micro data

The existing empirical work on social capital using micro data focuses largely, although not exclusively, on group memberships and networks. Less attention has been devoted to other facets of social capital, such as trust. It is the contention of this paper that the existing literature using micro data already provides valuable insights into the effect of group memberships on household income/expenditure. Most studies make an attempt to deal with the problem of endogeneity, although, admittedly, with varying degrees of success. As argued in Section 4, many of the instruments used are probably not valid, with the possible exception of those used by Haddad and Maluccio (2003). The two areas in which this literature could be enriched are by including a greater variety of social capital proxies and making more use of instruments which, at a theoretical level, are unlikely to be correlated with the dependent variable.

The World Bank has recently designed a social capital questionnaire, the Integrated Questionnaire for the Measurement of Social Capital (SC-IQ), which they propose incorporating into household surveys of poverty. Details of the questionnaire, which has already been piloted in Albania and Nigeria, are given in Grootaert et al (2004). The questionnaire includes questions on six dimensions of social capital: (1) groups and networks, (2) trust and solidarity, (3) collective action and cooperation, (4) information and communication, (5) social cohesion and inclusion and (6) empowerment and political action. The survey is incredibly detailed, including 95 questions under the six headings. Thirty-three of the questions relate to groups and networks. Alternatively, a core questionnaire has been designed, which includes what the World Bank consider to be the 27 key questions from the longer survey.

The use of this questionnaire will hopefully lead to a rich data set that can be used by social capital researchers. The questionnaire has been specifically designed with micro studies in mind. However, as long as the households surveyed are representative of the whole population of a specific country, and if the survey methods and questions remain consistent across countries, and if the data are collected for a large number of developing countries, the data should lend themselves to being aggregated into nation-wide measures of social capital, in the same way that researchers have used the World Values Survey data. The key advantage of the World Bank data set would be that it will focus on developing countries, whereas the

World Values Survey includes a large number of developed countries and Eastern European transition economies.

It is not clear, however, that the World Bank data set includes many variables that could be used as valid instruments for the social capital variables. Grootaert et al note that endogeneity is a potential problem in studies on the effect of social capital on social welfare, but argue that finding suitable instruments for social capital is no easy task, and that only a limited number of empirical studies have tackled this issue. If suitable instruments can be identified, it would be desirable that data on these be gathered in the SC-IQ. The survey does collect information on whether the household has been the victim of crime in the past, a variable which Haddad and Maluccio (2003) suggest could be used as an instrument for trust. Another possibility, following Haddad and Maluccio, might be to include questions on the amount of time people have lived in the area, which could be used as an instrument for group membership. However, it is possible there may not be much variation in this variable across households.

Rather than relying on survey-based data, another possibility in terms of trust data is to use data collected in experiments. Such experiments do not necessarily have to involve the use of computers or other equipment, so it is feasible that they could be carried out in developing countries, even in remote areas. Holm and Danielson (2005) conduct an experiment designed to measure the degree of trust in Tanzania. The experiment was carried out on under-graduate economics students, but could easily be carried out on any group of subjects. In the experiment the subjects were divided into two different groups, A and B. Each individual was paired with a member of the opposite group, but they did not know the identity of the person with whom they were paired. Each person in Group A was allocated a sum of money. They then had to decide how much money they would transfer to the person they were paired with in Group B, and this amount of money was tripled. The person in Group B, then had to decide how much of the money to transfer, if any, to the person in Group A. The amount of money transferred by the person in Group A can be taken as a measure of the degree of trust, the amount of money returned as a measure of reciprocity. Researchers planning to collect survey data on social capital in different villages could potentially also use similar experiments to that of Holm and Danielson to generate a measure of village-wide trust.

5.2 The future of studies using cross-country data

Given that it has been argued above that useful insights are contained in the micro literature, but that we need to be more cautious about the macro literature, this raises the question: why not ignore the cross-country literature completely and focus future research efforts on micro studies? There are a few possible responses to this question, all of which presuppose that the issues of endogeneity and omitted variables bias can be addressed.

This paper has argued that social capital and formal institutions are opposite ends of the same institutions continuum, which suggests it may sometimes be difficult to separate the two. However, if different empirical proxies can be obtained for both formal and informal institutions (social capital) it will be important to address any possible interactions between the two, with respect to their effects on development. For example, Krishna (2001) found that social capital was less significant once village-level institutions were controlled for. However, if we want to test for the effect of nation-wide institutions, cross-country data will need to be used, as there will be no variation in these institutions across individuals or villages in the same country. This paper has also argued that social capital can best be thought of as a deep determinant of income; something that can arguably be modelled more easily using cross-country data. Another reason for using macro data is that this is the approach used in the institutional literature. If it is accepted that the use of cross-country data to assess the effect of institutions on development is a research agenda worth continuing, a point Durlauf and Fafchamps would probably dispute, then this institutions literature can be enriched by including measures of informal, as well as formal institutions.

Another question that needs to be addressed is whether data with a time-series dimension should be used. At a practical level, this would be complicated by the fact that most developing countries only have data on social capital for one time period. However, there is another reason for using data with a cross-country dimension only. If it is true that social capital is a deep determinant of development that changes slowly over time, then adding a time-series dimension to the data will add no useful information, and differencing the data will remove the fixed effect across countries researchers are trying to explain.

The discussion will now turn to addressing the problems with the macro literature that have been identified by Durlauf and Fafchamps (2004), who argue the key problems with the cross-country literature on social capital are those of endogeneity, omitted variables bias and

parameter heterogeneity. Durlauf and Fafchamps (2004, p.54) think the task of finding valid instruments for cross-country studies is so daunting that they argue “[w]e believe that research efforts should be directed towards micro-level studies as the problems with country-wide studies seem too intractable to overcome.” This paper is not as pessimistic as Durlauf and Fafchamps, although it is true that finding valid instruments is no easy task. It will be argued below that a useful starting point for thinking about addressing these problems is to look to the empirical literature on institutions as a deep determinant of economic development. However, before discussing these problems, we will discuss how social capital could be measured in future cross-country empirical work, and compare how valid these measures may be with those currently used in the institutions literature.

5.2.1 Measuring social capital: comparisons with the formal institutions literature

In terms of data sets available that contain data on social capital proxies, the World Values Survey is the most commonly used in the cross-country literature. However, developing countries tend not to make up a large share of the observations in this data set. As noted earlier, the second wave of data, used by Knack and Keefer (1997), included data on only 10 developing countries; however the latest wave of this data set includes 33 developing countries. As discussed above, once the World Bank’s SC-IQ questionnaire has been administered in a large number of countries, and assuming that the samples in each country are truly random, these data could be aggregated to give an average measure for each country and then used in cross-country empirical work.

This paper has argued that social capital can be thought of as part of the institutions continuum, which suggests that social capital could be empirically modelled as a deep determinant of economic development, in the same way that formal institutions have been. More traditionally social capital has been thought of as another factor of production, being added to the list of capitals along with physical capital and human capital. Paldam and Svendsen (2000) discuss how to model social capital under three different scenarios: as a factor of production, as a variable affecting transactions costs or as a variable affecting monitoring costs. Section 3 of this paper reviewed the different arguments as to why social capital may affect economic performance, and concluded that the majority of these arguments suggest that high levels of social capital lead to either high rates of factor accumulation, or high levels of total factor productivity. If this argument is accepted, then it seems natural to think of social capital as a deep determinant, which affects income per capita via its affect on

the proximate determinants (physical and human capital per worker and productivity). It also seems likely that social capital meets the requirement of a variable that, in the majority of cases, will change slowly over time, in the sense that although social capital can sometimes be eroded quite quickly, it takes a long time to build. Whether or not social capital does change slowly over time can be assessed by comparing the TRUST data from the four different waves of the World Values Survey, for countries that have data for more than one wave. For the 60 countries that fall into this category, the average standard deviation within countries is 4.25, which does not seem particularly high.^{16,17}

It has been argued earlier in the paper that the social capital measures typically used in cross-country studies may well be measured with error. However, the same is probably true, to at least the same extent, with regard to the empirical proxies used in the institutions literature. Hence, if the social capital literature is to be discounted on these grounds, so too should the institutions literature. The two data sets most commonly used to proxy for institutions are the ICRG (International Country Risk Guide), also known as the Political Risk Services, measure of protection against expropriation risk (used by Hall and Jones, 1999; Acemoglu, Johnson and Robinson, 2001, 2002), and the Kaufmann et al (2002) data set (used by Rodrik et al 2002). These data sets are based on assessments by experts of, for example, the risk of expropriation in different countries, and are therefore subjective measures. Hence, there is no reason to believe these data are more reliable than, for example, survey-based measures of trust.

Glaeser et al (2004) have also pointed out that the ICRG and Kaufmann et al measures do not measure formal constraints on the executive, which is how North (1990) defined formal institutions. Instead these variables tend to measure outcomes, in the sense that countries ruled by dictators who happen to choose to protect property rights are awarded a high score, despite that fact that such countries cannot be classed as having good institutions, in the sense of there being constraints on executive power. Glaeser et al also point out that these commonly used measures of institutions exhibit a lot of variation over time, so don't meet the criterion for being a deep determinant of changing only slowly over time.

¹⁶ The only four countries for which social capital has *increased* dramatically are Belarus, Pakistan, Puerto Rico and Turkey.

¹⁷ Even if the variability in TRUST over time was higher, this might reflect problems with this particular measure of social capital, rather than implying that social capital really does vary a lot over time.

Hence, although the World Values survey measures of social capital may not be ideal, they may be no worse than the proxies commonly used for formal institutions. This does not change the fact, however, that the search should continue for superior measures of social capital across countries.

5.2.2 Can endogeneity, omitted variables and parameter heterogeneity be addressed? Insights from the deep determinants literature

The issue of endogeneity is a potentially serious problem in the institutions literature. Hall and Jones (1999) argue that measures of the degree of Western European influence and distance from the equator can be used to instrument for institutions. The argument is that institutions which protect property rights and encourage production, rather than diversion, were first developed in Western Europe. Hence countries more exposed to Western European influence are more likely to have adopted these institutions. The logic behind using distance from the equator as an instrument is that Europeans did not settle near the equator.

Another instrument, which has drawn much comment in the literature, has been proposed by Acemoglu et al (2001), who argue that settler mortality during the colonial period can be used as an instrument for current institutions. Their argument is that the colonial powers set up one of two types of institutions in their colonies. In countries where mortality rates were low enough for Europeans to settle, institutions were established that protected the property rights of the population in general. However, in regions where mortality rates were too high for permanent settlement to be viable, the European powers were more concerned with extracting raw materials as quickly as possible, and, therefore, set up institutions geared to that end. As institutions tend to persist over time, countries where mortality rates for settlers were low have inherited institutions that protect property rights. They argue further that rates of settler mortality in the past are uncorrelated with health levels today, precluding an independent effect of settler mortality on current income per capita. Hence, they argue, settler mortality is a valid instrument. The validity of settler mortality as an instrument has been questioned on various grounds. Glaeser et al argue that it is just as likely that settlers took their human capital with them, as it is that they took their institutions with them, when they emigrated. If human capital has persisted over time, and if human capital affects income per capita, instruments relying on settlement patterns are no longer valid instruments. Glaeser et al also report that the correlation between settler mortality and current health levels is high, which also calls into question the validity of the settler mortality instrument.

As noted by Durlauf and Fafchamps (2004), the task of choosing instruments for social capital is made more difficult by the lack of theory on social capital formation, meaning that researchers are forced to rely on intuition and guesswork when choosing instruments. The institutions literature shows how some progress can be made on finding instruments when attention is given to how institutions may have evolved in the first place. Although it has to be acknowledged that a consensus has not been reached on how best to instrument for institutions, more progress has been made than in the social capital literature.

This paper is unable to suggest a valid instrument for social capital in the cross-country literature. However, it is worth noting that if this issue is resolved with regards to the institutions literature, it is possible that the same instruments could be used for social capital (informal institutions), given that formal institutions and informal institutions are simply different ends of the same continuum. It should be noted, however, that if formal institutions and social capital are to both be included as explanatory variables, two instruments need to be found for the purposes of identification. It is possible that there may be some features of European settlement, such as the demographic makeup of the settlers themselves, which could provide some insights as to what a good and valid instrument would be. Unfortunately, if an instrument for social capital is found that depends on a country's colonial experience, this will reduce the sample size, given that not all countries for which social capital proxies are available were colonised. Another possibility is that there may be some cultural variables that could be used as instruments for social capital, such as religious affiliation, but this requires that such variables have no independent effect on income per capita.

Durlauf and Fafchamps (2004) also argue that the existing cross-country literature on social capital is susceptible to omitted variables bias. Although not providing a perfect solution to this problem, modelling social capital as a deep determinant may mitigate this problem to some extent. This is because the list of variables that can be considered deep determinants is presumably much shorter than the possible list of proximate determinants. Currently in the literature there are three main variables that have been put forward as possible deep determinants of development: (formal) institutions, geography and openness. Other possibilities include social capital (informal institutions) and culture.

With regard to parameter heterogeneity, it is true that the coefficients only represent the average relationship between the explanatory variables and the dependent variable across countries, which limits the usefulness of the results for policy purposes with respect to a particular country. However, in the words of Temple (1999, p.20) “[g]iven that the purpose of cross-country empirical work is often to arrive at generalisations about growth, the averages are important”. It is also possible to test how serious parameter heterogeneity is by splitting the sample into sub-samples and testing whether the coefficient estimates differ across the sub-samples.

5.2.3 Other possible extensions to the cross-country literature

The current cross-country literature on social capital focuses on the effects of social capital on economic growth and investment. The deep determinants literature, by contrast, is interested in explaining why some countries have higher *levels* of income per capita than others. As argued by Hall and Jones (1999) differences in growth rates across countries tend to be transitory, whereas differences in income per capita tend to be more persistent. If social capital is to be modelled as a deep determinant, the most obvious dependent variable is income per capita, but it would also be of interest to examine the effect of social capital variables on differences in health and education levels across countries, given that economic development is a broader concept than income per capita. Currently the only paper in the cross-country literature to examine the effects of social capital on education and health outcomes is La Porta et al (1997).

5.2.4 Summary on the future of cross-country empirical work on social capital

In summary, it has been argued that modelling social capital as a deep determinant of economic development may help deal with issues such as omitted variables and endogeneity. Although these issues would probably not be addressed to the satisfaction of Durlauf and Fafchamps, it would be represent a significant step in the right direction. However, this paper is unable to suggest any instruments for social capital in the cross-country literature, other than to recommend that researchers give some thought to whether there may be some features of the colonial experience that may be uncorrelated with current income per capita, but are correlated with social capital. Another possibility may be to use cultural variables as instruments, but it is likely that culture could be a deep determinant of economic

development in its own right. If valid instruments are found in the formal institutions literature, the same instruments could possibly be used for social capital.

6. Conclusion

This paper has argued that social capital is a similar notion to what North (1990) defined as *informal* institutions. North defined *formal* institutions as rules devised by human beings, whereas *informal* institutions are codes and conventions of behaviour. Formal institutions can be considered analogous to the written rules of a sport, with informal institutions being analogous to unwritten codes of conduct generally adhered to by the players. Institutions can sometimes be difficult to categorise into formal and informal, so it can be useful to think of institutions forming a continuum, with written constitutions at one end, and taboos, customs and traditions at the other. Towards the middle of the continuum will come community-based institutions, such as those that exist in many parts of the world to manage common property resources. Although North (1990) is frequently cited by researchers in both the social capital literature and the institutions as a deep determinant literature, neither group of researchers tends to acknowledge the work of the other. It is the contention of this paper that both literatures could be enriched by insights from the other.

There are many different definitions of social capital used in the literature, but most of these definitions include the notions of trust, a shared set of cooperative norms, and networks and/or associational memberships. Hence, in terms of its definition, social capital seems remarkably similar to the notion of informal institutions. Social capital researchers often argue that social capital will improve economic performance by reducing transactions costs and encouraging cooperation, a point also made by North with regard to informal institutions.

Given the similarities between the two concepts, it may be useful to dispense with the term social capital, and replace it with the term informal institutions. This would have the advantage of avoiding debates about whether social capital is, in fact, capital, and hence whether it can be viewed as a factor of production in the production function. However, the term social capital is unlikely to disappear.

If it is accepted that social capital is part of the institutions continuum, then it is worth considering what insights from the institutions literature could enrich the social capital

literature. This paper has argued that when empirically estimating the effect of social capital on economic variables, such as income per capita, across countries, social capital can be added to the list of deep determinants of economic development, along with formal institutions and geography. Deep determinants are variables that affect income per capita (or other proxies of economic development), via their effect on the proximate determinants, such as factor accumulation or total factor productivity. They are also variables that change very slowly, if at all, over time. Section 3 of the paper reviewed a selection of the arguments as to why social capital is likely to affect economic performance. These arguments suggested that social capital is likely to affect either the level of total factor productivity, or the rate of factor accumulation, hence it seems sensible to think of social capital as a deep determinant. Section 5 presented data suggesting that social capital does not vary much across time within a given country. Thinking of social capital as a deep determinant of economic development, therefore, seems reasonable.

The existing empirical literature on social capital, especially that using cross-country data, has been the subject of vigorous critique by the likes of Durlauf and Fafchamps (2004), who raise concerns about issues such as endogeneity. The literature on formal institutions as a deep determinant has attempted to deal with the problem of endogeneity, by modelling how institutions evolve. Although some instruments have been proposed in the literature, the validity of these instruments has been the subject of some debate, but more progress has been made on this issue than in the cross-country social capital literature. If valid instruments are found for formal institutions, it is possible that the same instrument set could be used to instrument for social capital.

The literature on institutions as a deep determinant of economic development has focused solely on the effect of formal institutions on income per capita, despite North's suggestion that informal institutions are more important. If reasonable proxies for social capital (informal institutions) can be found, then this literature will also be enriched by considering both ends of the institutions continuum. The most common proxy used for social capital in the cross-country literature is the TRUST variable from the World Values Survey. This variable is not a perfect proxy for what it attempts to measure, but it is probably no worse than the proxies for formal institutions currently used in the deep determinants literature. In time, an alternative to the World Values Survey data could be the World Bank SC-IQ data set. If it is thought that examining the effect of institutions as a deep determinant of economic

development is a worthwhile research project, which may be open to debate, then it would seem to make sense to include informal institutions as part of the research agenda.

Table One: Commonly Used Definitions of Social Capital

Author(s)	Definition
Coleman (1988, p.95)	“...obligations and expectations, information channels, and social norms.”
Coleman (1990, p.304)	“...social organization constitutes social capital, facilitating the achievement of goals that could not be achieved in its absence or could be achieved only at a higher cost.”
Putnam et al (1993, p.167)	“features of social organization, such as trust, norms, and networks that can improve the efficiency of society.”
Fukuyama (1997, pp.378-9)	“...the existence of a certain set of informal rules or norms shared among members of a group that permits cooperation among them. The sharing of values and norms does not in itself produce social capital, because the norms may be the wrong ones... The norms that produce social capital... must substantively include virtues like truth telling, the meeting of obligations and reciprocity.”
Knack and Keefer (1997, p.1251)	“Trust, cooperative norms, and associations within groups.”
Narayan and Pritchett (1999, p.872)	“...the quantity and quality of associational life and the related social norms.”
Putnam (2000, p.19)	“...connections among individuals – social networks and norms of reciprocity and trustworthiness that arise from them.”
Ostrom (2000, p.176)	“...the shared knowledge, understandings, norms, rules and expectations about patterns of interactions that groups of individuals bring to a recurrent activity.”
Woolcock and Narayan (2000, p.225)	“...the norms and networks that enable people to act collectively.”
Bowles and Gintis (2002, p.2)	“...trust, concern for one’s associates, a willingness to live by the norms of one’s community and to punish those who do not.”

Table One (continued)

Lin (2001, pp.24-5)	“...resources embedded in social networks and accessed and used by actors for actions. Thus the concept has two important components: (1) it represents resources embedded in social relations rather than individuals, and (2) access and use of such resources reside with the actors.”
Knack (2002, p.42)	“I use the term government social capital to refer to institutions that influence people’s ability to cooperate for mutual benefit. The most commonly analysed of these institutions ... include the enforceability of contracts, the rule of law, and the extent of civil liberties permitted by the state.” “Civil social capital encompasses common values, norms, informal networks, and associational memberships that affect the ability of individuals to work together to achieve common goals.”
Sobel (2002, p.139)	“Social capital describes circumstances in which individuals can use membership in groups and networks to secure benefits.”
Durlauf and Fafchamps (2004, p.5)	“(1) social capital generates positive externalities for members of a group; (2) these externalities are achieved through shared trust, norms and values and their consequent effects on expectations and behaviour; (3) shared trust, norms and values arise from informal forms of organizations based on social networks and associations.”
World Bank (2005)	“[T]he norms and networks that enable collective action.”

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