

Social Capital, Market Interaction, and Income-generation Capacity

An Analysis of 2 Villages in Semi-rural Siem Reap Province, Cambodia

By Hart Feuer
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The Ch'rieu commune chief, and Krosang and Veal village heads

Advisor: David C. Stifel, Economics & Business

Readers: Dan F. Bauer, Gladstone A. Hutchinson, and Jerome F. Heavey

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ABSTRACT

The amount of research concerning the role of social capital in economic development has grown immensely in the previous decade, but measurement and usefulness of the concept still remain very pervasive and inaccessible to policy makers. This work departs from others on the topic of social capital because it differentiates between the collective capacity of shared social networks spurred on by norms and values and those social relations propagated by interactions in the market. Using household data collected in two villages in semi-rural Cambodia, this paper shows that market interactions are an embedded aspect of everyday social relations in the village and enhance the ability of social capital to meaningfully contribute to income. Social market interactions directly contribute to livelihood through improvements and dedication to personal business and contribute indirectly through an enhancement of social capital that capitalizes on group efficiency. Specifically, group efficiency is maintained in the short-term by the survival of the limited-group morality currently existing in the villages. Policies and participatory programs intending to improve the basic social behavior contributing to rural productivity should develop a local environment that draws upon established social structures and encourages mechanisms for enhancing communications with marketplaces and other communities.

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PART I – INTRODUCTION

With the increasing liberalization of Cambodian markets since the end of the Vietnamese occupation in 1989 and the increasing monetarization of previously informal dealings, new employment opportunities and new methods of making business have rendered some reciprocal village practices obsolete and encouraged villagers to develop new ones.¹ As foreign aid continues to flow into villages, the local economic demographic and behavioral patterns are often altered even further. Within the social sciences, the concept of *social capital* has been increasingly espoused as a way to empirically capture some of the social characteristics of a community that influence mutual behavior and collective action. In an attempt to capitalize on a more tangible aspect of an otherwise still abstract and inadequately understood concept, researchers have recently begun discussing the relationship between social capital and peoples' business practices and entrepreneurial success. Although many donors are now willing to supply aid to social activities with the expectation of indirectly enhancing economic development, practitioners have struggled to assemble coherent policy suggestions. Avenues for enacting policy relating to business relationships are clearer and more numerous. The primary aim of this study is to determine how business contributes to social capital, and in turn, how social capital contributes to the success of business and the capacity for income generation among households in semi-rural Siem Reap.² I expect higher levels of market interaction to directly contribute to income generation through more dedication to business and to contribute indirectly through an enhancement of social capital that capitalizes on group efficiency.

Currently, very little literature has surfaced that empirically explores this relationship on the household level, although some have conceptually framed a model to do so (see Platteau 1994a, 1994b). Research has focused on aggregate levels and trading relationships, and other models indirectly cover the topic. In the context of rural Cambodia, literature that contributes or complements this discussion is scant. Based on a review of the available economics, anthropological, and sociological literature that exists on social capital, market interaction, income measurement, village life, reciprocity, and conflict resolution in Cambodia, I tailored a questionnaire and data gathering technique suitable to the conditions in the region. In this report, I present the results from interviews and fieldwork conducted in Krosang village and Veal village during the summer of 2004.

PART II – LITERATURE REVIEW

Social Capital

Social capital is implicitly understood to describe the tendency of community-wide social characteristics, such as trust, norms, and values, to influence individuals. By name, it

¹ During the Khmer Rouge period (1975-1979), money was banned. After 1979, rice was the primary currency in Cambodia. During the first five years of the Heng Samrin period (1980-1989), gold (measured in Chi) became the common currency. The Cambodian Riel, American dollar, and Thai Baht have only in the past two decades become universally used.

² An area is semi-rural if it generally exhibits rural characteristics but is located within the immediate vicinity of or is heavily influenced by a neighboring urban center.

seems to tie together economics and more qualitative-oriented fields. The term itself debuted in the 1980's with the seminal works of Coleman (1988), Granovetter (1985), and Putnam, Leonardi, and Nanetti (1993).³ Although much of the early literature came from social sciences other than economics, such as sociology and anthropology, the debate over social capital within economics began soon thereafter. The founding authors were primarily building upon existing literature on the topics of social networks, informal contract enforcement, trust, norms, ethnic heterogeneity, reciprocal exchange, and institutions. Social capital emerged as an attempt to synthesize these theories into a coherent framework that could help to explain issues of governance, income-generation ability, and community capacity. For a period stretching from the end of the 80's to the mid 90's, most of the literature (beginning with Putnam 1993) found social capital to be a predictor of economic success. Economics research followed not long after, covering issues relating to associational behavior and household income (Narayan and Pritchett 1997), information transfer (Barr 1998), and business connections (Fafchamps 1998). More contemporary work is often more critical of the supposed positive effects of social capital. Based on a study of 49 communities in the Peruvian highlands, Wiig (2003) finds that traditional cooperation techniques, which are major contributors to social capital as we understand it, have no significant effect on the average income level of the community. The debate over the effects of social capital is clearly still underway.

Since the original characterizations provided by Coleman (1988) and Putnam (1993), the definition of social capital has undergone many changes. Putnam and Coleman generally define social capital as a positive group externality dependent upon associational behavior. Fukuyama (1995; 1997) highlights the role of trust in development and asserts that only certain behaviors and shared norms, such as compassion, altruism, and tolerance should be regarded as social capital. Knack and Keefer (1997) put it in terms of trust and civic cooperation. Putnam (2000) later shifted his definition to assert that interdependence arises from behaviors of reciprocity and trust. Discussion of the definition then began focusing on the relationship *between* the actors and not the actors themselves. Ostrom (2000) stresses the importance of shared knowledge and recurrent activity. Lin (2001) defines it as the resources embedded in the social networks that are accessed by the actors. As yet, no definition has been agreed upon and the term continues to be shaped by the discipline and by the situation to which it is applied. In general, controversy focuses around the role of trust, the negative effects of social capital, policy implications, and on the superfluous discussion about whether social capital is truly capital (e.g. Adler 1999; Grootaert 2001).⁴

Although there are advantages in terms of inter-disciplinary adaptability of having a fluid definition to social capital, this has complicated the establishment of a concrete or semi-concrete theoretical framework. The discussion still persists about whether to view social capital from the bottom-up (starting with individuals) or the top-down perspective (institutions and government as enablers of social capital) (Ostrom 1994; Woolcock 1998). Whether one defines it in terms of networks (vertical and/or horizontal), norms, trust, associability, or any combination thereof, has significant implications for the assembly of an appropriate model. More general models have placed social capital within a "motivation-opportunity-ability"

³ Woolcock (1998) asserts, however, that Lyda Judson Hanifan (1920) and Jane Jacobs (1961) were the first proponents of the modern concept of social capital.

⁴ Comparing the definition of social capital, which is still being debated, with the highly diverse definition of "capital" has spawned a great deal of (relatively) unhelpful debate.

scheme (specifically, see Adler 1999). In this model, the three conditions that make up the name must be met in order to make social capital effective. Adler (1999) analogously placed social capital (motivation) in reference to human capital (ability) and working capital (opportunity). In general, this is the view shared by most practitioners. Social capital is also commonly seen as a passive influence that lies dormant and must be leveraged (by leaders, for example) in order to have its effect. This clouding of the assumed incentive structure of social capital further complicates the drawing of a relationship between social capital and other development indicators.

Without a concrete definition or solid framework in place for social capital, it is natural that choosing a method of measurement has been equally elusive. In general, a quantitative method has been used by economists while a qualitative method has been preferred among other social capital stakeholders (there are exceptions, such as Narayan and Cassidy 2001). At first, the clear choices for quantitative data sets were long-standing surveys such as the World Values Survey (WVS) and the United States General Social Survey (GSS). Although these surveys were built to gather the relevant data, they were clearly not designed for the rigor of econometrics, and their strength lies primarily in the large sample size. Knack and Keefer (1997) acknowledge the major disadvantages of the WVS, such as translation difficulties, sampling error, and response bias, but nevertheless continue to use it. Putnam (1995) similarly makes use of the WVS and the GSS in his controversial claim that social capital is waning in the United States. Other researchers have simulated trust and social capital using game situations (Glaeser et al. 2000).

More contemporary work tends to employ independent surveys. The most prominent have been formulated under the auspices of the World Bank, including those from the Social Capital Initiative (SCI) (Grootaert and van Bastelaer 2002), the Social Development Department (Social Capital Assessment Tool (SOCAT), Grootaert, Chase, and van Bastelaer 2003), and the International Bank for Reconstruction and Development (IBRD) (Grootaert, Narayan, Jones, and Woolcock 2004). The measurement techniques produced by the SCI (which include qualitative and quantitative methods) have been field tested in many countries, and have provoked valuable discussion about the appropriate methods for data gathering. In the meantime, some practitioners have been experimenting with unorthodox data gathering techniques and have been testing the limits of the concept.⁵ Some measurements continue to make use of pre-existing survey data, but rearrange and combine the results to extract the social capital components (e.g. the Social Capital Matrix of Surveys of National Statistics Britain, Ruston 2002). In general, the trends emerging from the rash of measurement tools indicate that the following aspects or dimensions should be considered:

- Groups and networks
- Social interaction
- Violence and crime
- Identity
- Communications capability
- Trust

⁵ I refer specifically to the work of Bullen and Onyx (1998), in which more symbolic questions such as “If you were to die tomorrow, would you be satisfied with what your life has meant?” to capture social capital.

Other studies on social capital have divided social capital more broadly and recognize it through a cognitive and a structural perspective (Krishnamurthy 1999). The cognitive aspects include self-help, cooperation, reciprocity, interdependence, coordination, charity, tolerance, and trust. The structural perspective looks at the concrete elements of social capital, such as events, networks, and associations (Sedara 2001, p. 26).

The particular mode of data gathering is purposefully not specified in the most current literature (see especially Grootaert et al. 2004), reflecting a strong inclination toward region- and situation-specific adaptation. Early measurement schemes were standardized and assumed a high level of universal behavior. The unexpectedly strong contribution of individual culture to social capital is only now beginning to be considered in any appreciable manner. The Barometer of Social Capital (BARCAS), for example, was designed exclusively for, and implemented in, Columbia (Sudarsky 1999).

Along with the shift towards more adaptable measurement, the social capital movement in economics has increasingly become critical of itself, citing the theoretical and empirical flaws that have plagued many studies and begun to propose solutions to them. Specifically, authors are systematically discrediting the assumed positive effects of social networks. Durlauf and Fafchamps (2004) uncover the undesirable elements, such as exclusionary behavior and inequality, produced by some networks and highlight the other negative responses that increased social capital can elicit. Annen (2000) finds that the relationship between the size of the network and the benefits accrued continually declines and often becomes negative. Uzzi (1997) finds intra-network feuding and unsustainable hierarchies to be major vulnerabilities to networks. Some fundamental flaws that threaten to undermine most statistical analyses thus far have also been exposed. Specifically, Durlauf and Fafchamps (2004) note the absence of any controls for leadership and institutions. They also question the choices made by many economists in their choices of instrumental variables. Collier (1998) remarks that the effects of social capital must be persistent for it to be considered truly capital and truly beneficial. The discipline seems to be caught between a desire to backpedal and mend the conceptual foundations of social capital and the desire to forge ahead with measurement and research and put social capital to operational use.

Despite the burgeoning literature and enthusiastic support by national governments and international development organizations, the continuing ambiguity surrounding the definition, measurement technique, and role of social capital has highlighted the rough transition in development economics to a more anthropological approach. The initial excitement that led many to make large claims about social capital has more or less subsided. More contemporary literature (Dasgupta 2002; Glaeser et al. 2000; Grootaert 2001; Fafchamps 2002; Manski 2002) focuses on far more specific topics and recognizes the limitations of the concept. The infancy and malleability of the concept have, however, been fruitful, in that many disciplines have been able to adapt it to their particular style of research, while maintaining an overall sense of interdisciplinary accord. In the future, this may enable sometimes disparate fields to integrate their work more successfully and learn from each others' experiences.

Market Interaction

“The most honest relationship you can have in [Cambodia] is a business relationship.”

Market interaction, in this study, is defined as the degree to which one's business has permeated into one's life. It is part and parcel with social capital because the aspects of one's life that are influenced by business often (if not always) exist within the domain of social capital. For example, friends who one met on the job, neighbors with whom one made an investment, regular traders with whom enduring and profitable business relationships arise, etc. At the same time, market interaction is also independently a predictor for success in business. The discussion about the relationship between trust and social capital parallels the discussion between market interaction and social capital. Some authors equate trust with social capital (Fukuyama, 1995, 1997); some see trust as a source of social capital (Putnam, 1993); some see it as a form of social capital (Coleman, 1988). Market interaction relates similarly with social capital—it remains at the same time a part of social capital, a contributor to it, and/or a proxy for it. Research looking at the German and Japanese experience points out the large benefits of strong and trusting inter- and intra-firm relationships (Moore and Miller 1994). In the context of developing countries, where transactions that were once rooted in tradition and social reciprocity are now becoming monetarized and calculated, it is likely that the market interaction element of social capital is gaining more influence.

Most of the discussion about market interaction in the context of social capital surrounds the topics of reciprocity, cultural norms and work ethic, labor-sharing, informal contracts, and trader relationships. Krishna (2001) finds that association leaders and patron-client relations are the most important attributes of market success. Fafchamps and Minten (2002) and Fafchamps (2003) look at traders in Benin, Madagascar, and Malawi, concluding that the number of business associates is positively correlated with sales, value added, and the level of trust in their relationships. Certain informal methods of contract enforcement have been shown to be a possible, viable, and Pareto-improving option for poor peoples, although enforcement is less effective with increasing size of the network of stakeholders (Annen 2000; Fafchamps 1992; Fafchamps and Minten 2001). A promising theory describing why some contracts arise and others do not was developed by Dubois (2001). He contends that, in some situations, such as rice cultivation, the potential outcomes of the investment (harvests, in this case) are foreseeable (the "states of nature" can be verified), while in others, such as in the provision of health insurance, the potential outcomes (future health problems) are discouragingly infinite.

Similar lines of research propose to use social capital to mitigate externalities and model the investment behavior of poor people (Hogset 2002). Discussion has also centered around how much trust is needed to have successful markets and how much trust is necessary to maintain sustainable inter-firm relationships (Humphrey and Schmitz 1998). While these studies are well-researched and persuasively argued, they paint only a small picture of the overall relationship between market interaction and social capital.

The most comprehensive work on social behavior and markets, pioneered by Platteau (1994a, 1994b), argues that markets are culturally framed and internal to a community (or society). In his view, market interactions permeate deeply into personal life and sometimes open up avenues for entrepreneurial and social success. In the scope of development in small-scale, usually rural, societies, Platteau (1994a, b; 2002) acknowledges that due to the small network size and the near-perfect information transfer system, a bilateral reputation mechanism (among

⁶ See Ollier 2004a

kin) and a multilateral reputation mechanism (among good friends) is sufficient to regulate and drive markets (also see Ostrom 1990 and Granovetter 1985). However, Platteau (1994a) argues that small-scale systems of information and market transfer must eventually make way for a “generalized morality” that guides transactions of a more anonymous nature once the size of the community or market becomes too complex or large. Granovetter (1985) argues along similar lines, however contending that markets are embedded so deeply in the social fabric of a community that limited-group morality, or tight-knit networks that are limited in size, is all that is necessary to regulate and enhance the market sphere.

A critique of Platteau (1994a, b) which very closely parallels the topic of this study, argues that social relations underlying market interaction contribute to economic success and play a role in the assembly of an informal morality that helps to guide economic activities in the community (Moore 1994). Wiig (2003) substantiated a portion of this claim in his work entitled “The Productivity of Social Capital,” which persuasively shows that deeper integration of the market into the rural Peruvian society and social networks gave rise to more innovative cooperation techniques and resulted in positive income effects.

The literature on this topic thus far has three major gaps: (1) it has yet to move into the household level, (2) it has yet to integrate itself with social capital, which is arguably where it fits in the best, and (3) there has been very little discussion about how to measure this effect and make it applicable to the majority of needy candidates: farmers.

Cambodia

Literature covering rural economic issues and social development in Cambodia is lacking, reflecting the funding biases toward post-conflict studies and urban development projects. Because much of the available research demonstrates these biases in some way, it is necessary to remark on the topic. I will then proceed to discuss the existing material on rural Cambodian life, reciprocity, Cambodian Buddhism, and conflict resolution.

Writings on Cambodian development invariably begin with an anecdote about the lingering influences of the Khmer Rouge era, either by highlighting the direct effects of the war, by relating it to the United Nations Transitional Authority in Cambodia (UNTAC) period, or by relating it to the 1997 coup and the continual state of insecurity in Cambodia. Instead of contextualizing contemporary writing in Cambodian history in a beneficial manner, conflict has instead become a framework or lens by which everything else is interpreted. The international community has remained focused on the war while the Cambodians themselves have, in many ways, moved on. This has manifested itself in three primary ways: (1) the strong call for now-belated Khmer Rouge tribunals, (2) personifications of Cambodia as continually suffering from “postholocaust syndrome,” and (3) countless development projects that have struck out to capture the imagined effects of Cambodia’s conflicted history (Doyle 1998).

Many prominent writers on Cambodia lament that the injustices of the Khmer Rouge have not yet been formally addressed. The Nuremberg Trials in Germany and the Peace and Reconciliation process in South Africa are often put forth as both a solution and a model for Cambodia. According to this view, the specter of the genocide will continue to bedevil the political and electoral process unless it is dealt with in a “formal” way (Ashley 1998; Doyle 1998). After UNTAC organized the democratic elections in 1993, a strong belief permeated the international donor community that democratization was squarely underway and that economic prosperity would now lead to political harmony (Brown and Timberman 1998). I argue that

these two views have shifted the focus away from the present development hurdles in Cambodia, preferring instead to look in the past and towards the future. In my view, the primary hurdles are: the widespread tolerance for government injustice and corruption, illegal logging and other looming environmental hazards, the lack of free press and information dissemination (one exception is the *Somme Thmei* newspaper, which debuted in May 2004), and Cambodia's dependence on and misappropriation of foreign aid (e.g. Tith 1998; Talbott 1998; Hay 1998).

With few exceptions, all authors and development institutions who make mention of foreign aid acknowledge that most funding is directed to urban areas, while the gross majority of Cambodians live in rural areas (e.g. World Bank 1994). The need and demand for research in the rural area is very high and growing. Fortunately, performing economics research on social capital in the village setting is relatively manageable, due in part to the relative homogeneity of social structures and behavioral patterns (Ebihara 1968). Rural life in Cambodia is also at a critical juncture, where market forces are beginning to change the face of personal and community interactions (Krishnamurthy 1999; Colletta and Cullen 2000, p. 29; Ledgerwood 1998; Sedara 2001; Oveson 1996). This study is primarily concerned with the current position and evolution of the community social structure, reciprocity and mutual behavior patterns, and market forces in Cambodia.

Measurement of social capital in Cambodia has been limited to the findings of the Social Capital Initiative and the Social Services of Cambodia. The survey developed by Krishnamurthy (1999) to measure social capital in Cambodian villages is highly qualitative in nature, although it is easily adaptable to a quantitative research. Similar to the focus of many social capital measurement tools, the survey focuses on community events, associations, and informal networks. It is, however, expanded to capture to the unique Cambodian experience and includes analysis of village leadership and links with external agencies (NGOs, businesses, or otherwise).⁷ Sedara (2001) warns, however, of the deceptive invisibility of Cambodian reciprocal patterns, noting that there is an absence of institutions that form the Western notion of "civil society" (Sedara, p. 9, 12).

In her research, Krishnamurthy repeatedly came across the influences of new market forces and the monetarization of previously informal dealings. She remarks that such influences, among other things, were causing a decline in mutual help and makes a strong call for further research on this topic. Such references to declining social capital have permeated deeply, and often mistakenly, into the literature about the Cambodian peasant experience. Viviane Frings (1994), for example, comments how deeply and negatively opportunistic Cambodians have become.⁸ In his study *When Every Household Is an Island*, Jan Oveson (1996) also clearly states that the liberalization of the economy is to blame for deteriorating social solidarity.⁹

⁷ Krishnamurthy (1999) also includes a guide to determining the relative incomes of villagers using an asset-based approach. A variant on this method will be used in this study. Credit is also due to Ebihara (1968), pp. 195-196, who first established this rubric. The method for empirically establishing the income rankings has recently been refined by Sahn and Stifel (2003) and Rao (2003).

⁸ John Vijghen cited in Viviane Frings (2004), pp. 50-66.

⁹ See Oveson (1996), pp. 66-67. Also see Curtis (1998), p. 125.

Villagers themselves respond neutrally to the topic, explaining that monetarization has made transactions stricter, although has not particularly hindered them (Krishnamurthy 1999). In any case, many of the informal networks have remained unaffected. Family, friends, and oftentimes neighbors do not charge interest; frequent trading partners often reduce transaction costs by operating without any written documentation; and communities sustain informal policing mechanisms in the face of inadequate authorities (Krishnamurthy 1999; Colletta and Cullen 2000, p. 75). Displeasure over the claims about the declining solidarity in the villages has fueled “survival” theories that interpret this perceived decline as owing to limited resources and not to a lack of concern for neighbors (e.g. Ebihara and Ledgerwood in Ledgerwood 1998).

Although mutual help may be declining *in some cases* in the village community, the value of the new business networks forged in the process may be replacing the traditional role of informal reciprocal behavior (Colletta and Cullen 2000, pp. 29, 31). There is some indication that loans between non-kinsmen are more common now than before the Khmer Rouge era (Ebihara 1968, p. 175). Although there has been some informal discussion about the effects of market liberalization, it is yet unknown whether it will have a positive effect on economic development or merely diminish the solidarity of pre-existing village networks. Confusion over this finding has given rise to the concepts of generalized versus personal trust and generalized versus balanced reciprocity. Generalized trust describes the amount of trust “floating around” that requires no familiarity with a person to access; generalized reciprocity exists when compensation for work is only loosely defined. Personalized trust is trust that exists between people who know one another and balanced reciprocity describes strictly *quid pro quo* transactions (Portes 1998; Putnam 1995; Uzzi 1997; Sedara 2001, p. 52; Sahlin 1972, p. 220). Acknowledging the operational effects of these concepts has important implications for measuring and interpreting the effect of social capital.

The effect of Buddhism, which can be felt strongly in almost all Cambodian villages, plays a role in enhancing generalized trust and generalized reciprocity. Many of the effects of the *Wat* (Pagoda) are tangible, such as community-wide funeral assistance, investment in education, large cultural ceremonies, and *Wat*-sponsored cooperative work projects (Zadek 1993). But many influences are hidden and depend on the strength of the individual’s beliefs, his or her free time, and level of education. Buddhism accepts modern market conditions and acknowledges that this involves processes of negotiation, trading, acquisition of capital, and so forth. At the same time, Buddhism challenges the individual (and society as a whole) to maintain Buddhist values when performing these actions. All manner of reciprocal exchange activities in the village or in the family can be viewed as “making merit” for one’s present and future life and are therefore directly encouraged by the *Wat* (Sedara 2001, p. 84). It seems imperative to view Buddhism as both a formal institution that the community is shaped by and an informal institution that indirectly causes community members to regulate their mutual behaviors (North 1990, p. 4).

PART III – THE STUDY

Village Demographics – Veal and Krosang

Krosang village is located 4 kilometers southeast of the town of Siem Reap and shares a border with Veal village, which is located 2 kilometers further. Krosang is home to 162 households, while Veal contains around 260 households. The primary ethnicity is Khmer and

there are only a handful of (reported) Chinese residents. In both villages, approximately 50% of the houses are accessible by 4-wheelers on average quality dirt roads, while the remainder of the households are accessible by motorbike or bicycle. The villages are primarily agricultural, although some residents are afforded jobs in the town of Siem Reap. These jobs include construction work, jobs in the market of *Psar Leu*, taxi service, restaurant work, and other tourism-related industries. There are no or very few trades, such as wicker, palm, or souvenirs, in either village.

Based on schooling data, literacy among household heads is estimated to be 20%. Of the population of 7,459 in Ch'rieu commune, where Krosang and Veal are located, 3% are reported disabled (primarily land mine injuries), 5% are over the age of 80, and an additional 5% are divorced or widowed women. Since 1998, the population has been increasing as a result of migration from Phnom Penh city, Kompong Cham, and Kompong Thom provinces. The sale of land to these newcomers has been at the center of much debate in the commune, although the general consensus is that the effects thereof have been neutral or positive (Bo 2004).



Ch'rieu Commune Health Center

Basic services in the villages are not particularly extensive, but nor are they poor. Most households in both of these villages use candles and battery-powered bulbs for light and use firewood for cooking. Almost all families have access to a sealed well (most of them built by NGOs) and rarely contract water-borne illnesses. Most families own at least half a hectare of land and therefore sanitation is not currently a problem. An extensive

and well-maintained irrigation system left over from the Pol Pot era exists on the main roads in both villages. For families who own a cellular phone (19%), radio (56%), or television (75%), reception and service is very good.

The primary organizations that have operated or are currently operating in both of these villages are Agrisuit, Save the Children Norway (Redd Barna), the Association of Cambodian Local Economic Development Agencies (ACLEDA), and the UN Food and Agricultural Association (FAO). Primary associations existing in the villages include the *Wat* association, *krom samaki* (cooperative farming), neighborhood committees, *provas dei* (work sharing), health groups, and *krom chan chnang* (pots and plates association). The



Veal Market Area

rice bank set up by an NGO in 1993 collapsed in 2002 as a result of the death of the manager and growing incidence of default. Five traditional music groups exist in the commune, all of which are now working for the Cambodian Cultural Village theme park or large hotels in Siem Reap town. In both villages, almost all residents are Buddhist and those who actively involve themselves with the pagoda all go to *Wat Prin*, which is located in Krosang village. The main primary school (*Ecole Primaire*) and health center (*Shreav Health Centre*) are located in Veal

village. A community-wide effort to build a kindergarten in Veal village is scheduled for completion by the end of 2004.

Perhaps due to its larger size compared to Krosang, Veal has a central market area, where a few restaurants and produce sellers assemble daily. Both Veal and Krosang have designated meeting halls and have a performance area for special events, apart from the *Wat*.

Interviewing Method

An extensive household questionnaire and demographic-oriented village head questionnaire were assembled especially for gathering data in this location. The content of the questionnaires is based on similar documents produced by the World Bank, National Statistics Britain, the Cambodian Social Services, and other independent practitioners. Based on interviews with local experts (especially Luco 2004), the surveys were then tailored to fit with the unique social and demographic situation in the semi-rural Siem Reap region, and then translated to facilitate the interview process.¹⁰

Respondents are the primary breadwinners and often their spouses in a random sample of households from Veal and Krosang. Interviews were conducted in Khmer by an interpreter at the interviewees' dwellings in order to keep the process comfortable and consistent. Typically, at least a few of the family members would observe the interview and often add their own comments (or corrections!). Generally, this was interpreted as a positive effect, since it would diminish the likelihood of the respondent to deliberately give false answers. Sometimes this was a negative effect, because respondents may not have felt comfortable publicly revealing their opinions on certain issues. The commune chief cautioned sternly against taking as truth the villagers' assessments of the community. Based on experience, he claims that villagers tend to project small or personal issues onto the village as a whole (Bo 2004).

PART IV – A GENERAL MODEL OF SOCIAL CAPITAL AND MARKET INTERACTION

The suggestions made by Frings (1994) and Ovesen (1996) that rural Cambodian families are “atomized” and do not interact frequently or meaningfully with the village as a whole is not entirely true. Most respondents (67%) have at least one good friend outside the family, although they report spending a median of only two hours each week socializing. However, with the exception of mealtimes, when members of the nuclear family eat by themselves, the villagers are frequently and casually socializing throughout the day. It is very common for close neighbors and their children to visit frequently and without appointment. It is evident that villagers underreport their social behavior. A resident of Veal village with many visitors, explained the phenomenon in this way:

“I think Khmer people like to talk a lot. Unless someone has stolen from you, he is usually allowed to visit your house [...] There are some people who make good jokes, or maybe their

¹⁰ I would like to credit Mr. SENG Sary, Ms. TAN Sodany, and Professor Michael Vickery for their generous help in translating this document. I give special thanks to SENG Sary for serving as my tireless interpreter.

houses have good Feng Shui.¹¹ People like this often get many visitors. I am proud to say I have such a house.” – Mit Suy, age 41

Children freely roam the village and are often watched and, with the exception of feeding, are taken care of collectively. In this province, it is customary for children to return home from school during lunchtime to eat. Throughout the day, children assemble at various locations in the villages to play and socialize. Sometimes these groups can become as large as thirty to forty children. A villager whose house is located at a crossroads where children often meet, neutrally described his opinion about this:

“The children always meet here. I can’t change that. And because my children are often with them, they come rest under the shade at my house. But they never ask for food. Everyone in the village has time, but no one has money to feed other peoples’ children.” – Son Wuon, age 45

Despite the regular social interactions of the adults in the villages, there is reason to believe these relations are only superficial. Few household heads report having good friends within the village and only consider childhood or wartime friends to be good friends. The majority of respondents (78%) agreed with the statement “people here look out mainly for the welfare of their own families and are not much concerned for the community” and almost no one believed a neighbor who found lost money would return it to the owner. However, the weak perceptions of the villagers about the depth of their relationships belie the cohesive associational behavior surrounding the *Wat* and other formal associations. While villagers generally lack formal associations, such as clubs, social groups, health groups, and cultural groups, they are all, with little exception, active members of the *Wat*, an institution which integrates many of the individual purposes of these associations into one encompassing and authoritative association. One of the local policemen in Krosang village with many friends, described villagers’ social behaviors very clearly.

“I think some people don’t want to have good friends because they will ask for money or food. If they understand that one can also ask one’s friends for food, they would take more friends. For people with not so many friends, they can always find help at the *Wat*.” – Hal Huon, age 36

Oftentimes, villagers would have difficulty discriminating between a specific association, such as the Association of Pots and Plates, and the *Wat*. The specific roles of some associations are so integrated into the workings of the *Wat* that the two are indiscernible. Within the Theravada Buddhism practiced in Cambodia, the *Wats* are encouraged to formally or informally provide social services, such as education, counseling, and medical help. Although *Wat Prin*, the local temple, now provides only spiritual guidance, villagers generally agree that it can serve as a safety net if truly necessary. The *Wat* is also underappreciated as a place for socialization and community organizing. The secondary purpose of the ceremonies at the *Wat* is to provide a backdrop for solidarity building.

“In this commune, only a few people go to the *Wat* for small holidays [about 50 each year], but everyone goes to the big holidays [about 10 each year]. I always use this time to make big

¹¹ A method for arranging one’s house that maximizes the occupants’ spiritual health.

announcements, ask peoples' opinions, and get help fixing problems. Years ago, I organized an education group at the *Wat* and now we are close to finishing the Veal kindergarten. But mostly, people come to the *Wat* without any goals or any planning. People will talk a lot and sometimes enough people will complain about something, that they will come together and fix the problem. I am very proud of my people when they do this but I wish they would do it more." - Vuon Sim, Ch'rieu commune chief, age 52

Beyond the *Wat*, there are other formal associations. A few families have organized themselves into health groups that share the costs of emergency treatment. Some are members of local festival or burial societies. Other sporadic neighborhood committees were established to deal with land disputes, road maintenance, and local politics. And a mere handful participates in local NGO-sponsored information campaigns. Due to the market for traditional musicians in Siem Reap, five separate music groups have evolved. Members of these formal organizations claim to be very positively effected by these groups.

"Last year, [my] daughter was bitten by a snake while working in the rice fields. We took her to the hospital, but they did not have the treatment. So we had to hurry into Siem Reap to the provincial hospital. I spent 120,000 riel (\$30) on the treatment and my daughter barely survived. My husband was very mad at her for being bitten and even scolded her while she was very sick [...] The next morning, three of the families in our health group came and each gave us 30,000 riel and some strengthening herbs for my daughter. We were happily surprised. Since that day, we have brought two more families into the group." – Choun Noun, age 39

As with formal social associations, membership in market organizations (cooperatives, trader associations, rice banks, credit groups, etc.) is not a virtue of Khmer village lifestyle. Many villagers were members of a rice bank organized by Redd Barna until it failed in 2002. Some villagers still practice *krom samaki*, a form of cooperative farming introduced by Khmer Rouge. And others are involved in trade-specific associations, such as fishermen groups. However, it became clear that the roles of many of the market associations have an equivalent within the "culture" of the village and require no formal organization. Even with a formal name, *provas dei* (work-sharing) is not usually reported as an association and must be directly probed for. In a relatively uncomplicated agricultural society, market organizations such as these are not as meaningful as personal business contacts. More anonymous (non-family) business contacts are correlated with a smaller incidence of produce inspection, which could be counted as a reduction in transaction costs as well as an increase in generalized trust.

"My husband was very clever. He used to borrow rice from the bank for very cheaply during the harvest, when the price was low. We would eat this rice until the price for rice went back up and then sell our harvest. We would always make enough money to pay back the loan and buy vegetables for the whole year. Now we have to eat our harvest and we don't make as much money." – Da Tmei, age 63, wife of Keo Rouern

A study by Rao (2003), which focuses on community driven development (CDD) in the creation of social funds, finds that although people can be satisfied with the results of the instituted program, independence from the "mother" of the program (usually the NGO) often means an end to community participation. The study also acknowledges that it is much easier to

empower leaders and powerful community members than to enact change collectively. Although this may be effective, it comes at the risk of indirectly encouraging abuse of power and, possibly as a result, furthering inequality. This is especially worrisome in the context of Cambodia where an amount of corruption among leaders is tolerated and expected. Although the current village heads have good reputations, one villager (Seng Duke, quoted below) related that this was not true of their predecessors. There is an informal consensus among Khmers and some experts (see interviews with Luco 2004, Ollier 2004b, Vickery 2004) that democratic ideals of participation and ownership are not yet rooted in Cambodia and that successful projects, as Rao fears, lose momentum upon departure of the NGO. The closure of the rice bank both supports and refutes this theory. Although Redd Barna was able to leave the rice bank in local hands, the bank failed when the individual trained by the organization to manage it died.

Most villagers are not members of a formal group and rely on the heightened liberalization of the community to provide for their diverse needs. This means that individuals (or families) act with a strict self-interest that collectively manages to regulate community behavior and services. If informal regulation fails, the *Wat*, *chas tum* (elders), or *me puhm* (village head) can, and often do, intervene. Furthermore, there seems to exist a strong limited-group morality that is far advanced of what social capital theory would predict for a community with such a low density of networks and limited means. Most villagers (90% or more) report trusting their neighbors, teachers, doctors, and local leaders a bit or a lot and 75% of villagers report their village to be safe or very safe and would have no fear of walking around after dark. And furthermore, more than 90% of villagers believe that someone in the village would help another, if they had the capacity to do so.

“People don’t want to say that they will help anyone or else everyone would ask them for something. But the reason I say there is always someone to help in this village is that no one ever gets abandoned.” – Bun Ri, age 48

“I have a mysterious illness and the doctor says there is nothing he can do. But he did not charge me. I am only 47 years old but everyone thinks I am 60 and so they are nice to me and treat me like an elder. This family has been very nice to give me a small place to put a house and helped me build it. My brother helps me some, but not as much as these children. They make the suffering less.” – Kong Oern, the only destitute in Veal village

Although other avenues for emergency support exist, such as the *Wat*, villagers primarily rely on family for support. Most loans taken and given involved family members, and, in most cases involving family, no interest was paid. 97% of respondents replied that family would help them in times of need. A large and strong network of relatives enables a couple to net a large sum of money at the wedding. Based on data about the last marriage in the family and discussions with the villagers, the trend appears to be that wedding money helps the new couple establish a homestead and feel insured but does not predict long-term support or financial success.

“After a wedding, the couple has to make a decision between a big house with a small piece of land or a big piece of land with a smaller house. I always encourage newcomers and married

couples to buy more land because they can improve their house later. But many people do not take my advice and then cannot grow as much rice.” – Toye Chun, age 40, Veal village head

Given the relatively small social role of *Wat Prin* (at least in the context of Cambodia), it is expected that strong leaders have evolved in these villages to compensate. The village heads (*me puhm*) are generally considered to be effective and are looked up to by the people, especially considering their contribution is largely a public service (Luco 2002, p. 132). The two villages chiefs have involved themselves in at least twenty communal events over the past year. Villagers report that they trust their local government (90%) and almost all of the interviewed villagers believe the village head would be helpful in solving disputes. Overall, 80% of villagers are confident in the leadership and integrity of the village heads and commune chief. The village heads as well as the commune chief are very humble, and live as any other villager in the commune. Their modest income from the government is generally acknowledged to be inadequate compensation for the labor involved.

“Our village head is the best we have had since I moved here 25 years ago. He is the first village head I can remember who has not stolen money. And when people are confident that their money is not wasted, they give more.” – Seng Duke, age 52

With the gaining popularity of the participatory or decentralized approach to development among international aid organizations, local leaders are often approached to coordinate development efforts due to the efficiency of interacting with a single spokesperson. Many programs have shown and many practitioners have pointed out that this risks development efforts being “hijacked” by the community elite. Platteau (2002) points out that this generally occurs where leadership has “parochial tendencies”—feelings of self-righteousness and elitism that stymie their abilities to empathize with commoners. Given that these tendencies are not found in the local leadership in Krosang and Veal (and likely many other Cambodian villages), it would be worthy to explore the potential of channeling resources through leaders in this region.

Although the villagers manage to regulate themselves, they do not necessarily encourage further development in the process. Based on a number of factors, such as lack of insurance, fear of the new procedures (especially in agriculture), and satisfaction with current income, the breadwinners in these two Khmer villages are neither particularly entrepreneurial nor interested in *artificially* large increases in their livelihood. Only one-third of the interviewed villagers would be willing to work harder for double the pay (akin to overtime pay) and only two-thirds would invest in something with a very good chance of making profit. All villagers, even those at the subsistence level or under, claimed to be satisfied or very satisfied with their income.

“I grow as much rice as my land gives me. Some years we live better and some years we live worse. But we never live poorly, even when we run out of rice and have to borrow. The commune chief says that this land can be used for dry-season rice. I will let my children decide if they want to grow that rice here. I am too old to learn.” – Chuon Noun, age 39

Besides potentially limiting income-generation capacity, this characteristic risk-averse behavior seems to be associated with a lack of sustainability in development programs, as alluded to above in our discussion of Rao (2003).

Insurance for most villagers is limited to small sums of emergency aid for planting, food, and other idiosyncratic shocks. Experimenting with a new business strategy or planting technique is not behavior that a given family's informal insurance network (generally the relatives) is willing to support or be indirectly responsible for. The unfamiliarity with basic business principles and institutions, which discourages villagers from taking appropriate loans and making some guaranteed investments in their business and human capital, represents one of the largest constraints to economic development. Most loans are taken out for house building, medical reasons, weddings, basic agriculture inputs, and for food. With the exception of the occasional investment in fertilizer, a motorbike, motor-powered plow, or commonly cultivated non-rice crops, which are hardly inventive or risky, villagers in Krosang and Veal do not invest in efficiency or future markets. The majority of respondents who declared they had not given or received business credit (deferred payment or pre-payment for delivery of goods) in the last year expressed that they were not familiar with the procedure at all and were suspicious of "business" (*ro'see*) in general.

"When I was young, the villagers used to change crops very often. Some families tried coconut, watermelon, *mapre*, vegetables, and sometimes people changed the type of rice when a new variety came from Battambang. We tried watermelon, but it wasn't so easy when we had to buy rice. But many others were very successful. And when the crop wasn't so good, they borrowed money or sold a cow and switched back to rice. Since Pol Pot time, only a few people have switched. Some people have not even switched back to the [profitable] crops they had before the war. Maybe they think Brother Number One is still watching them." – Vung Nee, age 65

Those who do make investments in business are often very successful. One villager partitioned a large portion of his land to grow watermelon and was very confident that he had adequately diversified his risk and made a solid investment. He estimates his crop will net him at least three times the value of producing rice on the same land. Unfortunately for many villagers who live at the subsistence or near-subsistence level, such risk-abetting opportunities are not available. The commune chief offered another explanation for the lack of entrepreneurial behavior in the villages:

"In the last six or seven years, the weather has been very strange. We have had good growing seasons back to back with very poor growing seasons. Four years ago, the villagers were very contented with their rice yields and spent their extra money repairing houses and celebrating weddings. But in the last three years, there has been a lot of flooding and many plots were washed away. Vegetables grew very well that same year and so I encouraged many families to make their plots into gardens. Only a few took my advice. The next year, when the floods were bad, I gave everyone the same advice, but no one listened. Everyone told me that rice was the safest thing to have in poor seasons and they tried to build up their plots. Now everyone is in debt and they won't even consider planting vegetables. There is a large market in Siem Reap. It is very frustrating. And now we have more animals becoming ill each year. People won't take a big risk if they are not sure they can sell their animals if they run out of money."

The commune chief is also critical of the recent incidence of land sales, lamenting that his most productive villagers have left.

“I understand why people sell their land. Because of Siem Reap, the price of land is high and one can buy a plot twice the size for the same amount in another village. I don’t blame people for leaving. But the best farmers are also the smartest and they were the first to sell their land. This farmer over here started growing vegetables two years ago and began making a lot of money. But he sold his land and moved to the north. Many people are doing this and now only the rice farmers are left! The villagers have no one to show them how to make good crops now. And the newcomers are no good. They are all businessmen from Phnom Penh and Kompong Thom. They work in the markets and don’t even have time to cultivate their land. Someone should work the land!”

The lack of improvements in agriculture in Veal and Krosang is a three-fold problem. Already in debt and concerned about the death of their livestock, villagers lack even the most basic insurance. Because of poor outlook for the growing season and ill-considered confidence in their rice crops, villagers are not willing to take a well-calculated risk. And since they lack models of successful investment in vegetables, there is a local deficit of information about the technology and investment procedures. Part of the dilemma is structural, while the other can be remedied with an adequate provision of information and change in perception. It is to this intersection between reigning social and market forces to which we now turn our attention.

PART V – AN ECONOMIC MODEL OF SOCIAL CAPITAL AND MARKET INTERACTION

The Partitioning of Social Capital and Social Market Capital

Looking back over the literature, it is difficult to reconcile the basic models of social capital that focus only on trust and collective action with the lessons from Wiig (2003), Platteau (1994a, b; 2002), and Granovetter (1985) about the underlying influence of the market sphere. Indeed, Platteau (1994a) remarks, “market logic deeply affects the way people relate to each other.” Given that people spend the majority of their waking life working or in pursuit of wealth, how could a comprehensive model of social capital not acknowledge the role of business? The assumption that variation in wealth and social capacity could be explained neatly by a few dimensions of social behavior, as exemplified in the literature, is too narrow. In modern societies, where the spheres of private and social life are often very separate, there still exist overlaps, such as job connections, family in business, and individuals who simply excel at networking. In the context of rural Cambodia, best friends, trusting coworkers, and personal sources for news are very often forged while conducting business. Furthermore, overall knowledge about local markets, personal capacity for income-generation, and strong support networks can all be advanced through social forays into the market.

In the patriarchal homogenous setting of rural and semi-rural Cambodia, social capital building, as previously defined, could be viewed as “women’s work.” Allowing the distinction between social market behavior and common social behavior gives the breadwinner, in addition to the overseer of the family (usually the wife in this area), a role to play in social capital building. While production on a farm is dependent on the contributions of all members of the family, women are typically charged with maintaining cordial relationships with the neighbors and the monastic community, attending to local problems and disputes, and keeping up the household. The men are responsible for maintaining business connections, heading up local

government initiatives, and devising secondary and tertiary incomes. Based on the operational definitions of social capital previously considered in the literature, the male household head plays a relatively small role in social capital creation.

The model developed to describe the combined effect of social capital and market interaction relies on two parts: (a) a separation of social market behaviors from the core of social capital indicators and (b) exploring the intersection of these two separated attributes. Expanding upon Durlauf and Fafchamp's (2004) individual-level model, I examine the effect of exogenous factors, market interaction, and social capital—structural and cognitive—on household wealth. Wealth of household i , defined as ω_i , is firstly explained by characteristics of the household, such as vocational skills and makeup of the family, which are scored collectively as family endowment, X_i . Wealth is also explained by household's communications capacity, Y_i , which includes phone, television, and radio usage, as well as resources for local transportation. In the short (6 months) and medium terms (1-3 years), family endowment and communications capacity remain exogenous. Only in the longer term are families able to change their structure (choice of how many children, ratio of schoolchildren to family labor), adapt vocational abilities, and affect their communications supplies and infrastructure.

Within the context these exogenous elements, the structural and cognitive levels of social capital, $SC^D(F_i)$ and $C(SC_i^D|F_i)$, respectively, play a distinct role. F_i is the set of vectors that each function within the model draws upon and the subscript D signifies that the component *directly* effects wealth (we will examine indirect effects below). Although Durlauf and Fafchamps (2004) believe that solely expectations (or cognitive social capital) explain behavior, I disagree on the grounds that the effectiveness of some institutions of social capital, such as religious associations and certain ethnically distinctive organizations, is propagated by values and norms that are so ingrained, they are part of a different and longer-term subset of overall social capital. Structural social capital, similar to family endowment and communications, is the networks and values which were formed by past social capital, and are very unlikely to be changed in the short or, in some cases, medium term. Institutions, such as health and cultural groups, as well as long-standing village traditions and family credit/insurance networks are included in this definition. On the other hand, the characteristics filling out the cognitive social capital component, such as levels of trust, solidarity, and collective action, are able to change dramatically in the short-term. Being cheated once by a trader may radically alter one's overall trust in businessmen, just as a single poorly attended road maintenance meeting could discourage participants from future endeavors.

The final component of this model is market interaction, $MI^D(F_i)$, which describes the market-based associations, both formal and informal, that one has, and the depth of one's participation in the market. Expectations about future market interaction are captured by cognitive social capital, $C(SC_i^D|F_i)$, since these future actions are merely adjustments of expected behavior in the social environment of one's business. These components are not endogenous, as one might expect, for the same reason that cognitive and structural social capital are not endogenous—they operate on different time horizons. One could also see the potential for endogeneity between $SC^D(F_i)$, $C(SC_i^D|F_i)$, and ω_i . Higher wealth, for instance, could cause a household to be favored socially or could give a household the opportunity to spend more leisure time socializing, and thus causality would flow in both directions. However, market interaction is included and focused on in this model precisely to control for this possibility. Social relations arising out of (and also causing) the success of one's business will be reflected in one's market interaction. The outcome is then described by the equation:

$$\omega_i = \alpha + \chi X_i + \gamma Y_i + \beta_1 SC^D(F_i) + \beta_2 C(SC^D_i | F_i) + \beta_3 MP^D(F_i) + \varepsilon_i$$

In order to observe the effect of market interaction on income-generation, it is useful to understand in terms of efficiency gains in business, v_i . *These efficiency gains can take the form of lower transaction costs, entrepreneurial behavior, and increased access to credit and insurance markets.* The gains are derived specifically from communication capacity (X^v_i) and cognitive social capital, $C(SC^I_i | F_i)$, which enable individuals to reduce market transaction costs, and also from repeated and meaningful social interactions in the market, $MI^I(F_i)$, which familiarize the individual with market mechanisms and introduce her to future partners and creditors. These components carry the superscript I because they are said to *indirectly* bring about changes in wealth. Certain dimensions, such as socialization, only contribute to wealth when they are channeled through interactions in the market. One who socializes with others often will only be able to raise her income if she uses this opportunity to cultivate profitable relationships or learn valuable information. Platteau (1994a) comments that, as a socializer, money is particularly powerful and “can invest its possessors with qualities missing in them”, such as entrepreneurship. In a marketplace guided by a limited-group morality, bilateral relations (among kin) dominate and generally form the foundation upon which many transactions in the village eventually lie. This foundation includes perfect or nearly perfect information sharing, kinship and friend-driven support networks, and mutual trust. However, Platteau (1994b) and Ostrom (1990) have noted that bilateral relations often lead to multilateral (among friends) types of relations, which can, in turn, lead to secondary socialization, a mode of relating with others that is based more on roles (e.g. client-firm) than on the establishment of a strong personal relationship. Nevertheless, the spheres of private and social life in limited-group morality communities are not as neatly separated as they are in modern societies, which are based on wider and more anonymous interactions. In communities exhibiting a limited-group morality, time is often wasted settling disputes and entrepreneurial talent is wasted due to inefficient norm sharing and a communal inability to capitalize on market surpluses (Platteau 2002). However, in secondary socialization, which could be described as the intermediary between limited and generalized group morality, the increased contact with businessmen can evoke entrepreneurial talent, and, with increased socialization, interpersonal problems can be continually ironed out. Efficiency gains v_i are described by

$$v_i = b + \gamma^v Y_i + \beta_2^v C(SC^I_i | F_i) + \beta_3^v MI^I(F_i) + \varepsilon_i$$

In order to understand the mechanism through which these indirect effects contribute to wealth, it is helpful to visualize a composite equation relating v_i and wealth:

$$\omega_i = \alpha + \chi X_i + \gamma Y_i + \beta_1 SC^D(F_i) + \beta_2 C(SC^D_i | F_i) + \beta_3 MP^D(F_i) + \eta v_i + \varepsilon_i$$

Wealth is explained by (a) the income effect arising from efficiency gains, (b) the direct influences of structural and cognitive social capital, (c) communications capability, and (c) the

productive endowment of the household. Social capital, then, is directly associated with changes in livelihood and indirectly responsible (channeled through efficiency gains in the market) for increases in wealth. We now turn to the task of constructing each component of the model and empirically validating the model.

PART VI – EMPIRICAL VALUATION OF THE MODEL MECHANISM

$$\omega_i = \alpha + \gamma X_i + \mathcal{Y}_i + \beta_1 SC^D(F_i) + \beta_2 C(SC^D_i | F_i) + \beta_3 MP^P(F_i) + \varepsilon_i$$

The primary purpose of this section is to investigate each of the determinants of the above equation, which relates wealth to social capital and market interaction dimensions. It should be emphasized that the following data manipulation is carried out using a data set containing 48 observations and it is therefore necessary to reduce the data. Factor analysis is not only suited for this task and but is encouraged by scholars working on social capital measurement systems (particularly Grootaert et al. 2004).

Given the linear quality of questionnaires necessary for accommodating quantitative data, economists will find the task of analyzing social capital econometrically to be particularly difficult. Social capital is a characteristic of a society or individual that is almost entirely determined by the local culture in areas lacking strong institutions (rural areas in poor countries), and is particularly vulnerable to both observer and responder bias. At this point in the development of the concept, it is not feasible to hope for reliable cross-sectional data or even regional data. However, on a village or commune level, for certain regionalized ethnic groups, or for occupation groups exhibiting high homogeneity (e.g. traders in Fafchamps 1998, 2002), it is possible to separate social capital into its component parts and analyze each independently. Until the conceptual understanding of social capital shifts and more advanced (or perhaps more *basic*) measurement tools are developed, it will be problematic to place social capital in an empirical model with working and human capital, as proposed by many scholars.

In this study, the components of social capital and market interaction are broken apart into their constituent parts and analyzed using demographic and anthropological data. These constituents are then aggregated by means of factor analysis and related to wealth. This is the method for consolidating data preferred by the World Bank (Grootaert et al. 2004) and Sahn and Stifel (2003). The results of the factor analyses can be found in Appendix 4. The components and their constituents (with variable names in parentheses) are as follows:

Wealth (wealth)

- Value of livestock (livestock)
- Ownership of a radio, television (radio, tv)
- Floor area of the house (floorarea)
- Whether the house was painted (housepaint)
- Quality of flooring and roof (floorlow, floorhigh, rooflow, roofhigh)
- Quality of outer and inner walls (owallow, owallhigh, iwallow, iwallhigh)
- Type of toilet (latrine)
- Amount of agricultural land (land_ag)
- Share of land used for dry or wet rice (ag_land_dry, ag_land_wet)
- Whether the well was shared (wellshare)

- Ownership of a motorbike (moto)
- Family Endowment* (familyendowment)
- Number of family members (fammembers)
 - Intra-household maxima for education (maxedu)
 - Foreign language capability in the family (maxlang)
 - Intra-household maxima for occupation type (maxocculow, maxoccuhigh)
- Communication* (communication)
- Dummy if the road quality is bad (badroads)
 - Ownership of motorbike (moto)
 - Ownership of cellular phone (dcellular)
 - Dummy if family watched TV very often (dtvtime)
 - Dummy if family listened to the radio often (dradiotime)
- Social Interaction* (socialization)
- Number of friends (friends)
 - Hours spent socializing each week (socialize)
 - Participation in election campaign (election)
 - Participation in information campaign (info)
 - Yearly trips to the monastery (watrips)
 - Dummy for news coming for a social source (socialnews)
 - Dummy for individuals who discussed the news often (newschatmuch)
- Groups and Networks* (groupsnetworks)
- Membership in the monastery (watsoc)
 - Membership in another social association (othersoc)
 - Dummy if founded by local initiative (dfounded)
 - Amount of cash contributed to associations in a year (cashcontribution)
 - Number of combined family work days provided for the organization (worksupply)
 - Dummy if “selfless” reason given for membership in organization (whyassoc)
 - Dummy if perceived effect of the organization on the community is *negative* (communityeffect)
- Violence and Crime* (violencecrime)
- Dummy if village is reported as “safe” (dsafety)
 - Dummy if village is reported to be “safe” at night (dnightsafety)
 - Number of non-violent crimes occurring in the past year (nonviolcrime)
 - Dummy if the crime was reported (dcrimereport)
 - Dummy if the crime was not reported (dcrimenoreport)
- Identity* (identity)
- Number of times the family was helped by another family in the last year (familyhelp)
 - Amount of money received at wedding divided by number of guests (wedding)
 - Dummy if respondent treats someone with higher education differently (ddifedu)
 - Dummy if the family has non-family support, e.g. insurance, emergency help (hardtime)
- Trust* (*non-factor analysis*)
- If the respondent generally trusts others (gtrust)
 - If the respondent agrees that others are concerned with their own welfare (downwelfare)
- Collective Action* (*non-factor analysis*)
- Dummy if the family has joined in often to address communal problems (dcommonproblem)

Market Associations and Networks (marketassocs)

- Membership in a non-provas dei association (othermsoc)
- Association founded by local initiative (mfound)
- Dummy if interacts with traders/partners daily or weekly (grpinteract)
- Dummy if respondent bargains each time to obtain price (grp bargainb)

Market Depth (marketdepth)

- If individual would work twice as hard for four times the pay (worktwice)
- Number of business associates (not including family) (businessassocsnofam)
- If the respondent has loaned money in the past three years (loandum)
- If the respondent has used business credit in the past three years (buscredit)
- Dummy if respondent would invest with a “good” chance of profit (goodchance)
- Highest amount loaned in the past three years (loanamounta)
- Dummy if respondent receives market information from social source (socialmarket)
- Respondent believes people trust each other for borrowing/lending (credittrust)

Efficiency Gains (marketdepth)

- The aggregated level of social interaction of the respondent (socialization)
- The number of friends divided by the number of business associates (friendsshare)
- Dummy if respondent trusts shopkeepers and traders (dtshop)
- The aggregated level of communication capability (communications)

Wealth Determination

The definition of wealth or income depends on the situation to which one wishes to apply it. Poverty and poverty lines are desirably based on income in developed countries, where the household acquires income in a fairly standardized manner and is lawfully required to report it. In developing countries, receiving an income may not be the conventional manner of obtaining wealth. Generally, in this situation, it is more practical and accurate to measure consumption expenditures. However, in rural areas even consumption expenditures can be difficult to measure. In this study, an asset-based measurement of wealth is used for two primary reasons. First, recent research indicates that this method creates a more accurate ranking of wealth while avoiding the many problems inherent to consumption-based income measurement (Sahn and Stifel 2003). Second, a precise value for income is unnecessary for evaluating community-based techniques for poverty alleviation.

Considering that the objective of most anti-poverty programs is to encourage peoples’ accumulation of productive assets, and that some inequality alleviation is also based on the distribution of income-generation assets, it makes sense to use an asset-based wealth ranking system. Conversely, measuring consumption is fraught with many problems. There is generally a lack of recent data, especially in the poorest countries. It requires data on the prices of goods, nominal interest rates, and depreciation rates. It also requires valuation of land in areas where markets for land exist. And ultimately, it is still problematic to compare these values within the country (Sahn and Stifel 2003). On the other hand, assets in poor countries are typically fewer and easier to measure and not prone to reporting bias. Usually, durable assets such as radios, TVs, bicycles, motorbikes, and housing materials are used to construct the wealth index. Using the method developed by Sahn and Stifel (2003), and the assets determined by Krishnamurthy (1999) and Ebihara (1968) in their studies of the Cambodian countryside, a ranking of the relative wealth of each household in Krosang and Veal villages was created.

As noted by Judy Ledgerwood (1998), Cambodian villages are very homogeneous communities, in which social forces exist that restrain individual families from distinguishing themselves. In Krosang and Veal there were only a few basic building materials and architectural styles used throughout the area. Residents commonly owned the same television, cooking equipment, and dishware. In total, there were only three different types of wells in both villages. The assets were carefully screened for sufficient variance before being included in the factor analysis. For most components of wealth, it is straightforward to predict the effect on wealth. For instance, the larger the amount of agricultural and floor area of the house, the richer the family is expected to be. However, households that own proportionately more wet-season land (considered inferior and less profitable than dry-season land) were adjusted to have lower wealth. Other factors, such as ownership of a motorbike, radio, and television clearly add to the value of the household's assets. It is more problematic, however, to value the quality of the housing materials. In order to do this, each type of material (bamboo, wood, aluminum, concrete, etc.) was separated into a group representing poor, medium, or high quality material, as outlined by Krishnamurthy (1999) and Ebihara (1968). Dummy variables were created for the poor and high quality materials, while an absence of a value for both of these dummies indicates a medium quality material. A more thorough breakdown of this valuation system can be found in Appendix 1.

Upon verification of the factor analysis, it was confirmed that the poorest and most destitute villagers ranked the lowest in wealth while those ranking near the top held considerable sums of land, a motorbike, and owned a large and well-built home. The respective weights given to each asset can be located in Appendix 4.

Defining the Exogenous Components

Family Endowment - X_i

Many families, either because of strong family support, hard work, or smarts, are better equipped than others to increase their livelihoods. Of the 335 individuals in the 48 households interviewed, 37.9% are farmers, 27.2% are students, 19.4% are unemployed, and the remaining 14% occupy other professions in the construction, tourism, or government sectors. The mean years of education for breadwinners is 3.2 (median of 2), the median age is 43, and 10 individuals can speak a foreign language. In order to assess the endowment of a family as a whole, and to deal with the variation within families, intra-family maxima for education, foreign language, and occupations were used. As in the determination of wealth, the different occupations were divided into three categories: poor, medium, and rich. A detailed description of how each occupation was coded can be found in Appendix 1. I factored the maxima for education, foreign language, and occupation, as well as the size of the family to determine a ranking for family endowment.¹²

¹² Based on discussions with local Cambodians and on a subjective analysis of the family rosters, I expected older children to generally be kept on as farm laborers and younger children to be given the opportunity to go to school. Based on the correlation between education and "rank" in the family, I find no evidence of this favoritism.

Communication - Y_i

Although I originally expected infrastructure and services in the villages to play a larger role in the determination of social capital, I find that, primarily due to the homogeneity of the countryside, these factors are not a large influence. With very little variation, respondents receive water from the same (NGO-built) pumps, use the same type and brand of battery, and generally acknowledged that they are satisfied with the quality of phone, education, and health services in the villages. Only in the perception of road quality in the villages, did the villagers' responses have any variation. Measured components in this factor were the household's radio and television use, ownership of a cellular phone and/or motorbike, and the respondent's perception of road quality. These components measure the quality of communications infrastructure (roads, signal quality) and the ability of the household to utilize this infrastructure (motorbike transport).

Defining Social Capital Components

Social Interaction - $C(SC_i^I|F_i)$

Social interaction is a necessary, although not a sufficient condition for the formation of social capital. Villagers cannot hope to establish neighborhood committees, health groups, music groups, and more without a strong base of relationships grounded on positive experiences interacting with one another. Although villagers in Krosang and Veal are very open and interact casually with neighbors every day, they do not often form deep and lasting relationships with these people. Therefore, a qualified definition of social interaction must focus on exchanges that are deeper than informal contact.

This dimension considered exchanges that exhibited both breadth and depth. This includes not just the number of friends, but also the amount of time spent socializing each week. It not only includes the source of news, but also how often the respondent discussed the news with others. Because elections are particularly social occasions, I noted individuals who participated in an election campaign. Households that participated in information campaigns, which are by nature



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social, were interpreted to have higher socialization. Villagers who only socialized when visiting the monastery for holidays were found to have less social interaction, because attending holidays and socializing is required in the community (by means of strong social and religious pressure). Primarily due to monetary constraints, there were very few villagers who went out for drinks or to a restaurant with friends and this variable was removed.

Groups and Networks - $SC_i^D(F_i)$

This dimension is sometimes labeled “formal association” because it describes the respondent’s involvement in officially acknowledged organizations, groups, and clubs. The local Buddhist monastery is such an organization and almost all villagers actively participate in it. Given the lack of variation in monastery membership across households, I focused on other associations. As in the determination of social interaction, it is important to examine both the depth and breadth of the involvement. Specifically, I considered: (a) if the association was founded by community members as opposed to religious and government leaders, (b) how much money the household donated to the organization, (c) how many days of work the household gave to the organization. In order to gauge the satisfaction derived by those who participate in the organization and those that benefit from them, respondents were asked to evaluate their own participation and to rate the influence of the organization on the community as a whole.

Due to the rarity of membership in non-monastery associations as well as the great benefit derived from membership in these associations, they are expected to contribute significantly to the groups and networks dimension. If the organization was founded by community members, it is expected to have a more positive influence. Involvement in these organizations is also important; the more cash contributed by members and the more work supplied, the greater the importance and more meaning the association provides the participant. Particularly if the respondent provides a “selfless” reason for membership (to benefit to the community, to grow economically), the organization is valued higher. If respondents believed an association had little impact overall on the community, the association was valued lower.

Violence and Crime - $SC_i^D(F_i)$

Grootaert (2004) states that conflict and violence in the community can be measured through three avenues: the extent and trend of violence, the contribution made by internal divisiveness in the community, and feelings of insecurity. We would expect that the violence and crime reported by the respondents’ would match the statistics kept by the village head. Unfortunately, enough individual respondents directly stated that they intentionally did not report certain incidents to invalidate any data taken by the village head.

“I am not ashamed to tell you that our family had a problem with violence this year. But I was ashamed for the whole village to know. At first, I told no one, because I thought they might think less of my family. But somehow the word got out. I was surprised because no one said anything to me. Finally, one day, a woman of the village said that it is no problem, because there are bigger problems in Siem Reap town. I was glad I did not report the crime because I would have to pay for the form. Do you know the form costs 20,000 Riel? [\$5.00]” – Chhum Ty, age 40

“We had two chickens stolen a few months back. One year ago, we had more chickens stolen. I never report these things to the police, because they are so small and maybe people will think our family is bad luck.” – Wife of Bat Pich, age 46

Given the inaccuracy of the village-level data, I based this dimension on the villagers’ perceptions (using a verified question scheme), and the villagers’ own willingness to acknowledge and report crimes. Specifically, the respondents were asked if they felt safe overall in the village and if they felt safe walking around at night. The second question, which

created an image that was easily accessible, was an attempt to overcome the perception bias concerning this question acknowledged in the literature. I then asked villagers to report to me any crimes they experienced in the preceding year and whether or not they reported them to the authorities. Respondents seeking justice and valuing fairness (and willing to report crimes) are interpreted as positive actors, while those who feared reporting are viewed as negative actors.

Identity - $SC_i^D(F_i)$

Commonly referred to as “empowerment” in the literature, the identity dimension describes the self-esteem and capability of people to negotiate the local geopolitical terrain to improve their own livelihood or that of the community as a whole. A World Bank report (2002) states that this dimension in fact “transcends social capital,” because it is oftentimes heavily influenced by the state or local institutions. In this study, identity is referred to in three particular ways: the feeling of belonging one has in her community, one’s ability to tolerantly interact with others in the community, and one’s “army” or her network of family, friends, and acquaintances who would be likely to support her. Although there are many ways of measuring this dimension of social capital, I focus on four of the most important factors: (1) non-family support structure, (2) the amount of money received per guest at the last family wedding, (3) tolerance for educated individuals, (4) and the number of times the household was helped by another family in the preceding year.

Although the aforementioned elements may not outwardly appear to make up a holistic measurement of “identity,” each is a strong proxy for other characteristics not explicitly included in the model. Non-family support structure includes friends, religious leaders, elders, local government, and organizations. Since it is usual to have family serve as insurance or back-up during emergencies, the existence of non-family help is emblematic of strong personal connections. The wedding funds similarly express the strength of the household’s network of friends and family (except for couples married during the Khmer Rouge years, when weddings were communal affairs).

“At a wedding, everyone puts money into an envelope for the bride and groom to help them begin their new life and pay back the cost of the wedding. The amount of money that people give is special for each family; maybe it depends on the status of the two families but usually people give more money to their very good friends and close family.” – Wife of Oak An, age 43.

Expressing tolerance for highly educated individuals, be they fellow villagers or businesspersons, is a sign of high self-esteem and willingness to accept and engage in modern relations. There is a strong hesitation in semi-rural Siem Reap to trust educated persons or adopt new methods or ideals that threaten or contradict prevailing views.

“When you ask me this, I think about the foreigners who sometimes come from the *angka* [organization, usually NGO] and ask the village people questions and tell us to grow vegetables or use condoms. I do not know if I trust these people. I wait until someone else follows the *angka* first.” – Ex Sompeat, age 47

The final element measured under identity is help received from outside the family in the past year. When discussing this question with respondents, it was made very clear that only “extraordinary” acts of kindness or help were appropriate responses. Based on field tests, a list of such acts was created to help guide the questioning. These included special gifts, loans without interest, free help with work, borrowing of a motorbike or bicycle, lending of a pump, etc. Although this question would be helpful in determining the extent of the family’s support network, it is not controlled for necessity, and is therefore only a measurement of how many times the family chose to solicit help.

Trust – $C(SC_i^D|F_i)$ and $C(SC_i^I|F_i)$

Many authors question whether trust is essentially social capital, because it can be viewed as the most basic ingredient of judgment and serves as an enabler for all other avenues of social interaction. The issue of trust, which is debated across all social science disciplines, was formalized in economics by Putnam et al. (1993), who focused on the role of trust-building in the enhancement of beneficial cooperation. In the discipline, there existed a period in which scholars hesitated to move away from using trust as a guiding principle, in fear that social capital would become too complicated and thereby become less accessible. After it became clear that trust was difficult to operationalize, scholars began, among other things, separating social capital into various dimensions. This is the form presented in this work. Instead of existing as an overriding concept, trust now serves a very particular role in smoothing social interactions and reducing transaction costs.

In Krosang and Veal, the villagers are reportedly very trusting of particular groups of people in the village, such as neighbors, doctors, teachers, and the local government, but do not trust groups outside of the village, such as taxi drivers and strangers. While this general information is very valuable, it does not help describe the variation in trust among individual households in the village. Without the ability to observe the variation in the absolute level of trust between villagers, we defer to a more subjective measure of trust. The authors of the World Values Survey use the following question: “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?” Although the relevance of this question has been persuasively disputed and meaning of the response is unclear, it is nevertheless useful in a very homogeneous village setting for extracting a subjective view from the villagers vis-à-vis trust. The results can also be used in conjunction with related questions to arrive at a few conclusions. At least 46% of respondents believe people can generally be trusted, but only 23% agree that most people in the village are honest. Furthermore, only 10% of villagers believed they could leave hired workers (usually other villagers) without supervision. This indicates, perhaps, that generalized trust, or being trusting of strangers, is a virtue of the society that, for some reason, is presently not in practice. Comparatively, 67% of the villagers believe that people are generally honest in business (specifically concerning trading and credit). Perhaps due to increasing monetarization, villagers are being compelled to allow business to supersede their personal feelings.

“When you ask me about trust, this is what I think. During Sangkum times, everyone was prosperous and happy but people did not trust each other. If I sold fertilizer to someone, they always ask questions, like ‘where did you buy this’ and ‘did you mix in ash?’ [commonly used to dilute fertilizer]. Some people did not trust me at all and said they would pay me for the

fertilizer after it worked good. Because I trusted others, I made this deal often. But nowadays, there is a lot of trust. Everyone buys my fertilizer and some people ask me as a friend to help them put it on their field. It is much easier to do business this way!” – Chuit Chua, age 65

Chuit Chua’s open trust for clients and the transparency by which he conducts his business, not to mention his enthusiasm for his work, describes the behavior documented by Platteau (1994a) of an individual cooperating in the market “game” in a rural village setting.

“To the extent that individuals in these societies know one another well, can observe one another’s behaviors, and are in continuous interaction, their patterns of relationships approximate a repeated prisoner dilemma game with infinite or indefinite horizon. Under these conditions of perfect information and repeated interactions which characterize small-group settings, any pattern of collective behavior, including co-operation, can be sustained.” – Platteau (1994a)

Collective Action - $C(SC_i^D|F_i)$

Although collective action is the expected end-result of strong social capital, it is also a predictor of future collective behavior. Insofar as collective action leads to increases in wealth for those households involved, it is an appropriate component of this model. However, given the cause and effect relationship between social capital and collective action, it runs the risk of introducing a very endogenous element into the overall model.

In any case, the questionnaire used for this study was not able to adequately capture this



Communal house building. Krosang

element holistically. Respondents reported how many times in the past year they came together with the community to solve a problem and how many days they worked communally. Unfortunately, I did not control completely for necessity. If there was particularly bad flooding one year, the data would be biased upward, because the villagers would be forced to come together to address the problems. The response to the question about how many communal workdays they took part in, respondents could answer: (1) none, (2) once, (3) a few times, (4) many times. Although the response set is not perfectly consistent, the option “a few times,” when translated, became “some times” and

“many times” became “a lot.” These responses are then a subjective report of the amount community work committed by the household. I acknowledge that this measure is inferior to other options potential question varieties, but it is the best that can be done with the data set.

Defining Market Interaction

Market Associations and Networks - $MI^D(F_i)$

As noted by Ebihara (1968), Cambodians have a long tradition of communal interaction in business. The system is typically based on strict reciprocity, although some very established villages have been known to use a more informal/personal system of exchange. This is especially visible in rice farming communities, where a system of labor sharing, called *provas dei*, allows villagers to call upon additional labor during the work-intensive rice transplanting season. Participants expect to be repaid in-kind before the end of the season. In Krosang and Veal, an estimated 80% of families cultivate rice and thus participate in the *provas dei* system. This form of labor sharing is now so fundamental in this area that it is not a useful measure of villagers' market associations and networks.

“To grow rice well, you need to transplant quick. My family cannot do this fast enough and so our neighbors help. We have helped each other for years. I don't know if anyone in this village can grow rice without help.” – Anonymous female, age 42

Villagers who participate in non-*provas dei* market associations are rare (only about 31% reported having another market-related association), but those who do derive a large benefit from them. Approximately $\frac{1}{3}$ of villagers were members of the rice bank set up by Redd Barna and, as explained by the villager Da Tmei (see Part IV above), membership was very helpful. Other villagers participate in health groups, fishermen groups, and receive loans from commercial banks. Instead of attempting to rank the usefulness of each organization, villagers were given credit for involving themselves in *any* non-*provas dei* association.

In order to measure the usefulness and depth of the market associations, this dimension focused on three particular avenues: frequency of association, bargaining behavior with traders, and how the market association group was founded (not including *provas dei*). If a group was founded by local initiative (village leaders or community members), I interpreted this to be social capital enabling villagers to act collectively to increase their livelihoods. I then find that households that interact with their association monthly or yearly, as opposed to daily or weekly, have stronger, longer-standing, and more trusting connections. This sentiment was echoed specifically by several villagers.

“There is a trader who comes in a truck each week and he buys from most people in the village. Some people try to sell their products in the market themselves, but it is difficult. So they all sell to him for a low price. Me, I have a friend who comes each month to visit. When we sell to him, he gives me better prices, so I often save most of my vegetables for him.” – Chea Soern, age 56

My observations indicate that villagers who have bargaining power, either because of the volume they sell or the duration of the relationship with the trader, could often achieve higher prices. Long-standing trader relationships, however, are typically marked by an absence of bargaining. The producer trusts the trader to offer the market price and does not negotiate. If the producer feels cheated, she can usually ask another family in the village with whom the trader deals to confirm the price. Strong trading relationships, however, are rare. Most traders are skilled hagglers and since they often have a monopoly on a certain product in a certain area, they are able to drive the producer price down and have no incentive to cultivate relationships with their customers.

“When the trader comes each week from *Psar Leu*, he tells me what he needs and the price. Sometimes when the price goes down, I argue, but he says that is how the market works. One time, the price was so low I did not believe him. So I asked the neighbors along this road and one person said that a shipment of tubers from Kompong Thom came in and the price went very low.” – Kdup Sapeat, age 27

Although Kdup Sapeat trades with the same individual on a weekly basis, and generally trusts his agent, it is clear that he has not established a strong personal tie with the trader. Milgrom et al. (1990) explain an alternative avenue by which Kdup Sapeat was able to overcome the weakness in his trader relationship:

“...even if no pair of traders come together frequently, if each individual trades frequently enough within the community of traders, then transferable reputations for honesty can serve as an adequate bond for honest behavior if members of the trading community can be kept informed about each other’s past behavior.”

In this case, the multilateral reputation mechanism, which is based on consistent interaction between parties, was not strong enough to establish a trusting relationship between Kdup Sapeat and his trader. However, after hearing that the trader spoke the truth, Kdup is now more likely to lend his associate more trust. This would deepen the multilateral relationship and, in turn, encourage deeper mutual trust (Platteau 1994a). Granovetter (1985) similarly points out that, in the formation of trust, there is a significant role for concrete personal relationships (trader-Kdup) and networks (Kdup-neighbors). The cultivation of bilateral and multilateral reputation mechanisms and relationships can be very effective in relaying information, regulating the market, and encouraging meaningful interaction.

Market Depth - $MP(F_i)$ and v_i

The first step in determining how embedded market interactions are in the social fabric of village is to measure how meaningfully a role business plays for the household. The “market depth” dimension not only assesses how regularly market interactions occur and in what context, but also how these interactions are perceived by the villagers. In particular, the following elements were measured: (a) entrepreneurial spirit and risk-taking behavior, (b) business associates, (c) credit and credit reliability, and (d) market information sources. I will address each of these in turn.

Entrepreneurship is not a virtue of the villagers in Ch’rieu commune and, according to the commune chief, it may not be for quite some time. Villagers who are bold, risk-taking, and exhibit some entrepreneurship usually sell their land and move to the towns. This phenomenon, as the commune chief explained, hurts the village as a whole, because many of these individuals held important positions in the village and were therefore models for others; they were mechanics, shopkeepers, agricultural product distributors, and so forth. Rarely does another villager take up the job of a departed businessman. To measure entrepreneurship, I examined the responses to the question: “If you could work twice as hard, but make four times as much, would you?” Only 29% responded affirmatively. When asked if they would invest in a business with a good chance (also explained as 95%) of providing return, only 67% said they would invest. These two measures explain risk-taking and engagement in one’s business.

Many factors, all of which are positive, explain why certain household heads have more business associates. If a villager cultivates many varied products or searches for the best sale price from different sources, he or she is likely to require a larger trader network. If a villager is not engaged in agriculture, he or she likely has more coworkers or clients than the average rice farmer. The ability to garner market information from other humans, like business associates, is related to how extensive and useful one's market network is.

Credit and investment sources are a commonly used source of information for measuring embeddedness in the market, generally because this is a measurable and quantitative value. To this end, I measured if loans were given, how much money was furnished, and whether the respondent believes people trust one another in matters of lending and borrowing. Credit not only provides an indirect type of insurance and creates investment capital, it creates an understanding of finance and potentially instills fiscal responsibility.

Social Capital, Market Interaction, and Wealth

$$\omega_i = \alpha + \chi X_i + \gamma Y_i + \beta_1 SC^D(F_i) + \beta_2 C(SC^D_i | F_i) + \beta_3 MP^D(F_i) + \varepsilon_i$$

The primary goal of this study is to determine which avenues of social capital and market interaction lead to increases in wealth. The secondary goal is to further investigate how social capital (SC) and market interaction (MI, or social market capital) interrelate. We turn to this secondary goal in the following section.

It is clear from our analysis of the ingredients of each dimension of SC and MI that certain personality traits, characteristics, and behavioral patterns can lead to higher wealth. A family will be better off with knowledge of foreign language, membership in a health group, with strong family ties, and a solid credit/insurance structure. In order to see how these individual elements relate to one another and to wealth as a whole, I aggregate them into dimensions by means of factor analysis, except in the case of trust and collective action, which are proxied directly (See Appendix 4). When equated with wealth using the expression above, these factored dimensions can provide a powerful representation of each contributor to the household's wealth.

Based on an OLS regression of the dimensions individually constructed in Part VI, I find that some aspects of SC and all the aspects of MI *directly* contribute to the ability of a household to increase its wealth (see Appendix 2 for results). The overall model predicts 55% of the variation in wealth. General trust is positively correlated with wealth (at the 5% level),¹³ as are communications and social groups and networks. These aspects directly facilitate a household's ability to increase its livelihood. Trust leads to lower transaction costs and smoothes social interactions. Higher communication raises cooperation rate significantly, and particularly so if it leads to increased contact with the market and facilitates promise-making, which is very likely, given the large investment required for communications increases (purchase of motorbike, cell phone, etc.) (Platteau 1994a, b). More social groups and networks enhance the family's insurance network and generally create community cohesion. Benefits of policy aimed at dealing with these dimensions could influence many, such as the 90% of

¹³ Significance at the 5% level, unless otherwise noted.

households who do not have a cellular phone, 69% who are not members of a non-monastery association, 67% who have bad roads, and 46% who feel others are trustworthy.

An encouraging find for families without a significant endowment in terms of education and occupation, is that family endowment is negatively associated with wealth. This does not directly imply that investment in education, finding a non-farm job, or learning a foreign language are counterproductive. However, this does mean that these characteristics, when viewed as a combined force, are not sufficient for a good livelihood. A farmer who cultivates his land efficiently (especially if he has a considerable plot) can surpass in income a construction worker who is paid in foreign currency. A woman who provides traditional Khmer massage in the village can earn more than the woman who sells fruit in the market or to tourists. There are many pertinent examples of this outcome in the data. Furthermore, I believe that the village and perhaps Cambodia as a whole, is experiencing an “investment lag” in education. The average age of the *oldest* child in every family is 18.6 and it is therefore unlikely that schooling has helped a family to achieve higher wealth *yet*. Since anyone aged 22-30 was born or lived as a child during the aftermath of the Pol Pot regime, when education was all but eliminated, the majority of the children who are older than 19 years did not receive a proper education from childhood. One villager reported the story of her son, who became impatient with his studies and dropped out prematurely:

“My eldest is very well educated but he has not done anything good for the family yet. He studied in the secondary school and was a very good student. We were always very proud of him, even though we could not understand his work. But he did not finish. He met girls in Siem Reap and did not come home many nights. And then he was offered a job as a chef in a tourist restaurant, so he stopped attending the school. He made a mistake and then was fired. He is now back at home helping on the farm.” - Bun Ri, age 48

The two dimensions of MI, market depth and market associations, are significantly and positively correlated with wealth. Households that are involved in associations that reduce transaction costs, have helpful business associates, and exhibit entrepreneurial spirit and risk-taking behavior are, unsurprisingly, more likely to attain higher wealth.

A few dimensions of social capital, including collective action, violence and crime, and identity, did not significantly impact wealth. Violence and crime are at such low levels, that they do not meaningfully affect livelihoods. Past collective action (as it is weakly defined) does not predict future mutually beneficial communal behavior. The insignificance of identity is potentially due to the same factors as those causing the negative coefficient on family endowment. Static factors describing the household, such family support, may assist a family to get situated in a new location or new job, but are not predictable future (long-term) wealth. The insignificant coefficient also suggests that non-family support networks are not effective in (or utilized for) providing insurance. This suggests that the limited-group morality, which encourages mutual support within tight-knit groups, is still very dominant in the community.

Social Capital Meets Market Interaction

$$v_i = b + \gamma^v Y_i + \beta_2^v C(SC_i^I | F_i) + \beta_3^v MI_i^I(F_i) + \varepsilon_i$$

“There is evidence all around us of the extent to which business relations are mixed up with social ones.” - Granovetter (1985)

Markets are an embedded and integral part of social interactions in the villages of Krosang and Veal and represent a piece of or contributor to social capital that has not been properly studied in the field. At least 48% of households have some family members operating in the same business as them, either as partners or other independent businesspersons in their same field. And at least 71% of household heads believe that the relationship they have with business partners goes beyond the transactions themselves, extending into personal relations and/or risk-sharing or income-security relationships. Platteau (1994a) highlights the basis upon which social market interaction is important:

“It is undeniably true that in real-world market economies repeated contacts among transactors or across organisational boundaries may be easily observed. Rather than consisting of single-purpose, self-contained and short term arrangements, trading relationships may have a more lasting character and be based on the personal involvement of the parties concerned.”

Villagers who have long-standing relationships with their traders can benefit from reliable service, business credit, and information sharing. Villagers who can confirm prices with their neighbors can assure fair trade prices. It is unavoidable that models attempting to explain social capital and its effect on livelihood (specifically wealth) should control for or separate market interactions from the body of social capital.

Since the market depth dimension is primarily concerned with social means of reducing transaction costs, facilitating profitable business behavior, and establishing insurance/credit networks, it is in this dimension that the intersection of market interaction and social capital can be found. Through secondary socialization, which can follow from the creation of bilateral and multilateral reputation mechanisms, market relationships can be forged with greater ease and can contribute to an affirmation of one's role as a market actor. This heightens the potential for initial anonymous (based on a generalized morality) trade with non-village businessmen and the subsequent deepening of personal relationship with business partners. Currently, it is efficient and rational for villagers to bring business associates inside the limited-group morality. Doing this is unsustainable over time, because the limited-group network is constrained by size.

The point of convergence, where market and social life meet, as articulated in this model, lies specifically where social interaction and market depth meet. The equation above, which highlights the direct influences of each component on efficiency and the indirect influences on wealth, is the primary theoretical model for explaining this relationship.

The essence of this model lies in explaining the transition between a village-based limited-group morality and a generalized morality. I do not suggest that the achievement of a strong generalized morality is ultimate goal or even optimum for this community. I believe transitory optimums dependent on national economic and social factors will emerge throughout the development. Currently, we have a community, such Ch'rieu commune, which exhibits a high level of limited-group morality. Social and business interactions are restricted to “concrete” people, such as neighbors, inner-village clients, and village leaders, with whom one closely identifies with (Platteau 1994b). Because villagers often share the same profession, similar problems, and are all struggling to overcome impoverishment, their goals and

understanding of the world are aligned with their fellow villagers. As a result, the community exhibits high trust, people form and maintain relationships without much effort, and people feel more overall empathy for other community members.

In an environment with a strong limited-group morality, bilateral relationships (among kin) can become multilateral relationships (among friends and close acquaintances). The labor-sharing system of *provas dei* was at one time sustained by reciprocal altruism, whereby villagers provide labor in the present with the expectation of compensation sometime in the future. Through continual adherence to this valuable system, *provas dei* became an informal institution that all rice farmers regularly take part in. Through repeated interaction, like that experienced during the development of *provas dei*, bilateral relations can lead into the development of multilateral relationships. Strong multilateral ties, through higher incidence of unguarded socialization (with persons one normally does not interact) and through network-introduced relationships, facilitate the improvement (or enlargement) of one's business network and leads to secondary socialization. Individuals personally, or by playing the role of a market agent, manufacture strategies aimed at cementing close personalized relations between transactors in order to develop exchange links outside the network of the village or kinship circle. The development of these relationships can, in turn, benefit the whole community. The security afforded by a partnership with one personal would make it possible for a visitor to make contact with other persons in the village and trade with them (Platteau 1994a).

The empirical results, as seen in Appendix 3, relate that social interaction of a specific nature is necessary to contribute to market depth. Remember that by establishing the avenues by which efficiency gains are produced, we can determine what factors are working to make market interaction a critical component of the relationship between social capital and wealth.

$$v_i = b + \gamma^v Y_i + \beta_2^v C(SC_i^I | F_i) + \beta_3^v MI_i^I(F_i) + \varepsilon_i$$

The factored value of the social interaction dimension, which was deconstructed above, is *not* significantly associated with market depth (it is, however, unquestionably positively correlated). However, a complementary variable, *friendsshare* (number of friends divided by number of business partners) is significantly and positively associated with market depth. The aggregated social interaction dimension, which includes participation in election and information campaigns, trips to the monastery, and news discussion, is likely too broadly defined to illustrate the precise avenues through which social interactions contribute to market depth. Trust of shopkeepers is negatively correlated with market depth. This signifies that trust is not necessary or particularly desirable in establishing a good business relationship. However, the more close associations one has, not necessarily business associates, positively contribute to market depth.

This suggests that there exists a form of generalized morality in the greater village social network, but it is constrained by some factor, such as communication capability. Generalized morality is a sense of trust in the abstract (people general) as opposed to the concrete (specific people). The existence of a generalized morality can facilitate the initial creation of business relationships, because people are comfortable interacting with strangers, so long as a tolerated level of risk is maintained. At this point in the development of Krosang and Veal, this generalized morality is continually being undermined by the desire to integrate business partners into the limited-group morality. Instead of remaining at a distance from a business

partner, the relationship gravitates inward and results in a strong multilateral relationship. One adopts the other's viewpoint, exchanges non-market verbal promises, and extends a willingness for social dependence rather than purely market dependence (Platteau 1994b). As I have shown, this can be highly beneficial to both parties. The trader gains a consistent customer and, through the multilateral reputation mechanism of the limited-group, gains privileged access to others in the villages. The villager gains a reliable and trustworthy partner, a model for business behavior, and potentially a source for credit and insurance. While these effects may be desirable in the short-term, it is not clear if they are sustainable in the long-term. Platteau (1994a) comments that generalized morality is critical for market operation and not even strong institutions can replace it. It is generally accepted that most, if not all, developed economies are marked by this type of generalized morality. Customers comfortably and ordinarily interact with traders that they are not acquainted with (such as shopkeepers, car salesmen, etc.). In the context of semi-rural Siem Reap, it appears that generalized morality is constrained certain country-wide problems, such as by the limited capacity for communication. Until the entire region moves collectively toward generalized morality, it is rational and beneficial for Krosang and Veal to remain within the safety net of the limited-group morality.

PART VII – CONCLUSION

“The market is embedded in society rather than conversely.” - Bromley (1989)

Due in large part to the waves of monetarization that have hit the Cambodian countryside in the past two decades and the increasing role of and influence of urban centers, behaviors, norms, and values are adapting quickly to match the demands of the social marketplace. Although there is a perceived decline in the amount of free social help available in villages, this seems to be no more than a characteristic of the transition between traditional and modern social relations. Given its increasing role within the domain of social capital, market interaction must be acknowledged as a form of socialization and therefore separated when modeling social capital. Formerly insulated societies exhibiting strict limited-group morality are becoming more socially active and integrated in the marketplace. Higher incidence of multilateral relationships spurred on by the efficiency of limited-groups are encouraging individuals to play their role as a market agent, thus slowly leading to the generalized morality that is typical of most modern societies. Based on the limitations of capacity for communication in Cambodia and the prevailing geopolitical trends, semi-rural Cambodians presently benefit more from integrating their business relations into their social sphere. Predictably, I find that depth of market interactions and membership in market associations are positively related with wealth. Traditional measures of social capital, such as trusting behavior and membership in voluntary groups also directly predict changes in livelihood. However, socialization, as controlled for trust of market agents and communications only contributes to household livelihood insofar as it creates efficiency gains in the marketplace. These efficiency gains can include reduced transaction costs, increased entrepreneurship, and larger insurance and credit networks. Presently in Ch'rieu Commune, these gains are principally achievable within the context of a limited-group morality, which is characterized by perfect or almost perfect information transfer, network-wide support networks, and trust.

In order to climb toward generalized morality while continuing to extract the benefits of limited-group morality, local leaders and indeed the villagers themselves, can forge further

mutually beneficial associations, however modest, and commit to collective action in centralizing and extending the overall communications capacity of the commune. Setting up additional associations as formal as rice banks or as basic as a market-price information board, can encourage the villagers' roles as market agents and encourage the utilization of the benefits of the limited-group morality. Road maintenance, motorbike-lending groups, occasional field trips to the marketplace and nearby villages contribute to the increase in communications. This can reduce transaction costs, streamline information gathering, and provide an opportunity to gain personal or business connections and learn new techniques. Practitioners and scholars, on the other hand, should continue analyzing this overall model, but do so in the expanded context of the entire social market. The perspective of the traders, transporters, creditors, and urban shopkeepers who directly or indirectly interact with the commune should be included in the domain of analysis in order to gain a comprehensive view of the flows of social capital and their effects on market behavior.

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Appendix 1

Quality Evaluations

Outer Wall, Inner Wall, and Roofing Material

Poor Value

Salvaged material, Bamboo and Thatch, Straw, Plastic, None

Medium Value

Wood, Plywood, Iron and Aluminum, Fibro Cement (for roofs)

High Value

Fibro Cement (for outer walls), Concrete, Tile

Floor Material

Poor Value

Earth, Bamboo

Medium Value

Cement, Cheap wood (mostly *ch'teal*), Cambodian Tile

High Value

Expensive wood (mostly *kakaw*), Imported Tile

Occupation

Low-income

Farmer, Housewife, Unemployed, Handicap

Medium-income

Construction, Small business, Student, Monk, Fisherman, Carpenter, Chef

High-income

Hotel worker, Musician, Dancer, Government official, NGO worker, Truck driver

Appendix 2

Regression Results and Summary Statistics, Wealth Model (Stata 8.0)

Summary Statistics

Variable	Obs.	Mean	SD	Min	Max
Wealth	48	7.76e-11	.9598419	-1.405663	2.104787
Familyendowment	48	2.81e-09	.8513341	-1.378373	1.684528
Communications	48	-4.19e-09	.8251089	-1.19037	1.278463
Identity	48	4.46e-10	.7046547	-.8970739	1.387732
Violencecrime	48	1.04e-08	.8969368	-2.075305	.6752039
Groupsnetworks	48	-6.21e-10	.9612904	-.7002482	1.696169
Gtrust	48	.4583333	.5035336	0	1
Downwelfare	48	.7708333	.4247444	0	1
Dcommonproblem	48	.6875	.4684174	0	1
Marketassocs	48	6.21e-09	.8610365	-1.208242	.865388
Marketdepth	48	2.34e-09	.8875943	-1.168525	1.626576

Wealth Regression Results

An OLS Estimate of the Determinants of Social Capital and Market Interaction on Wealth

Number of obs = 48
 Prob. > F = 0.0000
 R-squared = 0.6584
 Adj. R-squared = 0.5661

Wealth	Coef.	SE	z	P> z	[95% Conf. Interval]
Familyendowment	-.2699919	.1299896	-2.08	0.045	-.5333758 - .006608
Communications	.5215459	.1228271	4.25	0.000	.2726746 .7704172
Identity	-.1997077	.1395488	-1.43	0.161	-.4824603 .083045
Violencecrime	.0313069	.113918	0.27	0.785	-.199513 .2621268
Groupsnetworks	.3247957	.1019147	3.19	0.003	.1182968 .5312946
Gtrust	.5053539	.2046236	2.47	0.018	.0907471 .9199607
Downwelfare	-.2845444	.2451309	-1.16	0.253	-.7812269 .212138
Dcommonproblem	.2279305	.2070794	1.10	0.278	-.1916522 .6475132
Marketassocs	.3727048	.1150599	3.24	0.003	.1395712 .6058384
Marketdepth	.5173659	.1178383	4.39	0.000	.2786028 .7561291
Constant	-.1689864	.2636671	-0.64	0.526	-.7032267 .365254

Regression Diagnostics

Correlation

	gtrust	dcommonproblem downwelfare	marketassocs marketdepth	identity communications	groupsnetworks violencecrime	familyendowment				
gtrust	1.0000									
downwelfare	-0.1948	1.0000								
dcommonproblem	-0.1015	0.1671	1.0000							
marketdepth	-0.0974	0.2233	0.0672	1.0000						
marketassocs	0.0413	0.0433	-0.1035	0.1019	1.0000					
communications	-0.1850	0.1180	-0.1258	0.2371	0.0262	1.0000				
identity	0.0793	-0.0086	0.0984	0.2438	0.0396	-0.0549	1.0000			
violencecrime	0.3451	-0.0244	-0.1109	-0.0403	0.0973	-0.2270	0.0979	1.0000		
groupsnetworks	0.0132	-0.1454	-0.0780	-0.0605	0.1666	0.0504	-0.0086	0.0577	1.0000	
familyendowment	0.1554	-0.2742	-0.0989	0.1564	0.2871	0.1530	-0.0833	-0.0434	0.2787	1.0000

Variance Inflation Factor

Variable	VIF	1/VIF (Tolerance)
familyendowment	1.44	0.694583
communications	1.21	0.828191
identity	1.14	0.879704
groupsnetworks	1.13	0.886253
dcommonproblem	1.11	0.904068
downwelfare	1.27	0.784674
gtrust	1.25	0.801259
violencecrime	1.23	0.814765
marketassocs	1.15	0.866662
marketdepth	1.29	0.777569
Mean VIF	1.22	

White's Test for Heteroskedasticity

Test Statistic	48
P-value	.4321

Appendix 3

Regression Results, Efficiency Gain Model (Stata 8.0)

Summary Statistics

Variable	Obs	Mean	SD	Min	Max
Marketdepth	48	2.34e-09	.8875943	-1.168525	1.626576
Socialinte~n	48	1.86e-09	.807682	-.8974658	1.526133
Friendsshare	48	.7084352	1.072126	0	6
Dtshop	48	.1458333	.356674	0	1
Communications	48	-4.19e-09	.8251089	-1.19037	1.278463

Market Depth Regression Results

An OLS Estimate of the Determinants of Socialization Behavior and Communication on Market Depth

Number of obs = 48
 Prob > F = 0.0069
 R-squared = 0.2750
 Adj R-squared = 0.2076

Marketdepth	Coef.	SD	z	P> z	[95% Conf. Interval]	
Socialinteraction	.2308862	.1459657	1.58	0.121	-.0634817	.5252541
Friendsshare	.2540299	.1097832	2.31	0.026	.0326311	.4754288
Dtshop	-.5798873	.3241476	-1.79	0.081	-1.233593	.0738186
Communications	.2636486	.139865	1.89	0.066	-.0184161	.5457134
Constant	-.0953969	.1473227	-0.65	0.521	-.3925013	.2017076

Regression Diagnostics

Correlation

	marketdepth	socialinteraction	friendssshare	dtshop	communications
marketdepth	1.0000				
socialinteraction	0.2453	1.0000			
friendssshare	0.3571	0.1953	1.0000		
dtshop	-0.2395	0.0541	-0.0447	1.0000	
communications	0.2371	-0.0495	-0.0050	-0.0169	1.0000

Variance Inflation Factor

Variable	VIF	1/VIF (Tolerance)
socialinteraction	1.05	0.955650
friendsshare	1.04	0.958779
dtshop	1.01	0.993695
communications	1.00	0.997334
Mean VIF	1.02	

White's Test for Heteroskedasticity

Test statistic	6.885777
P-value	.9079

Appendix 4

Factor Analysis Weights

Wealth	
Livestock	0.02191
Radio	0.04563
TV	0.01404
Floorarea	0.35630
Housepaint	0.06306
Floorlow	-0.08189
Floorhigh	0.04126
Rooflow	-0.03581
Roofhigh	0.20527
Owalllow	-0.09060
Owallhigh	0.05225
Iwalllow	-0.13978
Iwallhigh	0.03171
Latrine	0.03927
Sharetoilet	-0.02385
Land_ag	0.05715
Ag_land_dry	0.04176
Ag_land_wet	-0.01036
Wellshare	-0.01916
Moto	0.02292

Family Endowment	
Fammembers	0.17104
Maxedu	0.10208
Maxlang	0.23525
Maxocculow	-0.41579
Maxoccuhigh	0.27939

Social Interaction	
Friends	0.07781
Socialize	0.12744
Election	0.08859
Info	0.04815
Wattrips	-0.07918
Socialnews	-0.01464
Newschatmuch	0.30099

Identity	
Familyhelp	0.20985
Wedding	-0.04608
Ddifedu	-0.35999
Hardtime	0.40933

Groups and Networks	
Watsoc	-0.00908
Othersoc	0.77702
Dfounded	0.09106
Cashcontribution	0.03612
Worksupply	0.05712
Whyassoc	0.01229
Communityeffect	-0.10672

Violence and Crime	
Dsafety	0.72151
Dnightsafety	-0.15706
Nonviolcrime	-0.05377
Dcrimereport	0.02345
Dcrimenoreport	-0.13670

Communication	
Badroads	-0.07890
Moto	0.33432
Dcellular	0.21905
Dtvtime	-0.05843
Dradiotime	0.46255

Market Associations	
Othermsoc	0.79333
Mfound	0.08302
Grpinteract	-0.10435
Grpbargainb	-0.03873

Market Depth	
Worktwice	0.11933
Businessassocsnofam	0.02629
Loandum	0.33743
Buscredit	0.02727
Goodchance	0.07578
Loanamounta	0.51750
Socialmarket	0.03948
Credittrust	0.07934