Crisis, Social Ties, and Household Welfare:
Testing Social Capital Theory with Evidence from Indonesia

Anna Wetterberg
I. INTRODUCTION

Over the past decade, social capital has been a conceptual shooting star. With the publication of Robert Putnam’s (1993) analysis of democracy in Italy, scholars from across the social sciences latched on to the idea that variations in social relations could explain a range of developmental outcomes. Although there were some prominent criticisms of Putnam’s work (see, for example, Portes 1998; Skocpol 1996), social capital held promise as an interdisciplinary concept, incorporating aspects familiar to sociologists (norms and networks) but presenting them in a language to which economists used to working with other forms of capital (human and physical) could relate. A veritable boom in research on social capital followed. The term was used to explain variations in outcomes as diverse as macroeconomic performance (Knack and Keefer 1997), democracy (Paxton 2002), housing quality and security (Saegert and Winkel 1998), civic involvement (Putnam 2000), and college attendance (Smith, Beaulieu and Seraphine 1995). Although these studies used a common terminology, there was little consensus around what the term actually entailed and researchers began “referring to virtually every feature of social life as a form of capital” (Baron and Hannon, cited in Woolcock 1998, p. 155). As a result, social capital has fallen from grace in recent years and scholars have started to ask “Can We Trust Social Capital?” (Sobel 2002) and wonder “Is It Time to Disinvest in Social Capital?” (Foley and Edwards 1999).

In spite of social capital’s dramatic recent history, the early framings of the concept and subsequent attempts at thoughtful theoretical synthesis hold out promise for both analysts and practitioners interested in the process of economic development. Rather than abandon the concept altogether, researchers need to return to social capital theory and use empirical evidence to build a common understanding of what social capital is (and what it is not). From there, policy implications can be drawn that consider potential synergies between community and state efforts to improve welfare.

This paper seeks to build on earlier work by testing how theoretical claims about social capital play out in a particular empirical case. Specifically, I draw on Pierre Bourdieu’s conception of social capital to analyze how household social ties affected welfare and access to resources between 1996 and 2000, during which the economic, social, and political changes resulting from the recent Asian financial crisis swept Indonesia. Using a natural experiment based on panel data collected before and after the Asian financial crisis struck Indonesia, I show that social ties can both help households improve their welfare and access resources to deal with shocks. Importantly, however, the effects of different types of social ties vary with context; links that help improve welfare are not necessarily useful in accessing assistance, while ties that facilitate access to government resources actually reduce the changes of getting community help. I then analyze the distribution of social ties by socio-economic class to assess which groups actually benefit from such links. The data indicate that certain types of social ties are indeed a sort of capital for the poor, who are able to use their relationships as a way of improving well-being.

Following an introduction to social capital theory, I outline the framework used and the hypotheses to be tested. A brief background on the Indonesian context is then provided before introducing the data, variables, and regression models used. After analyzing the results and
discussing their implications for the proposed hypotheses, I close with thoughts on applications of these results in the development context.

II. SOCIAL CAPITAL THEORY

Most of the empirical work building on social capital theory draws on three main sources: Pierre Bourdieu, James Coleman, and Robert Putnam (Adam and Roncevic 2003; Foley and Edwards 1999; Wall, Ferrazzi and Schryer 1998). Although the exact origin of the term is unclear, social capital was first coherently theorized by Pierre Bourdieu (1984; 1986) and James Coleman (1988; 1990). Bourdieu identified different forms of capital (economic, cultural, and social) as key elements in a “general science of the economy of practices” (1986, p. 242). He defined social capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” (1986, p. 248). With this definition, social capital is composed of two parts; the network of social ties to which a person has access and the resources that flow through that link. The volume of social capital available to any one person is a function both of the size of her network and of the resources held by other members of the network. Because the resources may, in some cases, be seen in the present (“actual”) but can also be realized in the future (“potential”), the network is the more tangible part of the definition.

Bourdieu clearly conceived of social capital as an attribute of individuals. According to Bourdieu, agents devise investment strategies to establish relationships of short- or long-term use. Individuals invest in social capital as part of a conscious effort to access benefits (Bourdieu 1986; Portes 1998). However, agents do not have equal access to all types of capital in Bourdieu’s view. An actor’s social position conditions access to capital. One’s “class of origin” is the primary determinant of the forms of capital available, but changes in the volume or relative proportions of different types of capital may shift an individual’s social position and, in turn, the kinds of capital available (Bourdieu 1984, p.111).

Like all forms of capital for Bourdieu, social capital takes time to accumulate and has a tendency to persist. It is also fungible, i.e. it can be converted to other types of capital, particularly economic capital. However, the conversion rates between different forms are not straightforward or transparent because shifts rarely take place through market exchange. A given constellation of capital also has varying effects in different situations. The resources an individual can access in a given context, or “field” in Bourdieu’s terminology, depends on the volume of the relevant type of capital she possesses: “It is the specific logic of the field, of what is at stake and of the type of capital needed to play for it, which governs those properties through which the relationship between class and practice is established” (Bourdieu 1984, p. 112-113). A particular type of social capital may therefore have benefits in one situation, but may have no, or even detrimental effects, for the same individual in a different context where such capital is irrelevant or inappropriate.

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1 Woolcock (1998) cites Jane Jacobs as probably the earliest scholarly mention of the term in 1961, while Glaeser et al. (2000) claims Henry James used it in one of his novels in the early 1900s. Coleman credited the work of Glenn Loury (1977) who had used social capital to explain racial income inequality, but did not develop it more generally.
In sum, an individual’s ability to utilize resources therefore depends on (1) the kinds of capital available given her specific social attributes, (2) how much of these types of capital she has been able to accumulate, and (3) the relevance of those forms of capital in a given context.

James Coleman agreed with Bourdieu that social capital is a resource associated with individuals or small groups, such as families. Further, their two conceptualizations coincide in the idea of convertibility between forms of capital and variability of effects across contexts: “Like physical capital and human capital, social capital is not completely fungible but may be specific to certain activities. A given form of social capital that is valuable in facilitating certain actions may be useless or even harmful for others” (Coleman 1988, p. S98).

However, Coleman’s vision also diverged from Bourdieu’s in several important ways. First, he defined social capital as the function it performs. “Social capital is defined by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structure, and they facilitate certain actions of actors… within the structure” (Coleman 1988, p. S98). While social capital is a feature of social structure, enabling action is what differentiates it from other social structures. Whereas Bourdieu’s definition essentially confined social capital to a structure that could be used to access resources, Coleman broadened the definition to include the functions that these structures perform.

Second, Coleman saw positive spillovers on others from individuals’ investments in social capital, while Bourdieu’s focus was on the effects of individual’s networks on their own social trajectory and access to resources. Particularly in the case of shared norms with accompanying sanctions, Coleman attributed more benefit to others than to those who establish such norms. Because social capital has this public good nature in Coleman’s view, individuals tend to under-invest in it, with social disintegration as a result. Coleman thought that this supply problem could be overcome by designing formal organizations to replace the strong families and communities that he perceived as being in decline (1988, p. S118).

Whether it was simply more readily available then Bourdieu’s theory or because of his explicit attempt to incorporate elements of economic theory, Coleman’s interpretation of social capital came to dominate subsequent analysis by American scholars. As Portes (1998, p. 3) explains, however, Coleman’s less precise definition gave rise to some of the confusions that have undermined social capital’s explanatory potential. In particular, Coleman’s functional definition leaves unclear whether social capital refers to the social structures that individuals participate in or the benefits that flow through the structures: “Defining social capital functionally makes it impossible to separate what it is from what it does” (Edwards and Foley 1997, p. 669).

Robert Putnam’s analysis of democratic governance in northern and southern Italy built on Coleman’s definition. He emphasized the public good nature of Coleman’s social capital and defined it as a community-level attribute. For him, social capital is “features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions … Spontaneous cooperation is facilitated by social capital” (1993, p. 167). Social capital is thus a collectively held resource, such as generalized trust or norms of reciprocity, that provides benefits for a community. This conception is not necessarily incompatible with Bourdieu’s and Coleman’s definitions of social capital as a resource

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2 Coleman’s work on social capital was published in the American Journal of Sociology and in his book *Foundations of Social Theory*. The English version of Bourdieu’s explication of the concept was much less accessible, as it was published in an edited volume on the sociology of education.
available to individuals, but it dilutes the precision of the concept. Portes (1998; 2000; Portes and Landolt 2000) points out several problems with a collective conception of social capital. First, social capital has not been theorized as a collective resource and confusion results when social capital has opposite effects for individuals and a community. Individuals may benefit from their network participation in ways that directly undermine community benefit, leaving unclear the connection between personal and collective social capital. Second, causes and effects are not distinct when social capital is defined as a collective resource. Ability to collaborate is used both to illustrate the benefits of social capital and as evidence of its existence in a particular community. The result is circular reasoning, where the existence of social capital is inferred from outcomes that are also attributed to social capital.

With three distinct theories already claiming to illuminate the same term, empirical analyses added to the confusion. Given the various theoretical approaches, social capital could be thought of both as an individual and collective resource, as both a social structure and the function that structure performs, and as both cause and effect. Scholars in a range of fields used a combination of these features in their work as there was little consensus on a coherent theory of social capital. Political scientists and economists mostly adhered to the more normative, collective aspects of social capital emphasized by Putnam (and to some extent Coleman). Sociologists instead perceived social capital as a more structural resource, drawing on the work of Bourdieu and Coleman (Foley and Edwards 1999).

Across disciplines, however, there was a tendency to see social capital as a purely positive resource that provided benefits, but had no downsides. As Smart (1993) points out, this problem may have resulted from assuming that social capital can be modeled in the same ways as economists theorize other types of capital. In this conception, social capital became an asset to be maximized, rather than optimized within certain contextual constraints (Woolcock 1998). There are several problems with assuming that social capital is associated with positive outcomes. If the focus is on the resources that accrue through social ties, only actors who gain valued goods will be considered to have social capital (Portes and Landolt 2000, p. 532), with the result that social ties belonging to “unsuccessful” actors will not be considered social capital. Conversely, the concept can be defined too broadly, with any “social” variable related to positive outcomes considered social capital. Further, a positive conception ignores the negative aspects of social capital, such as exclusion of outsiders, excess claims on group members, restrictions on individual freedoms, and downward leveling norms (Portes and Landolt 2000; Portes and Sensenbrenner 1993). As a solution to these problems, several scholars emphasize the importance of focusing on social networks, as the source of social capital, rather than on trust and cooperation, which are its consequences (Woolcock 2002, p. 23).

For scholars interested in economic development, social capital has intuitive appeal as a resource available to poor people who are often described as “deficient” along other vectors (such as human, physical, and financial capital) (Woolcock 2002). Based on the understanding that “development is more than just a matter of playing good ‘defence’ (or ‘getting by’)…; it also entails knowing how to initiate and maintain strategic ‘offence’ (‘getting ahead’)” (Woolcock 2002, p. 32), researchers have analyzed how poor and marginalized actors use social ties to

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3 These two strands of social capital theory are outlined by Woolcock and Narayan (2000). They also point to communitarianism as a third perspective, which sees all local groups as invariably facilitating collective action that is beneficial to all members of a community (which itself is seen as homogenous.)
manage uncertainty, cope with shocks, and actively improve their well-being (see, for example, Grootaert 1999; Heller 1996; Kozel and Parker 2000).

Within the field, social capital has been used in two main ways to address development processes. First, from the networks perspective, social capital is seen as social ties that extend both between members of a community and outside it. The particular balance between these intra- and extra-community ties determines the extent to which social capital has prevalingly positive or negative effects for individuals engaged in social relationships. While intra-community (also referred to as horizontal, or bonding) ties are important in channeling resources, they need to be balanced with extra-community (synonymous with vertical, or bridging) links that allow individuals to escape excessive claims on resources by fellow community members. The possibility of both negative and positive effects of social capital is thus emphasized. This strand of social capital analysis plays down the “public good” aspects of social capital, emphasized by Putnam and Coleman, in favor of benefits accruing directly to the individuals engaged in social ties (drawing on Bourdieu’s social capital theory).

The second way that social capital theory has been applied in the development literature is referred to by Woolcock and Narayan (2000) as the institutional perspective. From this point of view, social capital involves not only individual ties to networks, but the social and political environment that shape social structures themselves. In particular, analysts adopting this view emphasize the role of social capital in linking the state, private sector, and civil society. “The networks of trust and collaboration that are created [by some government programs] span the public/private boundary and bind state and civil society together. Social capital inheres, not just in civil society, but in an enduring set of relationships that spans the public-private divide” (Evans 1996, p. 1122). Societies characterized by structures that allow for open communication and flows of resources between these parties are more likely to achieve equitable and sustainable development outcomes.

III. THEORETICAL FRAMEWORK

In this paper, I use a framework that fits into the network niche of social capital theory, as it is applied in the development literature. In particular, I draw on the original theory of social capital laid out by Pierre Bourdieu and elaborated by Alejandro Portes. The institutional perspective has produced important work on the synergies between state and society at various levels (c.f. Bebbington 1999; Evans 1996; Fox 1996). As this study focuses on welfare outcomes for individual households, however, it draws primarily from the network perspective, which is less focused on the effects of social capital on state-society linkages and instead emphasizes direct benefits to participants in social relations.4

Using Bourdieu’s conception allows for empirical testing of certain features of his version of social capital theory, as well as aspects of other frameworks that diverge from Bourdieu’s vision in important ways. Following Bourdieu, social capital is treated here as a resource for individuals, rather than an asset available to a community or collective. It is composed of two distinct components: access and resources. “The volume of the social capital

4 The distinction drawn between government-mandated and community-organized organizations and networks (see section VI.B below) does, however, allow for some analysis of state-society linkages, which I emphasize in the conclusion.
possessed by a given agent... depends on the size of the network of connections he can effectively mobilize and the volume of the capital ... possessed in his own right by each of those to whom he is connected” (Bourdieu 1986, p. 249). While emphasizing that social capital involves both of these aspects, Foley and Edwards point out that “measures of access can be taken as indirect indicators of social capital in the sense that one cannot have social capital available without access, some means of access increases one’s likelihood of having greater social capital available for use” (1999, p. 167-168, italics in original). A greater number of social ties thus raises an actor’s potential for mobilizing resources. To test this claim, I hypothesize that agents with more social ties will gain more resources than those with fewer connections.

HYPOTHESIS 1: *Agents with more social ties have better access to resources than those with a smaller number of links.*

Beyond the number of links possessed, there is, as Foley and Edwards (1999, p. 168) note, a distinction between possession and use of social capital. Bourdieu’s definition specifies that the resource component of social capital may take both an actual or potential form; that is, it may be evident and accrue to an individual simultaneously with access, or it could be realized at some later date, when an individual is able to use it. Therefore, a given social tie may be used to mobilize resources in one context while channeling no benefits in another. Further, the same tie could have negative effects if it is not only irrelevant, but detrimental in a particular situation. In Bourdieu’s view, the value of any given type of capital depends on its relevance in a particular environment. Certain aspects of a social tie may make it a useful channel for accessing resources in one situation, while these features prohibit access in others.

The specific characteristics of a given social tie will thus determine its effects in different contexts. To discern these effects, we must distinguish between different types of social capital and analyze how various aspects of social ties influence outcomes. In this analysis, I consider four different characteristics of social ties: (1) degree of institutionalization, (2) geographical diversity; (3) age; and (4) the social position of the household to which a tie belongs.

In attempting to categorize forms of social capital, some researchers have used the primary purpose of a particular social tie to differentiate it from others. In fact, previous research on the data analyzed here distinguished social links by function (religious, recreational, credit, etc.) (Grootaert 1999). However, there are drawbacks to this approach. First, any given tie can be multi-functional, used for different purposes at different times. As Coleman emphasized, groups are “appropriable” – they can be used for purposes other than those for which they were originally created (1988, p. S108-109). Assigning a primary function is therefore difficult. Second, this very multi-functionality is one of the potential mechanisms through which social capital operates. Individuals are likely to gain from memberships in groups in ways unrelated to the functional rubric of the association: “Often, it is resources in the form of other persons who have obligations in one context that can be called on to aid when one has problems in

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5 For example, Stolle and Rochon (1998) distinguish the effect of various types of social capital, differentiated by activities undertaken by different organizations.

6 An alternate categorization would rely on the characteristics of the different groups (for example, Hurlbert, Haines, and Beggs (2000) use measures of network density, gender diversity, age distribution of members, and kin relations between them).
another context” (Coleman 1988, p. S109). For these reasons, functional categories are not used here to distinguish social ties.6

To differentiate different forms of social capital, I instead use the degree on institutionalization of a particular group to which a person has ties. In Bourdieu’s definition of social capital, he spoke of “a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” (1986, p. 248). The degree of institutionalization of a social tie could affect the degree to which it is recognized in different contexts with accompanying effects on resource mobilization. For example, membership in an internationally recognized, hierarchical organization like the Catholic Church is likely to resonate (positively and negatively) in many different situations. In contrast, ties to an informal neighborhood prayer group are less likely to be recognized by others, even in the same community. Rather than lump all relationships together, social ties are therefore distinguished by their degree of formality, as a measure of institutionalization.7 Using this categorization, I distinguish three types of social ties: networks, organizations, and government-mandated organizations. For the details of this breakdown, see section VI.B below.

HYPOTHESIS 2: Household access to specific resources depends on the type of social tie (network, organization, government-mandated organization); the effect of each type of tie varies with the resource accessed.

In addition to the level of formality, the diversity of resources available through a certain social tie may influence its effectiveness. In particular, inter-community diversity is thought to matter. Actors who have connections outside their immediate community are likely to be better off, as they can draw on these links when local resources are insufficient or unavailable. They may also minimize local claims on their own assets if they can balance links to their own communities with ties outside it. For example, the immigrant entrepreneurs studied by Portes and Sensenbrenner (1993) had to establish ties beyond ethnic networks to continue economic advancement. In Michael Woolcock’s terminology, “actors … have to be able to draw on both ‘embedded’ and ‘autonomous’ social ties” to improve their lot (1998, p. 164), with the potential drawbacks of too many embedded, or intra-community, links guarded against by accumulating autonomous, or extra-community, connections.8 To build on the earlier example, Catholics may be able to connect to peers both within and beyond their locality through the Church, while participants in the local prayer group are restricted to resources within the

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7 Clearly, formality is not the only way to gauge how institutionalized a certain group is, nor is it necessarily the best measure (period of existence, and recognition by non-members are other possibilities). Formal structure and ties to other formal institutions do, however, indicate a certain permanence and continuity.

8 Woolcock attributes the idea of necessary autonomous ties to Simmel “who early on recognized that poor communities needed to generate social ties extending beyond their primordial groups if long-term developmental outcomes were to be achieved” (p. 168).

9 Foley and Edwards (1999, p. 148) also point to other scholars’ versions of the same concept: Briggs social support and social leverage; Lang and Hornburg’s social glue and social bridges; and Warren et al.’s bonding and bridging social capital.
neighborhood. As Foley and Edwards (1999, p. 148) point out, these explanations are “extensions of the insight that the value of social capital at any given level depends on the larger context, including the insertion of the individual or group in question into networks of relations at higher levels.” In the analysis presented below, I test whether non-local links channel more benefit than local ties.

HYPOTHESIS 3: Geographically diverse social ties are more beneficial than local connections.

Duration is another aspect of social ties that may influence their effectiveness. Bourdieu (1986) claimed that all types of capital have a temporal dimension: they take time to accumulate and tend to persist. This raises the possibility that the age of a link can affect outcomes. Older social ties may be more reliable for accessing resources than newer ones. Economists have grappled with this issue in their conceptions of social capital. For example, Glaeser et al. (2000) use a rate of depreciation similar to that for physical capital when working with social capital. Sobel (2002) criticizes this practice, however, claiming instead that social capital actually appreciates over time. Drawing on the work of Elinor Ostrom, he points out that the value of social capital will increase with use as it enables additional connections and sharing of resources may enhance the flow of similar benefits in the future. By distinguishing ties by age, I propose that the value of older ties has appreciated with time and test whether these links are more beneficial than more recently acquired ones.

HYPOTHESIS 4: Older links bestow more benefit than newer ones.

Finally, Bourdieu saw access to different forms of capital as determined by an individual’s position in social space. Members of the dominant class monopolize certain forms of capital (and accompanying practices). Their exclusive access to such resources both defines and perpetuates the class, by limiting the degree to which a given kind of capital can be appropriated by agents from other classes (1986, p. 243). Social position of agents holding social ties is thus a critical ingredient in interpreting the effects of social capital. By comparing the distributions of different forms of social capital across socio-economic classes, I test the extent to which this relationship holds true in the empirical case presented here.

HYPOTHESIS 5: Different types of social ties are not evenly distributed, but depend on actor’s social position.

IV. INDONESIAN CONTEXT

Before describing the data and models used, it is useful to provide a brief introduction to the historical context in which this research was carried out. Prior to 1998, Indonesia enjoyed international stature as a celebrated case study of successful development (Guggenheim Forthcoming). Rich in mineral resources and building an industrial base, the country experienced average economic growth rates of 4.5% per year between 1965 and 1990. During this time,
poverty rates fell and other indicators of development, such as literacy and live births, also rose impressively (Hill 1994, p. 58).

This success came at a price, however. The government of General Soeharto took a “blueprint” approach to development, introducing uniform structures and standard programs across the culturally and geographically diverse archipelago (World Bank 2001, p. 14). Little attention was paid to local context and actual needs. While these development efforts were integral to the positive outcomes described above, they were also part of a system of hierarchical, top-down rule that attempted to quell local structures that could potentially challenge its power. For example, in 1979 the Village Government Law was introduced, which replaced all local governance mechanisms with a single, uniform structure. This legislation not only instituted village, hamlet, and neighborhood leaders that reported to higher levels of government, but also instructed all communities to form specific organizations (such as women’s and youth groups) with explicit links to the new government structures (Evers 1999). Although ostensibly introduced to channel aspirations from below, these organizations effectively undermined indigenous organizing efforts and increased central government authority over villagers (Warren cited in Rohdewohld 1995, p. 75).

During the last six years, Indonesia has weathered a drawn-out economic downturn that has had far-reaching political implications and social consequences. After thirty years of impressive growth and gains in living standards, the first signs of turmoil were in early 1998, when the Asian financial crisis began to affect the rupiah. The currency depreciation had a very heterogeneous impact, ranging from massive layoffs and declining real wages in urban centers and on Java, to booming local economies in export producing areas of the outer islands (Frankenberg, Smith and Thomas 2003; Frankenberg and Thomas 1999; Sumarto, Wetterberg and Pritchett 1998). During 1998, the Central Bureau of Statistics estimates that the annual inflation rate was about 80%, due in part to removal of subsidies on staple foods such as rice and cooking oil.

Rising prices and failing banks set off the mass-based dissent and student demonstrations that ended Soeharto’s 32-year rule in May 1998. The change in leadership resulted in a general opening of the political environment and a reduced role for the military, but also led to an extended power struggle within Indonesia’s political elite, continued uncertainty, and delayed economic recovery. The power vacuum, coupled with the successful independence referendum in East Timor in 1999, fueled escalation of separatist conflicts in Aceh and West Papua and localized outbreaks of violence throughout the archipelago. Also in 1999, the House of

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10 Breman notes that this was a concern of development agencies such as the World Bank. In his own view, the poor did not benefit from the social safety net programs, but informal insurance also was inadequate for the poorest whose only connections were to other disadvantaged groups who lacked the resources to offer assistance.

11 These sites were selected because they embody some of the diversity of the Indonesian archipelago. For example, Jambi is generally resource-rich, with relatively low population density. Central Java is a heavily populated, agriculturally-based province. East Nusa Tenggara is arid and sparsely settled, like much of eastern Indonesia. Within each province, several other criteria were used to choose sites, such as selecting sub-districts based on their remoteness and participation in a decentralization experiment. Households were randomly selected within each village. The design of the sampling frame means that the results are not representative of Indonesia as a whole.
Representatives passed two decentralization laws that paved the way for devolution of power to and greater fiscal independence for districts. In the midst of this economic, political, and social turmoil, the national poverty rate increased from 16% in 1996 to 27% in 1999 (Pradhan et al. 2000). A longitudinal study that surveyed households in late 1997 and late 1998 found that average household per capita consumption fell by almost one quarter in that one year period (Frankenberg, Smith and Thomas 2003, p. 291). In response, the central government initiated a range of safety net programs, but most of the crisis programs implemented in 1998-99 suffered from poor targeting and elite capture (Sumarto, Suryahadi and Widianti 2001). There was also concern that these programs were displacing indigenous coping mechanisms, with long-term damage done to local social structures for dubious short-term gain. Because the safety net programs were implemented using the standard “blueprint” approach that did not take local structures into account, some observers were concerned that they might interfere with informal insurance set up by communities. Although the government assistance might have provided some help in dealing with the immediate effects of the crisis at hand, poor groups might be worse off in the long run if long-standing traditions of community assistance were destroyed by these programs (Breman 2001).

V. DATA SET

The data set comes from a longitudinal study of social capital, problem-solving capacity, and government quality carried out in forty villages located in three Indonesian provinces (Jambi, Central Java, and East Nusa Tenggara). The first data were collected in 1996, with a subsequent round in 2000-2001. The two rounds bracketed the Asian financial crisis and the data therefore capture some of the dynamics of this turbulent period.

The second round research re-interviewed 1000 households that participated in the 1996 household survey, as well as randomly selecting an additional 200 households from the same villages. The questionnaire contained modules on: basic household characteristics; group memberships; community problems (economic, social, environmental); land conflicts; shocks and coping; village government; and expenditures and assets. All data were gathered from household heads or spouses, with most questions addressing household-level issues (such as memberships and expenditures) and a smaller number asked about individual respondents’ perceptions of community-level variables (such as common problems, conflicts, and government quality).

The household questionnaire underwent substantial revisions for the second round research; the data set can therefore not be considered a panel in an orthodox sense. To ensure that comparisons could be made between the two time periods, however, each household’s 1996 memberships were pre-printed into the second round questionnaire, so that changes in

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12 For two examples of other analysis of household-level social capital, see Narayan and Pritchett (1999) and Grootaert (1999).
these memberships could be analyzed. Also, the expenditure and assets module retains the same categories so that changes in economic welfare can be measured.

The second round survey had a very high re-interview rate (96%) and low moving rate (only 1% of households had moved to locations outside their 1996 communities). In contrast, churning within the household roster (in/out migration of household members) was relatively high, with a 7% influx of members (compared to 1996 levels) outweighed by 13% of 1996 members leaving households.

Because data on social capital variables were aggregated at the household level in the survey, the analysis is also at the household level\textsuperscript{12}. One downside to the use of the household as a unit of analysis is that family ties could also be seen as a form of social capital (especially in Coleman’s conception). As this research relies to a large extent on Bourdieu’s theory of social capital, household-level analysis is less of an issue, as such ties are considered cultural capital in this view. Another complication is that it is not possible to account for the complex politics of intra-household resource distribution. As Silvey and Elmhirst (2003, p. 871) explain (drawing on the work of Gillian Hart), “rather than being a harmonious decision-making and resource-pooling unit, households are organized along age- and gender-hierarchies, and thus individuals within households have differentiated power, status, and access to resources”.

Unfortunately, the design of the survey does not allow for this level of disaggregation\textsuperscript{13}.

IV. VARIABLES

To test the hypotheses outlined above, I use three dependent variables and a range of social capital and control variables\textsuperscript{14}.

A. DEPENDENT VARIABLES

The data allow for exploration of the role that social ties played in household access to resources during the social, political, and economic turmoil that took place in Indonesia between 1996 and 2000. To measure the effect of social capital at the household level\textsuperscript{15},

\textsuperscript{12} Although respondents were asked which member was the primary participant in each group, expenditure data were not disaggregated in this way, nor were the questions on shocks suffered or help received.

\textsuperscript{13} For a summary of variables used, see Appendix 1.

\textsuperscript{14} For an analysis of community level benefits using the same data set, see Alatas et al. (2003).

\textsuperscript{15} Consumption estimates used here do not include imputed values for consumption of own production. Instead, dummy variables for households that reported consuming their own production were tested during the development of the regression models. The dummy for consumption of own production (DANYCONS96) was not significant when included in Model 1. Model 2 included the same dummy variable, as well as a variable that reflected shifts to consumption of own production between 1996 and 2000 (SHIFTOWNC00). In Model 2, both of these variables were statistically significant at the p<0.05 level and each had a coefficient of -0.30. The results of Model 2 were otherwise unchanged by the inclusion of these variables.
I use three different dependent variables – one that proxies for household welfare and two that embody resources that households can access. First, I analyze the effect of memberships on household expenditures during a time when many households lost sources of cash income and prices increased rapidly. Second, I turn to specific sources of help that households could draw on to deal with different types of shocks, and identify the effect of social connections in accessing community and government assistance.

The first dependent variable used is household expenditures in 2000 as a measure of economic welfare.\(^\text{16}\) Expenditure is used as a more robust measure of household welfare than income, which, especially in agricultural communities, is subject to large seasonal fluctuations. Households tend to keep routine expenditures relatively constant, saving and dis-saving as needed to smooth consumption patterns (Deaton 1997).\(^\text{17}\) To enable comparisons between the two years, the nominal rupiah household expenditures recorded in the second-round survey are expressed in real 1996 rupiah terms, using the relevant geographic poverty line deflators. Further, expenditures have been adjusted for the size of the household, yielding per capita amounts. Finally, the regression models use the natural logarithm of real per capita expenditure as this conversion of the dependent variable improves the non-linear nature of the data. The transformation also has the benefit of complying with the convention of using the log of income/expenditure in regression analysis.

To test whether effects of social ties vary by context (Hypothesis 2), I include two other dependent variables that measure access to resources. Households that reported experiencing any economic shocks in the four years between survey rounds were asked about different ways they might have coped with these shocks. For those households that reported at least one of ten shocks (see Section V.C below), respondents were asked whether they accessed help from the community and/or government in dealing with shocks. Assistance from the state or community is a resource that households could potentially draw on during difficult periods. Community and government help are used as dependent variables in separate logit regressions.

\section*{B. INDEPENDENT VARIABLES: SOCIAL CAPITAL MEASURES}

\(^{17}\) Other research has addressed the different mechanisms used to smooth household consumption, suggesting that the switching between expenditure categories can be an important smoothing-mechanism, which implies changes in actual living standards, even though total expenditure remains relatively unchanged. As Frankenberg et al. point out (2003, p. 296), “the evidence in Indonesia suggests that households do smooth welfare through reallocating the budget, which means that the link between changes in [per capita expenditures] and welfare of households is not direct; this is important to keep in mind when interpreting the evidence on household-smoothing behavior.” Also, deferred expenditures on healthcare and education could lead to dramatic reductions in future welfare. Although important, this level of disaggregation is not attempted in this analysis, which is focused on the effects of social ties, rather than detailed consumption behavior.

\(^{18}\) These measures are based on household ties to social groups with different characteristics and incorporate only one aspect of what Bourdieu regarded as social capital. In addition to social ties, he also included titles, friendships, and citizenship (Bourdieu 1984; Wall, Ferrazzi and Schryer 1998).
To identify social ties respondents were asked to list the group activities that family-members participated in, and then to name and describe the group with which each of these activities was associated. Drawing on these data, four different social capital measures are identified\(^1\)\(^8\). The first three variables are based on the level of formality of social ties. The fourth social capital measure is an indicator of external connectedness.

For the first three variables, social ties has been categorized according to their level of formality. To distinguish formalized organizations with a set, often hierarchical, structure (such as farming cooperatives and credit unions) from less structured, more horizontally organized groups that primarily come together to perform a given activity (such as nightly neighborhood watches and religious study groups), respondents were asked whether each group they belonged to had permanent leadership.\(^1\)^9 Groups that had permanent leadership are referred to as organizations, while those that lack this feature are labeled networks.\(^2\)^0

A small number of organizations were put in a separate category, as these groups have been decreed by the Indonesian government to exist in every village (see section IV above for a description of this process). These groups not only have the formalized leadership structure that define organizations, but are a legal requirement. Although other organizations recorded in the survey may have been initiated by government agencies or projects, these six groups stand out as having a set structure all over the country and clear links to village government. They are (1) a women’s group (PKK/Dasa Wisma), (2) the village legislative council (LMD), (3) the village executive body (LKMD), (4) village government, (5) a youth group (Karang Taruna), and (6) the official neighborhood organization (RT/RW). This sub-set of organizations is referred to as government-mandated or mandatory organizations.

Each of these three types of social ties (networks, organizations, and government-mandated organizations) is included as both (1) the number of links the household had in 1996 and (2) the change in the number of ties between 1996 and 2000 to test whether older links are more beneficial than recently acquired ones (Hypothesis 4).

The fourth social capital variable is a measure of external connectedness. To test the relationship between welfare and social ties beyond the immediate community (Hypothesis 3), I include a variable indicating ties to groups with members outside of the respondent’s neighborhood. It is based on the three most important memberships designated by respondents in the 1996 survey. The variable therefore takes a value between zero and three, with the former indicating no membership ties beyond the neighborhood and the latter resulting from all three of the most important memberships having members from beyond the neighborhood. Because of the limited range of the variable, it is not broken down by the three types of social ties outlined above.

C. INDEPENDENT VARIABLES: CONTROLS

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19 Defining organizations as having formal leadership is consistent with Bourdieu, who considered designation of a “permanent organ of representation” as the first step in constituting a political organization (Bourdieu 1991, p. 205).

20 Respondents’ reports of permanent leadership is the main organizing principle for this categorization. Some adjustments were made to ensure consistency when different respondents classified the same group in different ways.
In addition to the variables related to social capital, a number of other household characteristics could affect the dependent variables. Measures for these aspects are incorporated as control variables in the regressions. Household size in 1996 is included as larger households may have fewer income-earners (i.e., more children and elderly members) and are therefore likely to have lower per capita expenditures. A dummy variable indicates households headed by a female in 1996, as such families may have differential access to resources because of dominant cultural norms.

The number of years of schooling completed by the household head is also incorporated as a control variable. In general, more educated household heads tend to be better off because of access to better income-earning opportunities. This variable is also a crude indicator of Bourdieu’s cultural capital. It may capture more than the employment returns to schooling as unusually high levels of education can serve as a mark of distinction in rural, agricultural settings where years of schooling tend to be low. Economic returns from education may therefore be through cultural capital (as a respected member of the community), rather than through eligibility for a high-paying job.

Households whose primary occupation is in agriculture are also distinguished through a dummy variable to control for the possibility of sectoral diversity accounting for differences in welfare and resource access. Agricultural households are also more likely to be consuming some of their own production, which results in lower expenditures. In 1996, 95% of the households in the sample who had agriculture as their primary livelihood also consumed some of their own production. In comparison, 71% of households who were primarily engaged in another sector reported consuming their own output.

Finally, the natural log of per capita expenditures in 1996 is included in all regressions to control for household welfare in the earlier period. Households that were better off in 1996 have a head start on poorer households in terms of 2000 welfare.

21 Households were asked whether they consumed any of their own production in seven categories (food crops, processed food crops, livestock, livestock products, forest products, fishing, other). Also, see footnote 13 above for effects of consumption of own production on regression results.

22 Respondents were asked whether any of the following had affected their household economy: employment shocks (loss of job, salary decrease, more competition for jobs); burning of forest or farm lands; no staple foods available; security problems (increasing crime, more frequent rioting, more neighborhood conflicts); increasing expenditures (especially rising cost of staples); death or serious illness of household member; crop failure (due to drought, pests, flooding); death or illness of livestock; declining profits (increased competition, decline in output price, increase in production cost); or house burned down. See Appendix 2 for the frequency of each type of shock.

23 Ordinary Least Squares with robust standard errors was used to minimize the effect of heteroskedasticity.

24 The logits do not use the membership change variables. As the survey recorded shocks (and help received) at any point during the 1996-2000 period, the variables for change in social ties between 1996 and 2000 may reflect events that happened after the shocks occurred. Their inclusion would therefore muddy the direction of causal inference.
The logit regressions also include a set of dummy variables that indicate the type of shock experienced by the household to determine whether certain shocks are more closely associated with community or government assistance.

VII. MODELS

To test the hypotheses outlined above, I utilize both multiple regression and logistic regression. There are two ways that social ties could affect expenditures in 2000. First, past levels could themselves have an influence on later levels of welfare. Second, increases or declines in number of ties since 1996 could also affect well-being. I therefore test both these types of variables in the multiple regression models.

i) Multiple regression models

Model 1: \[ \log Y_{2000 \text{ per capita real expenditure}} = a + b_{1996 \text{ social capital}} X_{1996 \text{ social capital}} + b_{\text{controls}} X_{\text{controls}} + E \]

Model 2: \[ \log Y_{2000 \text{ per capita real expenditure}} = a + b_{1996 \text{ social capital}} X_{1996 \text{ social capital}} + b_{\text{change in social capital}} X_{\text{change in social capital}} + b_{\text{controls}} X_{\text{controls}} + E \]

ii) Logit regression models

Model 3: \[ \log \left( \frac{p_{\text{community help}}}{1-p_{\text{community help}}} \right) = a + b_{1996 \text{ social capital}} X_{1996 \text{ social capital}} + b_{\text{controls}} X_{\text{controls}} + E \]

Model 4: \[ \log \left( \frac{p_{\text{government help}}}{1-p_{\text{government help}}} \right) = a + b_{1996 \text{ social capital}} X_{1996 \text{ social capital}} + b_{\text{controls}} X_{\text{controls}} + E \]

VIII. RESULTS

A. Multiple regression without change variables (Model 1):

When only 1996 levels are considered, two of the social capital variables are statistically significant. Of the three membership variables, only 1996 ties to government-mandated organizations is significant (although ties to organizations also comes close at p=0.054, with a positive coefficient of 0.050). In this specification, each 1996 membership in one of the six...
mandatory groups that is mandated in every village in Indonesia has a modest positive impact on expenditures in the later period.

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 organization ties</td>
<td>0.050</td>
<td>0.102 **</td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td>(0.031)</td>
</tr>
<tr>
<td>1996 network ties</td>
<td>-0.006</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(-0.001)</td>
</tr>
<tr>
<td>1996 mandatory organization ties</td>
<td>0.049 **</td>
<td>0.035</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>change organization ties 1996-2000</td>
<td>0.087 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td></td>
</tr>
<tr>
<td>change network ties 1996-2000</td>
<td>0.020 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td></td>
</tr>
<tr>
<td>change mand. org. ties 1996-2000.</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.021)</td>
<td></td>
</tr>
<tr>
<td>1996 external ties</td>
<td>-0.069 *</td>
<td>-0.065 *</td>
</tr>
<tr>
<td></td>
<td>(0.032)</td>
<td>(0.032)</td>
</tr>
<tr>
<td>1996 household size</td>
<td>-0.011</td>
<td>-0.018</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>1996 female household head</td>
<td>0.066</td>
<td>0.068</td>
</tr>
<tr>
<td></td>
<td>(0.083)</td>
<td>(0.082)</td>
</tr>
<tr>
<td>1996 education household head.</td>
<td>0.029 **</td>
<td>0.026 **</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>1996 agriculture</td>
<td>-0.288 **</td>
<td>-0.275 **</td>
</tr>
<tr>
<td></td>
<td>(0.056)</td>
<td>(0.056)</td>
</tr>
<tr>
<td>1996 welfare</td>
<td>0.346 **</td>
<td>0.343 **</td>
</tr>
<tr>
<td></td>
<td>(0.047)</td>
<td>(0.047)</td>
</tr>
<tr>
<td>constant</td>
<td>6.911 **</td>
<td>6.888 **</td>
</tr>
<tr>
<td></td>
<td>(0.523)</td>
<td>(0.520)</td>
</tr>
</tbody>
</table>

| N     | 960     | 960     |
| F     | 21.4    | 18.95   |
| Prob>F| 0       | 0       |
| R²    | 0.173   | 0.190   |

Note: Robust standard errors reported in parentheses.
* p<0.05
** p<0.01
Also, the variable for external ties, which is an indicator of membership in any group that include members from outside the household’s neighborhood, is significant and has a negative coefficient. This means that households that participated in groups with external members in 1996 were worse off in 2000. In terms of the control variables, indicators for education, agricultural households, and 1996 expenditure levels are significant and the coefficients have the expected signs. More educated households were better off in 2000 while households employed in agriculture had lower consumption levels than those who had other types of primary livelihoods. Households that had higher expenditures in 1996 also had higher consumption levels in 2000, although previous expenditures contributes surprisingly little to 2000 levels.

Table 1.  Regression results for 2000 welfare on 1996 levels of social ties (Model 1) and change in social ties between 1996 and 2000 (Model 2) B. Multiple regression with change variables (Model 2):

A second specification takes a more dynamic perspective by incorporating shifts in household memberships between 1996 and 2000, which allows for testing of Hypothesis 4 (whether older ties channel more benefit than newer ones). When the change variables are included, organizational memberships stand out as important. Both 1996 ties and the change in organizational links between 1996 and 2000 are highly statistically significant (p=0.001 for both) and have relatively large positive coefficients. These results indicate that households with more organizational memberships in 1996 were better off in 2000 than those who had fewer links to such groups. Further, households that increased the number of memberships in organizations over the four years between surveys had higher expenditures at the end of the period. Thus, households with many organizational ties in 1996 benefitted, as long as they were able to maintain those links over the crisis period. However, even families with few links in 1996 could improve their lot if they were able to join additional organizations.

This finding raises an interesting question about the benefits of long-term commitment of members to particular organizations. Because the coefficients for the organizational variables are roughly equal (0.102 for 1996 levels and 0.087 for change between 1996 and 2000), there is about the same amount of welfare benefit from old memberships as from new ones. In other words, there appears to be some substitutability between old and new memberships, at least in terms of welfare effects. Households that lost ties to organizations between 1996 and 2000 could “make up the difference” in terms of 2000 welfare if they were able to pick up an equivalent number of new links during the period. Similarly, imagine two households that had very different sets of organizational links in 1996. Household A participated in three formal organizations while Household B did not have any such ties. If Household B joined three organizations between 1996 and 2000, while Household A maintained its connections from 1996, both families enjoyed the same benefits in terms of 2000 expenditures.

Conversely, any household benefit from participation in an organization seems to end when the membership ends. If a household drops a 1996 membership (i.e., the coefficient for change in organizational ties is multiplied by a negative value), there appears to be little continuing benefit accruing to the household from its history with that organization. As the coefficients for 1996 ties and for change between 1996 and 2000 are comparable, the impact of a 1996 organizational membership on 2000 welfare is almost completely wiped out when that tie is
severed. In sum, Hypothesis 4 is not supported by the data – older links do not channel substantially more benefits than newer ones.

In fact, the analysis provides some evidence that certain new links may be more beneficial than old ones. In Model 2, change in network ties is statistically significant, with a small positive coefficient. Households that increased the number of links to these types of groups gained some economic benefit in the later period, even though the number of 1996 network ties had no statistically significant effect on 2000 expenditures.

In keeping with the results for Model 1, the variable for extra-community links is statistically significant with a negative coefficient. This finding goes against Hypothesis 3 which posited that having more geographically diverse links is beneficial. At least during the turbulent times that this panel covers, connections to groups with only local members conferred more economic advantage than ones with external ties. Links outside the neighborhood appear to be costly, reducing household expenditures in the later period.

Of the control variables, education of the household head and 1996 expenditures have a positive effect on 2000 spending. Agricultural households had lower 2000 expenditures than other families. These controls have the expected signs and are similar in effect to Model 1.25

C. Logit: community help (Model 3)

When receiving community help is the dependent variable, all three of the 1996 membership variables are statistically significant. Organizational and network ties increase the chances of receiving community help, while links to mandatory groups reduce the likelihood of such assistance. This result indicates that government-mandated groups are seen as distinct from other groups, and their members are therefore treated differently by community members. Households that are more involved in government-mandated groups may be seen as less involved in community affairs, and are consequently less likely to be candidates for assistance during difficult times. Villagers may also view peers without connections to government-mandated groups as more in need of community help, as they lack alternatives, while those with ties to mandatory groups are expected to seek support through these official channels.

The types of shocks experienced also matter in the likelihood of mobilizing community help. Households that reported having no staple foods or a death/serious illness were more

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25 When the change variables are incorporated, connections to mandatory groups, which stood out in Model 1, are no longer statistically significant.
26 Widespread food shortages due to bad harvests (a covariant shock that could result in a household going without food) are controlled for with the inclusion of a separate indicator for crop failure.
27 Burning of farm- or forest-land was also negatively correlated with the likelihood of receiving community help, and this variable was almost statistically significant (p=0.056). These shocks were also likely to be covariant (the out-of-control forest fires in Sumatra which caused respiratory problems across Southeast Asia raged during the period covered in the survey), with little help available from the community.
likely to receive community assistance, while families who experienced security shocks (crimes, rioting, community conflict) were less likely to be helped by other residents. Community help appears to be more likely in the event of idiosyncratic shocks (such as a household going

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>community help</th>
<th>government help</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 organization ties</td>
<td>0.175</td>
<td>0.044</td>
</tr>
<tr>
<td>1996 network ties</td>
<td>0.205</td>
<td>-0.102</td>
</tr>
<tr>
<td>1996 mandatory organization ties</td>
<td>-0.338</td>
<td>0.341</td>
</tr>
<tr>
<td>1996 external ties</td>
<td>-0.043</td>
<td>-0.079</td>
</tr>
<tr>
<td>1996 household size</td>
<td>-0.018</td>
<td>0.055</td>
</tr>
<tr>
<td>1996 female household head</td>
<td>0.238</td>
<td>0.053</td>
</tr>
<tr>
<td>1996 education household head</td>
<td>-0.006</td>
<td>-0.019</td>
</tr>
<tr>
<td>1986 agriculture</td>
<td>0.188</td>
<td>0.625</td>
</tr>
<tr>
<td>1986 welfare</td>
<td>0.247</td>
<td>-0.455</td>
</tr>
<tr>
<td>Shocks:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>unemployment</td>
<td>0.163</td>
<td>-0.464</td>
</tr>
<tr>
<td>forest/grassland fire</td>
<td>-0.767</td>
<td>-0.261</td>
</tr>
<tr>
<td>no staples</td>
<td>1.017</td>
<td>-0.071</td>
</tr>
<tr>
<td>security problems</td>
<td>-1.921</td>
<td>0.313</td>
</tr>
<tr>
<td>increasing costs</td>
<td>-0.287</td>
<td>0.673</td>
</tr>
<tr>
<td>death of household member</td>
<td>0.822</td>
<td>0.101</td>
</tr>
<tr>
<td>crop failure</td>
<td>-0.102</td>
<td>0.126</td>
</tr>
<tr>
<td>death of livestock</td>
<td>0.129</td>
<td>0.204</td>
</tr>
<tr>
<td>lower profits</td>
<td>-0.327</td>
<td>-0.024</td>
</tr>
<tr>
<td>housefire</td>
<td>0.203</td>
<td>0.506</td>
</tr>
<tr>
<td>constant</td>
<td>-4.071</td>
<td>2.581</td>
</tr>
</tbody>
</table>

| N   | 765 | 765  |
| ——  | —   | —    |
| $\chi^2$ | 104.65 | 89.49 |
| Prob-$\chi^2$ | 0 | 0 |

Note: Robust standard errors reported in parentheses.

* $p<0.05$

**$p<0.01$
without food, or experiencing death/illness), but less likely when households encounter issues that tend to affect many families or an entire community at once. Security shocks, which probably reflect the widespread unrest during the start of the economic crisis, the fall of former President Soeharto, and the campaign season of 1999, are likely to have been covariant, with a large percentage of the community experiencing similar problems at the same time. As compared to idiosyncratic shocks experienced by individual households, covariant shocks left fewer families unaffected. There were thus fewer community-members in a position to offer assistance and what little help was available had to be shared with a greater number of afflicted households, resulting in a reduced likelihood of community assistance.

Table 2. Logit coefficients for receiving community (Model 3) and government assistance (Model 4) in the past four years (for households reporting at least one shock 1996-2000)

<table>
<thead>
<tr>
<th>D. Logit: government help (Model 4)</th>
</tr>
</thead>
</table>

Using government help as the dependent variable, 1996 network and mandatory group ties are both statistically significant. Not surprisingly, participation in mandatory groups, which have explicit connections to government, substantially increase the likelihood of receiving assistance from the state. More unexpectedly, however, links to networks, which have no connection to government, actually reduce the chances that households will be aided by government when experiencing economic difficulties.

Interpreted in light of the previous logit (Model 3, using community help as the dependent variable), there appears to be a complementarity between type of social tie and available help. On one hand, households that have network links increase their chances of receiving community help, but simultaneously reduce the likelihood of being aided by the state. Families with many connections to mandatory groups, on the other hand, actually shrink their odds of community assistance while maximizing their opportunity to receive government support.

Parallel to the complementarity between network and government-mandated organizational ties, there is a similar effect between the type of shock experienced and the assistance received. While community help was more likely in the event of idiosyncratic shocks and less likely when covariant shocks occurred, state assistance may be more likely during widespread shocks. Of the shock variables, only unemployment shocks and rising costs are statistically significant. Employment shocks had a negative coefficient, implying that households in which a member lost a job or experienced more competition for jobs had a reduced likelihood of receiving government help. There are several factors that illuminate this result. Although employment problems were rampant when the crisis began, most of the layoffs were in urban centers, while the data set used here was collected in rural areas that do not border on major industrial zones. The full effect of lay-offs also may not have reached those households that had sent migrants to work in the cities. As others have noted, not all laid-off migrant laborers returned to their home villages, but some stayed in the cities to look for work (Silvey and Elmhirst 2003), reducing the impact on rural households who had lost a source of remittances but avoided having another mouth to feed. Even in study villages with many migrants only a portion may have returned, or returned only temporarily, setting off again to look for work soon after returning (Breman 2001). Thus, although the lay-offs could be considered covariant shocks in industrial centers, the effect in the communities studied was dampened and more
characteristic of an idiosyncratic shock. Further underscoring this point, given that agriculture is the primary source of livelihood for the majority of survey respondents (73.5% in 1996, 66% in 2000), layoffs were likely to have been less evident in a context where formal employment is often a secondary source of income.

In addition to the dispersed effects of lay-offs on households in the study villages, government responses to unemployment were also poorly targeted. As has been described by several authors (Breman 2001; Sumarto, Suryahadi and Widyanti 2001), slots in the Padat Karya infrastructure-building programs designed to absorb laid-off workers tended to be evenly available to all (male) village residents, rather than targeted to the recently unemployed. Because of this “sharing” of benefits of government aid, households with unemployment shocks were no more likely to receive assistance than other villagers.

Rising costs, in contrast, were perhaps the most covariant of all shocks during the financial crisis. Inflation rose to 80% in 1998 and subsidies on staples, such as rice and cooking oil, were removed. Not surprisingly, rising costs was the most frequently reported shock (69% of respondents). With this type of widespread problem, where the majority of villagers experienced the same shock, the government appears to have responded effectively. Households that report this type of shock increased their likelihood of receiving government assistance. The main program designed to address rising prices (Operasi Pasar Khusus, or OPK) was intended to distribute subsidized rice to the poorest households in each village. As in the case of the unemployment program described above, however, access tended to be spread evenly across residents (see Olken et al. 2001 for a description of this process). Because the staple-price shock was widely experienced by our study households and resources from government programs were spread evenly, it was positively associated with receiving government assistance.

In sum, it appears that network ties and certain idiosyncratic shocks increase the probability of households being helped by their fellow community members. In contrast, government assistance is most likely for households with ties to government-mandated groups and in cases of severe covariant shocks.

IX. DISCUSSION

The analysis shows that all three types of social ties considered play a role in channeling resources to households. Memberships in organizations, both those in 1996 and those acquired since, resulted in higher expenditures. Network ties, along with organizational links, facilitated community assistance when households experienced shocks, while participation in government-mandated groups increased a household’s likelihood of receiving government help with problems. In all these cases, a greater number of a certain type of tie translated into more benefits.

Importantly, however, the results also demonstrate that the same links that have positive effects in one context can have a negative impact in another. Ties to networks impede access to government assistance while participation in government-mandated groups reduces the chances of households benefiting from community help. Ties that channeled benefits in one situation can also be neutral in another environment. Memberships in mandatory groups appear to have little effect on household welfare and organizational ties neither facilitate nor prohibit government

28 At least when change over time is included in the analysis.
assistance. Hypothesis 1 must therefore be rejected; more links do not necessarily increase benefits. In some situations fewer ties are more beneficial.

The findings do, however, lend support to Hypothesis 2: the effect of a social tie varies with the context in which a household finds itself. For example, ties to government-mandated groups help to channel resources when a household experiences certain shocks. In other situations, however, these same ties have very different effects. Greater involvement in mandatory organizations actually reduces the likelihood of community help with shocks. In terms of welfare, such links have little influence on outcomes.

This finding reinforces Bourdieu’s point that different constellations of social capital matter in different contexts. It is not surprising that memberships in government-mandated organizations facilitate access to help from the state and more community-oriented networks (and organizations) channel assistance from the community. Somewhat less obvious, perhaps, is that a lack of connection can also facilitate benefits. Households with no participation in mandatory organizations are actually more likely to get community help than households with such links. By the same token, not participating in networks makes a household a likelier candidate for government assistance. This result highlights the variable effects of social capital, pointed to by both Bourdieu and Coleman, but often neglected in subsequent empirical work that equates social capital with benefits channeled to individuals, households, or communities.

What is not clear from the results presented above is how these varying effects are distributed across households. Bourdieu emphasized that access to different types of social ties is not equally likely for all actors. Structural factors prevent an agent from choosing freely among different types of capital and therefore restrict her from benefiting from certain resources. The availability of capital is determined by her position in social space. In particular, Bourdieu thought “class of origin” was an important determinant of access to capital: “All positions of arrival are not equally probable for all starting points” (Bourdieu 1984, p. 110). Later analysts (Foley and Edwards 1999; Portes 1998; Woolcock 1998) have also urged interpretations of social capital effects that are sensitive to actors’ social positions. By breaking down the sample into categories based on 1996 economic welfare, I illustrate the impact of differential access to social ties and draw some conclusions as to how social position figures into welfare outcomes, as conditioned by social capital.

As Table 3 shows, types of social ties are not segregated by socio-economic status. Links to organizations, networks, and government mandated groups appear to be available to all households. Access is not even, however, as there are clear differences in both the level of participation and in shifts over time for different economic classes. Most notably, the poorest households had by far the greatest number of links to organizations in 1996. While the second through fifth quintiles had about 1.1 organizational membership per household, those in the first quintile had almost 35% more ties to these types of groups.

---

29 This analysis holds 1996 quintiles constant, when in fact households may have moved between economic classes over the period 1996–2000.
Although the bottom fifth of the welfare distribution had more organizational links in 1996, households in this group had also dropped more such ties by 2000. In fact, the poorest quintile dropped, on average, more than twice the number of links in organizations than wealthier households. Because of their greater engagement in organizations in 1996, however, organizational memberships were on average still more common for the poorest quintile than for wealthier households in 2000.

As well as being the most common among the poorest households, organizational ties played the largest role of the social capital variables in determining welfare in 2000. Interpreted together with the regression coefficients from Model 2, those households in the bottom quintile netted the biggest benefits in terms of 2000 per capita expenditures from their organizational ties (see Table 4). In spite of these households’ greater decline in organizational links, their higher levels of 1996 memberships resulted in the most welfare benefits in 2000 (see column 3 in Table 4).

### Table 3. Distribution of social ties by quintile of 1996 per capita expenditure

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>overall</td>
<td>1.14</td>
<td>-0.12</td>
<td>2.78</td>
<td>2.94</td>
<td>2.17</td>
<td>0.19</td>
</tr>
<tr>
<td>1996 per capita expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>first quintile</td>
<td>1.47</td>
<td>-0.24</td>
<td>2.63</td>
<td>2.92</td>
<td>2.09</td>
<td>0.23</td>
</tr>
<tr>
<td>second quintile</td>
<td>1.08</td>
<td>-0.11</td>
<td>2.94</td>
<td>2.59</td>
<td>1.97</td>
<td>0.17</td>
</tr>
<tr>
<td>third quintile</td>
<td>1.13</td>
<td>-0.03</td>
<td>2.92</td>
<td>2.84</td>
<td>2.15</td>
<td>0.11</td>
</tr>
<tr>
<td>fourth quintile</td>
<td>1.12</td>
<td>-0.11</td>
<td>2.77</td>
<td>3.13</td>
<td>2.12</td>
<td>0.13</td>
</tr>
<tr>
<td>fifth quintile</td>
<td>1.12</td>
<td>-0.10</td>
<td>2.65</td>
<td>3.22</td>
<td>2.32</td>
<td>-0.21</td>
</tr>
</tbody>
</table>

While organizational memberships were most common among the poorest households, ties to networks were less frequent for the poorest and the richest families in 1996 (column 3, Table 3). In contrast to organizational links, however, which dropped for all households between

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30 This finding has to be interpreted with some caution, as changes in the questionnaire design is likely to have picked up more network ties in 2000 than in 1996. The magnitude of increases may thus be an artifact of the study design, rather than an actual change in household behavior.
1996 and 2000, network memberships increased across the board. When change in network links is considered, the distribution of ties changed considerably. By 2000, it appeared that the richest three fifths of households were more engaged in networks than their poorer counterparts.

The change in network ties also had a statistically significant effect on 2000 expenditures (although 1996 levels had no such effect). The regression coefficient for shifts in network links was much smaller than that for organizations, with each additional tie leading only to a 2% increase in the 2000 expenditure variable (compared with a 10% increase for 1996 organizational links and a 9% increase for each additional organizational tie between 1996 and 2000). Given the large increase in network links, however, households across the distribution gained substantial welfare benefits from their expanded network ties memberships (see column 4, Table 4).

<table>
<thead>
<tr>
<th>Table 4. Welfare effects of social ties by quintile of 1996 expenditure (for statistically significant variables from Model 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>regression</td>
</tr>
<tr>
<td>1996 per capita</td>
</tr>
<tr>
<td>first</td>
</tr>
<tr>
<td>second</td>
</tr>
<tr>
<td>third</td>
</tr>
<tr>
<td>fourth</td>
</tr>
<tr>
<td>fifth</td>
</tr>
</tbody>
</table>

Note: The welfare effect for each quintile is the product of mean number of ties (from Table 3) and the relevant regression coefficient (from Table 1).

Finally, 1996 ties to government-mandated organizations were most common among the very richest households (column 5, Table 3). As Berman (2001, p. 253) points out, rural elites tended to monopolize these organizations, acting as “local agents of the New Order regime.” These households were the only quintile to reduce participation in these groups, however, while the other four economic classes (and especially the poorest quintile) increased their ties to mandatory organizations between 1996 and 2000 (column 6, Table 3). By 2000, connections to government-mandated groups had evened out considerably, with roughly equal participation by all quintiles.

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31 The New Order refers to the government of President Soeharto, to differentiate it from the preceding regime of President Soekarno.
This result is consistent with the general opening of the political environment and demands for accountability that escalated with the fall of President Soeharto.

Analyzing ties by social position thus gives some indication of the degree to which access to social capital is limited by socio-economic factors. Although all three types of links used in this analysis were available across economic classes, organizational ties appear to be most often accessed by the poorest households, in spite of a large drop in participation between 1996 and 2000. Of the types of social capital analyzed here, organizational links had the biggest impact on household welfare – the greater engagement of poor households in such groups helped to increase welfare for these families during the economic difficulties experienced between 1996 and 2000.

Network ties, in contrast, were less frequent among the poor in 1996 and may be increasingly engaged in by wealthier households. Finally, links to government-mandated groups were much more common for the richest quintile in 1996 but access to this type of social tie had evened out considerably by 2000. This analysis thus provides some support for Hypothesis 5. The distribution of social ties varies with economic class, indicating that households have differential access to various kinds of social capital, depending on their position in social space.

As Table 3 illustrates, distributions of social ties also shift over time with some large drops in certain types and increases in others. This leads us to Hypothesis 4, which posits that older links will channel more benefit than newer ones. As discussed in section IIX.B above, the regression coefficients from Model 2 indicate comparable benefits from 1996 organizational ties and from those acquired between 1996 and 2000. Hypothesis 4 must therefore be rejected.

This finding fits well with the data. There was a surprising amount of churning in organizational memberships between 1996 and 2000 – only 57% of ties reported on the 1996 questionnaire were maintained in the second round of the survey. If welfare benefits from old and new memberships are roughly equal, there is little incentive for households to hold on to old links in favor of new ones. The substitutability between new and old ties may be due to the physical proximity of village residents. Most participants may already have known each or had acquaintances in common before joining an organization. New members therefore were not complete strangers to existing participants and received similar treatment as those who joined the group earlier.

How did organizational links actually enable households to maintain expenditures? One possibility is that participants could use their memberships to borrow money from other members, as a means of smoothing consumption when incomes declined and prices rose. This interpretation seems unlikely, however, as fellow participants were experiencing similar shocks.

32 The results of the logits also support Hypothesis 5, as access to resources (in the form of government and community assistance) is dependent on type of social ties. As 1996 links to mandatory groups, which were more likely to be held by the richest households, increase likelihood of government help but reduce access to community assistance, it appears that government resources may have been most readily available to the wealthiest groups. Network ties, more commonly held by the middle quintiles, reduce access to government help but enhance the likelihood of community assistance. Access to sources of help, at least as channeled through social capital, thus appears to be divided along socio-economic lines that coincide with availability of social ties.

33 Woolcock (1998, p. 175) also outlines a shifting balance of embedded and autonomous links over time, with the latter becoming increasingly important for achieving sustainable developmental gains. If this is the case, these results could point to a particular point in time where embedded links have the greater pay-off.
at the same time, and were probably unable to lend funds when they were most needed. Intra-organizational lending may have allowed households to borrow small amounts intermittently, but probably did not fully account for the welfare effects experienced by members. An alternative interpretation is that organizational links enabled access to income-earning opportunities (such as day-laborer jobs when other members needed to hire help), to information about jobs as they became available (as when a member working on a government project informs her peers of openings), and to sources of credit outside the organization.

Finally, we turn to the geographical diversity of social ties. Hypothesis 3 proposed that non-local ties would channel more benefit than local ones. As the results from Model 2 show (Table 1), links outside the neighborhood appear to be costly, reducing household expenditures in the later period. This finding goes against Hypothesis 3, as well as contradicting the findings of Portes and Sensenbrenner (1993) and the need for a balance between embedded and autonomous links proposed by Woolcock (1998). However, it fits quite well with the qualitative data from the LLI research, which found that organizing in all three research areas was centered on the neighborhood (Chandrakirana 1999). It is possible that the increased monitoring requirements and trust problems associated with geographically dispersed membership are at the root of the negative impact of these types of memberships and explain why local links are preferred and more beneficial. It is also possible that links to groups with external members demanded more during the crisis but provided less in return, if external members were in urban areas or in other regions that were harder hit by the crisis. For example, Silvey and Elmhirst (2003, p. 869) show that even pre-crisis external ties (in the form of migrated female household members) imposed demands in the form of in-kind contributions that subsidized the higher cost of living in urban areas.

This effect might have been particularly strong if resources channeled from extra-community links were intangibles, such as information about jobs. As Sanders, Nee, and Sernau (2002) find in their research on immigrant job seekers, links beyond the traditional “ethnic domain of the economy” are beneficial in that they improve the quality of information on employment opportunities throughout the network. During a lasting economic downturn characterized by severe job losses, however, such links are likely to channel considerably less useful information. If these links also involve tangible economic resource transfers away from rural households the net effect for survey respondents may have been negative.

X. CONCLUSION

By analyzing the effects of different attributes of social ties on household welfare and access to resources, I have tested several features of social capital theory, particularly of the

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34 Buchan, Croson, and Dawes (2002, p. 200) demonstrate declines in trusting behavior as exchanges take place across increasing social distance. Their findings accord with other research showing “that levels of cooperation tend to be higher the stronger the ties between actors in the exchange.”

35 Silvey and Elmhirst also demonstrate that the direction of demands can shift over time. While rural households often subsidized urban migrants in good times, they made claims on the industrial wages earned by migrants after the crisis hit.

36 In his analysis of firms’ access to financial capital, Uzzi (1999, p. 498) also finds that “large networks of arm’s-length ties effectively garner public market data but are comparatively less effective than embedded ties at promoting the trust and reciprocity that facilitate deal-making and innovation.”
version proposed by Pierre Bourdieu. In summary, the findings support the ideas that effects of different social ties vary by context and that an actor’s access to social ties and resources depends on her position in social space. However, the data also show that more, older, and geographically diverse links are not necessarily better. In fact, a lack of ties can sometimes be beneficial and local connections appear to offer greater rewards than external ones, at least during the turbulent times covered by the data. New ties seem to be almost interchangeable with older ones in terms of welfare benefits.

These results reinforce Bourdieu’s basic point that there are no monocausal explanations. Different types of links have different effects in different contexts – we cannot rely on a single factor that determines all outcomes and we especially cannot simply assume that social capital is that one variable. The analysis also underscores the idea that social capital must be thought of as a potential source of benefits, rather than the benefits themselves. If effects of different types of ties vary across situations and time, such links cannot all be incorporated into a single variable.

In a more applied sense, the results also shed some light on the respective roles of links to community and government groups in household welfare. In the general debates on social capital, analysts from across the political spectrum have staked claim to the concept as support for their position. As Woolcock outlines, conservatives see social capital as threatened by state action: “as the state waxes, other institutions wane” (George F. Will cited in Woolcock 1998, p. 157). Others claim that government can have little impact on social capital, as it is the result of long-term historical forces (c.f. Putnam’s (1993, p. 179-181) conception of path dependence). Finally, liberals perceive the government’s role as facilitating the creation of social capital and providing services that are beyond the reach of the community.

The Indonesian case presented here lends little support to conservatives’ claims that government intervention has extinguished all community groups or taken over their role in villagers’ welfare. Even with the heavy-handed imposition of government-mandated organizations designed to undermine indigenous structures that took place in Indonesia, links to community networks and organizations continue to have strong and important effects on household welfare and resource access. In terms of maintaining household expenditures, connections to organizations appear to be most important. Analysis of the sources of help that households access points to the role of networks in channeling community assistance. In these contexts, government-mandated groups have by no means replaced other types of ties.

At the same time, the findings indicate that there is a role for state action in complementing community efforts in crisis situations. The only context in which government-mandated groups appear effective is in accessing government help. Households with more ties to such groups are more likely to receive state assistance. Network links, in contrast, actually decrease the chances of receiving help from government. The complementarity between network and mandatory organizational links means that households receive community and government resources through separate channels, lending support to the idea that state action does not necessarily infringe on community resources, but can supplement them instead. In particular, government action can be effective in situations where community resources are insufficient or unavailable. Community networks appear to be better prepared to help households cope with idiosyncratic shocks, while state assistance is most suited to dealing with widespread, covariant...
problems. Again, this points to a complementary role for the state, with community-members helping out their peers when resources permit, and government stepping in to assist with shocks that affect many households simultaneously.

In spite of this complementarity and the continued strength of community groups, this research has not gauged the effect of imposed organizations on community structures. The analysis does not control for different levels of government presence across communities, and there is no assessment of the effect of state action on community groups over time. The findings from the first round of the LLI research indicated that the creation of government-initiated groups crowded out similar, existing groups. For example, the mandatory women’s government group PKK may have replaced community-initiated women’s networks and organizations (see Chandrakirana 1999; Evers 1999). External attempts (by government or non-government agents) to alleviate poverty must therefore take seriously their potential impact on existing social structures that provide important resources, especially to the poor. Both networks and organizations provide benefits that state-mandated groups do not. Caution must be urged in introducing externally designed programs that may be less effective than indigenous efforts to improve welfare and respond to shocks, and may adversely impact such structures.

Finally, these results have implications for the specific designs of development projects. In the context of the enthusiasm for community-driven development and the widespread tendency to interpret social capital as inherently beneficial, this paper emphasizes the idea that social ties cannot be treated as a constant. Links are neither interchangeable, nor can they be neatly classified as providing benefits to insiders while preventing outsiders from accessing resources. The data indicate a connection between class and type of social tie, which limits the types of resources to which poor households have access, but there was not a clear segregation of access based on socioeconomic status. Further, across classes, the effects of all social ties varied with the type of needs households faced. Certain groups were better able than others to provide relevant resources to members in some situations, while actually curtailing access to resources when other needs arose.

37 Narayan and Pritchett (1999, p. 897) also emphasize attention to indigenous structures in contexts where extended efforts by government may have displaced these: “Many would argue that the previous centralizing, technocratic, and excessively narrow tendencies of some governments, and especially of development assistance, may have depleted rather than created social capital and may, in fact, have done significant harm.” Other analysts echo these concerns (Isham, Kelly and Ramaswamy 2002, p. 10). As a concrete example, Small (2002, p. 18) describes the top-down government of the U.S.S.R. which, ironically, “led to increased health and educational levels of the general population but effectively destroyed the social capital that may have sustained these achievements long term.”

38 It bears repeating that groups designated as “organizations” in this study include groups with government affiliations that may have been introduced as part of state projects or other activities. Only the six organizations legislated to exist in every village are included in the “government-mandated” category. The results therefore argue only against the imposition of universal designs that preclude community involvement in establishing organizational rules and structures, rather than against all government involvement in local organizations.
Given these important differences, all local groups cannot be lumped together and it is critical for development practitioners to consider such variations in designing projects. First, the results indicate that imposed organizations provide different benefits from those with more local involvement in establishment and design. In the Indonesian case studied here, the mandatory organizations that had been introduced by the central government were not linked to higher incomes. Further, these government-mandated groups were dominated by elites who therefore were more likely to partake in the benefits that such organizations did provide. Project designs
should therefore strive to work with existing structures, rather than inventing and imposing new
groups to address specific development goals, as such organizations are unlikely to achieve
those goals and may also not reach the poorest.38

Second, the variability of resources channeled through social ties argues for project
designs that not only work with existing structures but that also differentiate between types
of local groups whose relevance may vary with time and context. Rather than pre-selecting
certain existing groups as universal channels for project resources, it is important to build in
flexibility that allows for local designation of partner organizations. Although a more open-
ended design runs the risk of co-optation, a more rigid one is at least as likely to “miss” poor
villagers. A pre-selected organizational channel may not be one to which marginalized
groups have access or one that has provided relevant benefits to poor participants in the past.
Project designs that allow for more flexibility in the choice of local partner organizations can
build on the poor’s own knowledge of and experiences with existing groups, and thereby
reach them more effectively.

Appendix 1. Variables used in regressions

<table>
<thead>
<tr>
<th>Type</th>
<th>Variable</th>
<th>Measured by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variables</td>
<td>1. 2000 welfare</td>
<td>Log real per capita expenditures on non-durables in 2000 but not including value of consumption of own production, using regional deflators to express in 1996 rupiah</td>
</tr>
<tr>
<td></td>
<td>2. community help</td>
<td>For households reporting at least one shock since 1996, whether they received community assistance in dealing with this/these problems</td>
</tr>
<tr>
<td></td>
<td>3. government help</td>
<td>For households reporting at least one shock since 1996, whether they received government assistance in dealing with this/these problems</td>
</tr>
</tbody>
</table>

| Independent variables: social capital | 1. membership in networks | Number of ties to groups that lack permanent leadership; included as both 1996 levels and change between 1996 and 2000 in multiple regressions |
|                                      | 2. membership in organizations | Number of ties to groups with permanent leadership; included as both 1996 levels and change between 1996 and 2000 in multiple regressions |
|                                      | 3. membership in government-mandated organizations | Number of ties to six organizations legislated to exist in every village; included as both 1996 levels and change between 1996 and 2000 in multiple regressions |
4. external ties

Number of ties to 1996 groups that involved members from outside neighborhood, value ranges from 0-3

Independent variables: controls

1. 1996 household size

Number of individuals listed on household roster

2. female household head

Gender of household head identified by respondent

3. education of household head

Number of years of schooling completed by household head

4. agricultural household

Primary occupation in agriculture

5. 1996 welfare

Log 1996 per capita expenditures on non-durables but not including value of consumption of own production

6. type of shock

Whether experienced different types of problems that affected household economy between 1996-2000; included only in logits

Appendix 2. Frequency of shocks (for those households reporting at least one shock)

<table>
<thead>
<tr>
<th>Type of shock</th>
<th>% reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>unemployment</td>
<td>19</td>
</tr>
<tr>
<td>forst/grassland fire</td>
<td>7</td>
</tr>
<tr>
<td>no staples</td>
<td>15</td>
</tr>
<tr>
<td>security problems</td>
<td>3</td>
</tr>
<tr>
<td>increasing costs.</td>
<td>69</td>
</tr>
<tr>
<td>death of HH member</td>
<td>40</td>
</tr>
<tr>
<td>crop failure</td>
<td>39</td>
</tr>
<tr>
<td>death of livestock.</td>
<td>26</td>
</tr>
<tr>
<td>lower profits.</td>
<td>33</td>
</tr>
<tr>
<td>housefire</td>
<td>2</td>
</tr>
</tbody>
</table>

N=769

Note: Respondents can report more than one shock.
References:


Crisis, Social Ties, and Household Welfare:

Testing Social Capital Theory with Evidence from Indonesia

Anna Wetterberg*
June 7, 2004

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THE WORLD BANK
1818 H Street N.W.
Washington, D.C. 20433, U.S.A.
Phone : (202) 438-1876
Fax : (202) 522-1557/1580
e-mail : books@worldbank.org
website : www.worldbank.org

THE WORLD BANK OFFICE JAKARTA
Jakarta Stock Exchange Building
Tower II/12th Fl.
Jl. Jenderal Sudirman Kav. 52-53
Jakarta 12910
Phone : (6221) 5299-3000
Fax : (6221) 5299-3111
website : www.worldbank.org