

## **Impact of Global Financial Crisis on Social Capital: An empirical study.**

Md. Mazharul Islam<sup>1</sup>

*The study was conducted to evaluate the impact of the global financial crisis on social capital formation in Malaysia in 2009. The results are based on data collected from survey of Malaysian low-income households carried out in January 2010. The study employed a multiplicity of econometric and statistical techniques to identify factors that influenced social capital decline, which appears to yield more credible results. Evidence indicates that the erosion of social capital resulted from the global financial crisis had embedded in the society. The study found that the stock of social capital at the family and community level declined in 2009. The study also found that the intensity of social capital erosion varied across the location; occupation, ethnicity, gender, and education level of household. This study recommends that Malaysia should develop a more comprehensive social safety net which should be in line with the lull in economic growth and changes in the demographic and family structure as well.*

**JEL Codes:** A12, R20 and R28

### **1. Introduction**

The exceptional performance of the Malaysian economy in the last three decades prior to the mid-1990s has been widely recognized. Malaysia has one of the most remarkable growth records in modern history. Malaysian economic management won international praise, and the country attracted large amounts of international capital flow. This rapid and sustained economic growth has resulted in significant improvements in people's well being in Malaysia. The productivity of the poor and their employment opportunities have increased enormously. Public provision of social services has widened. The high performing Malaysian economy was suddenly rocked by the global financial crisis (GFC) which has started at the end of 2007. As a result of the GFC, most of Malaysia's achievements have drastically deteriorated and its hard-won reputation for its economic performance, which has provided better social sphere for Malaysians and offered millions of people in other regions the hope of rescuing themselves from poverty, has been tarnished.

The late-2000s financial crisis is considered by many economists to be the worst financial crisis since the Great Depression of the 1930s (Reuters 2009). There are many dimensions to the GFC, such as it resulted in the collapse of large financial institutions, the bailout of banks by national governments, and downturns in stock markets around the world. In many areas, the housing market had also suffered, resulting in numerous evictions, foreclosures and prolonged vacancies. It contributed to the failure of key businesses, declines in consumer wealth estimated in the trillions of U.S. dollars, and a significant decline in economic activity, leading to a severe global economic recession in 2008 (Baily & Elliott 2009). Precisely due to this complexity, in the absence of empirical evidence, it will be difficult to predict with much confidence what the combined impacts of all facets of the crisis are likely to be – and

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<sup>1</sup> Lecturer, Faculty of Business and Enterprise, Swinburne University of Technology, Melbourne, Australian, Email: [mazharulislam@swin.edu.au](mailto:mazharulislam@swin.edu.au)

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how the impacts are likely to vary across the socio-economic groups and demographic groups. Although these impacts have been distributed across all groups of income and regions, the poor in particular seem to have suffered more due to their limited savings and to the pattern of job loss in low wage employment.

Initially, much of the attention was focussed on the financial and economic aspects of the crisis. However, there was not given much attention on social aspect though the impact of the global financial crisis was also very pronounced in the social sphere. Rising unemployment and inflation had a downward effect on real wages, while there was a rise in the incidence of poverty which turned to the erosion of social capital. The long-term implications of these problems are serious enough to warrant concern.

The analysis of the impact of global financial crisis on social capital particularly at the micro level is scanty. Therefore, an in-depth study on the impact of the financial crisis is essential to evaluate the condition of the social capital of low-income households. This gap inspired me to examine the impact of GFC on social capital at household level. This research is therefore significant because it is the first study of its kind in Malaysia to examine the impact of global financial crisis on low-income households.

This paper is divided into five sections. The first section provides study background and problem statement. The second section provides a review of literature. The third section discusses methodology of the study. This is followed by a micro-level analysis of the impact of global financial crisis on social capital formation. This paper ends with conclusion and policy recommendation i.e. what more needs to be done to protect the most vulnerable segments of our societies—within short-term stimulus packages and in long-term policy formulations to strengthen the social safety nets.

## 2. Literature Review

Whilst a reasonable number of studies have been carried out in recent years that try to relate the impact of global financial crisis (World Bank 2009, Win 2009, WHO 2009, Fernandez 2010, Wright & Black 2011) relatively few focus on social capital. Anderson (2009) has done a survey among 99 randomly selected small towns in Iowa, USA, and found that loss of social capital not only results from loss of jobs which was the results of global financial crisis, but also a variety of other negative economic shocks. These economic crises in small towns may include a plant closing, a school closing, toxic environmental contamination, or a natural disaster. However, there are some studies have carried out in Indonesia, Thailand, and Philippine (Grootaert 1999, Gaurav & Hoogeveen 2000) that try to relate the impact of financial crisis on social capital. These studies have done during the period of 1997 to 2000. They found that the crisis that hit ASEAN countries in 1997 had eroded social capital in the respective countries. Financial crisis leads to demolition of norms and social trust that knot individuals and society together. Due to different nature of financial crisis in 2008 and 1997, these studies may not reflect the common impact on social capital. Moreover, the importance of social capital may vary across countries with different cultural backgrounds. Therefore, researchers have not yet been able to reach into a concrete hypothesis on the impact of the global financial crisis on social capital of low-income households. Based on the literature discussed above, in the present study, it is hypothesized that:

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**Hypothesis 1:** The GFC had a negative impact on social capital of low income households in Malaysia.

There are various dimensions of social capital. The discussions on social capital dimensions provide a multiplicity of relationships on social capital and demographic, geographic, and socio-economic variables. Social capital is influenced strongly by the demographic, geographic, and socio-economic variables. Many studies were done to show the relationship between social capital and (i) demographic factors such as age, gender, and dependency ratio (ii) Geographic factors such as residential area and living location (living state) and, (iii) socio-economic factors such as income, education, marital status, and labor market shock, etc.

*Demographic factors* play a vital role as determinants of the social capital. Recent investigation by Coleman (1998) found a strong negative correlation between social capital and dependency ratio i.e. the higher is the ratio of dependency; the lower is the social capital. A recent study conducted by Onyx and Bullen (1998) reported that people with more children were likely to participate more in the local community than those with fewer children. It is said in general that young people have little time to get involved in community activities. Jackson (1998) study revealed that young people tend to give to and draw less from community services but those of active retirement age tend to give to the community more than they received. Age is the second factor after education as a predictor of all forms of civic engagement and trust. Older people belong to more organizations than young people, and they are less misanthropic (Putnam 1999). Average social capital score is higher for old people than younger (Krishna & Elizabeth 2000). On the other hand, older people normally suffer from a loss of social status and income when they leave the labour force and retire (Onyx & Bullen 1998). Several studies found that men and women's personal networks differ in composition, although they are similar in size. Since women are typically the primary care givers, they serve a critical role in the early development of social capital in a society. The individual's capacity to trust has roots in the mother-child relationship (Picciotto 1995). Male networks include more co-workers and fewer kin than women's networks (Moore 1990). In Brazil, men tend to create formal organizations, in part to counteract weak social ties, compared to those of women (Neuhouser 1995). Women's networks tend to be informal and include more kin relative to male networks (Moore 1990). Social networks of impoverished women in Brazil are found to be important for women to obtain income and other necessities (Norris 1985). Gender analysis of the preliminary household data indicates that responses from women and men within the same community generally do not differ significantly from one another (Krishna & Uphoff, 1999).

*Geographical location* is also an important factor in determining the living standard. Geographical locations where individuals or households live also play an important role in shaping the social capital. The location where one lives can influence his/her pattern of participation in associations, as well as his/her relationship with neighbors. Moreover the places can shape the quality of life and consequently attitude and relations in a given community. Therefore, communities and neighbors play an important role in social capital formation. They shape norms, relations and regulations that should be obeyed and complied with. A close-knit community has high social capital. The members can cooperate to achieve common objectives. Basic facilities in a particular area can affect social capital formation. A number of investigators found variation in the levels of trust and civic engagement across the urban-rural divide. In

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Australia, Hughes, Bellamy, & Black (2000) reported that people in high socio-economic status at urban areas were far more trusting than people in most rural areas. On the other hand, Putnam (1996) found that the strength of networks were 10 to 20 percent lower in metropolitan areas in comparison to small rural towns. The level of social capital appeared to be the strongest among the rural communities and the lowest within urban communities (Fountain 1997, Krishna & Elizabeth 1999). A recent study in Panama by Pena and Lindo-Fuentes (1998) also found that levels of social capital were the highest among the rural communities and the lowest within urban communities. In contrast, Onyx and Bullen (1998) did not attribute these differences to the nature of the localities per se. Many studies (Moser 1996, Narayan & Pritchett 1997) found that individuals who lived in area with considerable basic facilities tended to have stronger relations with neighbors and were more involved in neighborhood activities. Putnam (1999) reported that state-level differences in social trust and group membership are substantial and closely inter-correlated. These differences are surprisingly closely correlated with the measure of "state political culture".

*Socio-economic factors* are also seriously considered as vital factors in determining the social capital. Four indicators are used in this part, each providing information on different aspects of the social capital. They are: the household income, the education level of the head of household, the labour market (including job status, job condition, and wages) and the marital status.

Narayan & Pritchett (1997) study revealed a strong association between social capital and household income. It is true that people with lower incomes are less engaged in community life and less trusting than those who are better off, even holding education constant (Putnam 1999). He also stated that economic hardship in the form of lower incomes and feeling financially strapped, holding education constant, does account for lower levels of social trust and civic engagement (Putnam 1996). Kawachi et al (1997) reported that the size of the gap between rich and poor was powerfully and negatively related to the level of social capital. Nations with higher and more equal incomes were found to have stronger norms of trust and civic engagement than those with lower and less equal incomes (Knack & Keefer 1997). Onyx and Bullen (1999) also reported that normally low income group, have minimal financial and material resources, are in stress and in crisis, have difficulties with family functioning, have relatively low levels of social capital.

Numerous studies indicated that there is a strong positive relationship between levels of education and levels or stocks of social capital at individual and community levels. Those with higher educational level are more likely to participate in associations and trust others, compared to those with lower educational level. The highly educated individuals have more resources, knowledge, skills and external relations, which facilitate their participation in associations or to trust others (Putnam 1995, Knack & Keefer 1997, Onyx & Bullen 2000, Hughes, Bellamy, & Black 2000). Richard Lyton (2000) stated that lower real wages disrupted opportunities for social-capital formation. Labour market shock was significantly negatively related with social capital (Gaurav & Hoogeveen 2000). Employment is also strongly and positively related to social capital, which is correlated to engagement in civic life. Putnam (1993) reported that the employed peoples are more likely to be in groups and associations and to participate in civic life in the US than people who are not in paid work. In Australia, Hogan and Owen (2000) linked the paid employment to heightened levels of trust and institutional trust in particular. Using the European Community Household Panel (ECHP), Barbieri,

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Paugam, & Russell (2000) showed that social capital proved itself to be a useful resource for finding employment in open and flexible labour markets.

Marriage also influences social capital formation. The married persons are found to be involved more actively in social networks compared to those who are not married. In relation to the importance of marriage for social capital, Putnam (1999) found that controlling for education, age and race, single people men and women, divorced, separated or never-married-are significantly less trusting and less engaged civically than married people. He also stated that 'successful marriage, especially if the family includes children, is statistically associated with greater social trust and civic engagement'. A study conducted by Coleman (1988) reported that social capital was lower among single-headed households (such as single mother or father) than households headed by both mother and father. Richard Lyton (2000) reported that fewer marriages and more divorces would disrupt opportunities for social-capital formation. Based on the literature discussed above, in the present study, it is hypothesized that:

**Hypothesis 2:** There is a strong relationship between social capital erosion and demographic, geographic, and socio-economic factors

### 3. Conceptual Framework and Research Methodology

It is necessary to clarify the meaning of social capital concept before discussing the impact of the global financial crisis on social capital. Bourdieu (1985) stated that capital could be visualized from three dimensions namely; economic, cultural and social. According to Bourdieu (1985), social capital is an outcome of investment strategy, individual collection action, whether intentionally or otherwise with the purpose to establish social relationship. Bourdieu views social capital as individual source of economic capital. Coleman (1988) defines social capital as a basic resource such as responsibility, norms, hopes, information channels, and restrictions or opportunities that shapes society behavior. Putnam (1993) defines social capital as “norms and trust network” that facilitate collective action.

Social capital is often discussed either at the micro, meso or macro levels. At the micro (individual, households) and meso level (community), social capital refers to network and norms that govern individual, households and community. At the macro level, social capital comprises of government institutions, rules, civil society, as well as political freedom. Social capital at the macro level effects national development. Although the domain of social capital has been defined in many ways, this study used the definition of social capital that defined by the World Bank (1999a). According to World Bank, social capital “entails those horizontal and hierarchical associations and macro-level institutions, the interpersonal relationships and networks they form and the norms and values upon which they develop that can affect-either positively or negatively-the economic productivity of families, communities and civil society”.

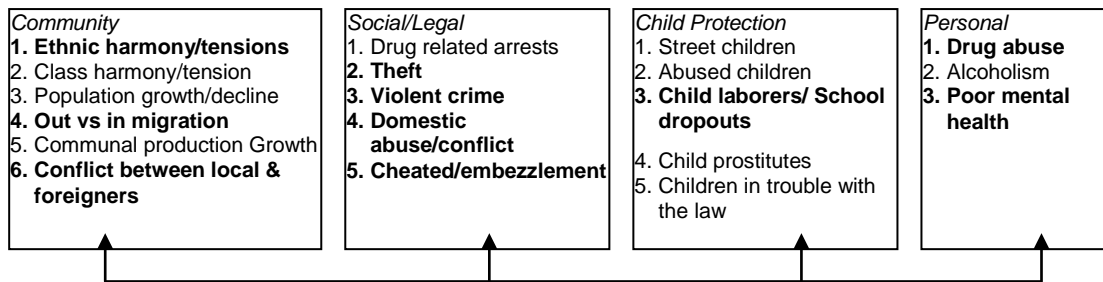
To aid in this analysis of social capital, this study divides the framework into four categories: (a) external and social influences on social capital mobilization; (b) the stock of social capital mobilization at the family level; (c) the stock of social capital mobilization at community and (d) the positive or negative “manifestations” of the changing stock of social capital. The concept of social capital “stock” refers to the

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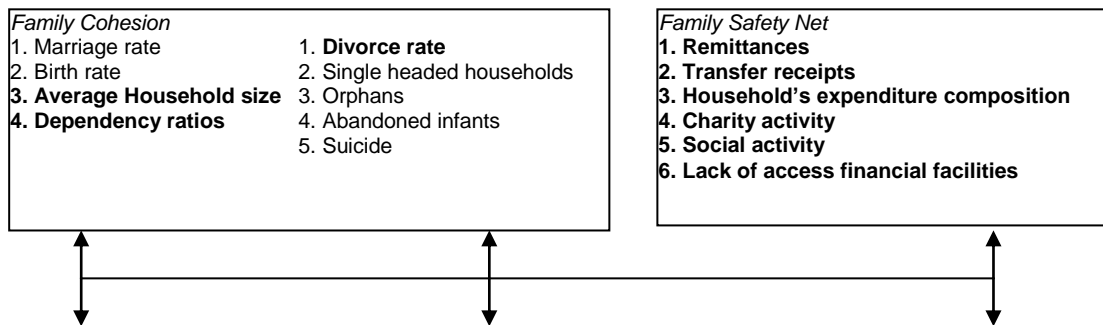
social foundations of families, communities and societies. The framework shown in Figure 1 contains four domains with their associated indicators. For the purpose of this analysis of social capital and the crisis, horizontal indicators of social capital stock and flow present at the family level are selected for direct measurement only and are shown in bold.

**Figure 1: Framework of Analysis for Malaysian's Social Capital**

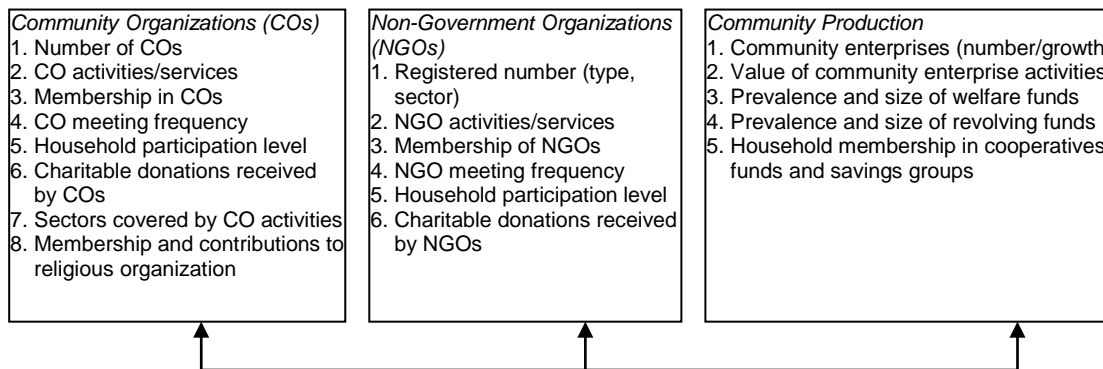
**Domain I: Manifestations (+/-) of Social Capital Formation and Mobilization**



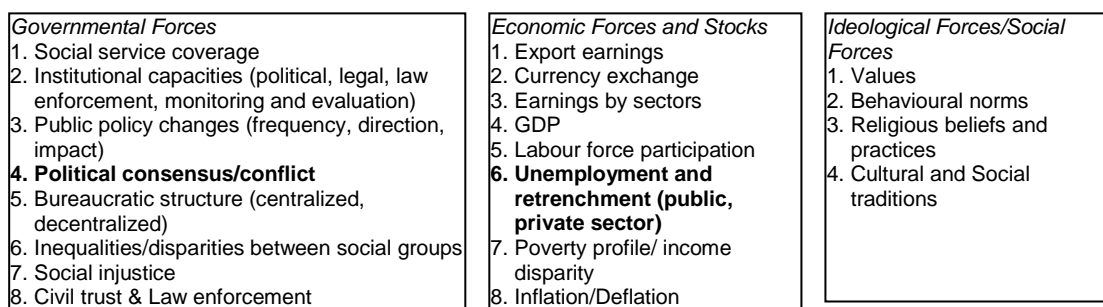
**Domain II: Stock of Social Capital at the Family/ Household Level**



**Domain III: Stock of Social Capital at the Community Level**



**Domain IV: Societal Stock of Social Capital and Exogenous Stocks**



Source: Adapted from Thailand Social Monitor (1999)

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Measuring social capital is difficult but not impossible. Several studies have identified useful proxies for social capital, using different types and combinations of qualitative, comparative and quantitative research methodologies (Woolcock & Narayan 1999). Social capital measures are taken as a composite index of some dimensions of social indicators of dysfunctioning in society (such as increasing child labour/school dropouts, increase frequency of withdrawal of savings, experience reduction in remittances, experience selling out of properties, experience reduction in transfer receipts, experience in migration, experience out migration, experience increasing theft incidences, experience increasing violent crimes, experience increasing fraud cases, experience mental stress, drug abuse, experience reduction in social activities, experience reduction in charity activities, less access to financial facilities, switching of political party affiliations, experience divorce / family conflicts, experience ethnic tensions and experience conflicts between local and migrants) in this study. The dependent variable is considered as a dummy variable. It employed the logit analysis to identify factors influencing erosion of social capital in Malaysia during the crisis period. The dependent outcomes are categorical with two mutually exclusive categories and the sum of the probabilities over both categories is equal to 1.

This study uses two approaches to analyze the impact of global financial crisis on social capital formation. This study adopts "Pre-post" approach as a first approach. It is comparing household's socioeconomic conditions prior to and after the global financial crisis. To determine whether the global financial crisis affected social capital, respondent were asked on types of social dysfunctioning experienced by respondents/family and the surrounding communities. Those who experienced social dysfunctioning such as theft, crime, cheat and divorce, are categorized as experiencing declination of social capital. The second approach concentrates on identifying variables that influence social capital declination for lower income households. Descriptive analysis and Logistic regression analysis have carried out to fulfil this purpose. This approach aims to create variables relevant to social capital based on respondents' ethnic background, state and residential areas, residential types, sex of household heads, household head's education, household head's occupation, retrenchment and out-migration.

This study adopts two primary methods to collect the information namely, participant observation and questionnaire. This study relied on the primary data that were collected from fourteen states under five regions. Fieldwork for the main survey was conducted during February and March 2009. The timing of the surveys was appropriate for pinpointing the short-term and medium-term impacts of the financial crisis. The data from individuals and households for January 2007 to December 2007 were compared with the data from those same individuals and households during the period from January 2008 to December 2008. A method of purposive sampling procedure has been applied. Data were coded directly on questionnaires and then entered into personal computers. The renowned computer software Statistical Package for Social Science (SPSS) has been used for data analysis.

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## 4. Research Findings

Discussion in this section is divided into two. The first part evaluates effect of the financial crisis on social capital formation among the lower income households. The second part identifies household's characteristics and determinant of social capital formation.

### 4.1 Effect of the Global Financial Crisis on Social Capital Formation

In order to test *H1*: "The GFC had a negative impact on social capital of low income households in Malaysia", descriptive analysis was performed. The study shows that the financial crisis caused a multiplicity of diverse social effects. Table 1 shows the indicators of social capital at the household level that were eroded during the crisis in comparison to the previous years. Child labour increase has been featured as a principal social effect of the financial crisis. The total number of households who sent their children to labour markets was 543 (27.2 percent). The financial crisis mainly affected the lower income households. The poor families who were struggling to make their means to meet their family expenditure were forced to send their children to labour markets to augment their drastically eroded income as the result of falling wages and job losses. Moreover, poor households took back their children from schools to reduce the cost involved in schooling. On the other hand, the employers were inclined to employ children for some reasons such as, saving on compulsory government provident fund (EPF). In addition, they did not need to pay for sick or annual leaves, and paid low wages to them.

Increased frequency of withdrawal of savings ranked as second most frequent social effect of the financial crisis, as reported by 539 households, which constituted as 27 percent of the total number of households surveyed. The increase of food prices coupled with decline of households' income was the contributing factors to withdrawal of savings frequently to augment insufficient incomes and to compensate for a rapidly rising inflation. The third significant social effect of the financial crisis was the reduction of remittances from children. Survey reported that 524 households (26.2 percent) out of all interviewed has experienced decreasing trend of such remittances resulted from the financial crisis. Due to economic slowdown in domestic economic activities during the financial crisis, the domestic labour market was weakened. Their children lost their job in formal sector and faced less working hours and salary. As a result, children were able to provide little support for their family.

Mental stress ranked the fourth as most frequently encountered social effect experienced by the households. As many as 453 households (22.7 percent) experienced mental pressure resulted from the financial crisis. The depression and anxiety were most probably caused by several problems such as declining income, increasing prices, work pressure, family problems, declining business, etc. that households faced during the crisis.

The declination of social activities (18.8 percent) featured fifth as a social consequence of the financial crisis as households were busy in performing additional jobs to supplement their income in order to meet increased price level. Moreover, some of them (8.5 percent) attempted to decrease charity activities such as donation, religious activities, brotherhood relationship etc. due to the hardship during the crisis.



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Cases of theft were widespread due to the financial crisis; approximately 217 households (10.9 percent) of the total surveyed households were theft-victims. The economic pressure on households and individuals resulted in an upsurge of property crimes. These included money, vehicles, house break-in and shop break-in, working tools, crops and livestock. Adolescents or naughty children, as well as those who were desperate or had financial problems due to the crisis were apparently responsible for most of the theft cases. This coincidence of events again suggests that economic pressure on household and individuals has led to this upsurge in crimes. Along with the property crimes, households have also experienced violent crimes (0.6 percent), domestic violence (1.4 percent) and violence between local and foreigners (0.8 percent) during the crisis. The negative impact of the financial crisis on jobs and the suddenness and shock of retrenchments had lashed out at targets of people that were close to them as in the case of domestic abuse. Mounting financial pressure had led to an increased domestic violence.

An increase in incidences of fraud and cheating had also been reported. Most of the respondents reported cheating by employers, middlemen, friends, customers and seller/businessman etc. The total number of households who were victims of fraud and cheating was 105 making up 5.3 percent of all of the households interviewed. The financial crisis had also reduced the households' access to financial facilities by 8.0 percent. Commercial banks and financial institutions became extremely conservative in extending credit and a disruption of normal financial intermediation was materialised due to huge depreciation and rising interest rate. As a result many became bankrupt and business firms were brought to close down.

In the case of migration, 162 (8.1 percent) households out of 2000 households were reported to migrate between states, cities, towns etc. Households' incidences of migration in and out were 2.9 percent and 5.2 percent, respectively. Retrenchments and attempts to look for a job elsewhere were reported as the cause of out-migration. Financial and family problems forced household heads to migrate to urban areas, firstly to search for new jobs primarily in the informal sector and secondly, to take advantage of the availability of subsidised foods and the social services. Moreover, migration had been reported as a means of joining family members, relatives or friends to share living. On the other hand, some households migrated to rural areas to work on family farms. Thus the financial crisis had caused both rural-urban and vice versa migration. The impacts of financial crisis on other dimensions of social capital were relatively small. These include switched political party affiliation (2.2 percent), drug abuse (0.5 percent), declined transfer receipts (4.8 percent) and racial conflict (0.1 percent). Overall nearly two-third of the sample, 65.3 percent of households was reported to face social capital constraints while the rest had not encountered it. So the results of the descriptive analysis indicate that the erosion of social capital resulted from the global financial crisis had embedded in the society.

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**Table 1: Social Capital Erosion Experienced by Households**

The Effect of the Dimension of Social Capital	Households Involved			
	Yes		No	
	Number	%	Number	%
Increasing child labour/School dropouts	543	27.2	1457	72.8
Increase frequency of withdrawal of savings	539	27.0	1461	73.0
Experience reduction in remittances	524	26.2	1476	73.8
Experience selling out of properties	59	3.0	1941	97.0
Experience reduction in transfer receipts	95	4.8	1905	95.2
Experience in migration	58	2.9	1942	97.1
Experience out migration	104	5.2	1896	94.8
Experience increasing theft incidences	217	10.9	1783	89.1
Experience increasing violent crimes	12	0.6	1988	99.4
Experience increasing fraud cases	105	5.3	1895	94.7
Experience mental stress	456	22.8	1544	77.2
Drug abuse	10	0.5	1990	99.5
Experience reduction in social activities	376	18.8	1624	81.2
Experience reduction in charity activities	170	8.5	1830	91.5
Less access to financial facilities	159	8.0	1841	92.0
Switching of political party affiliations	43	2.2	1957	97.8
Experience divorce / family conflicts	27	1.4	1973	98.6
Experience ethnic tensions	2	0.1	1998	99.9
Experience conflicts between local and migrants	15	0.8	1985	99.2

Notes and source: Field data (year 2009)

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## 4.2 Determinants of Changes in Social Capital

In order to test *H2*: “There is a strong relationship between social capital erosion and demographic, geographic, and socio-economic factors”, Chi-square test and logistic regression analysis were performed to find a set of factors of households which best allows one to explain the social capital condition in Malaysia in the context of erosion or otherwise. The purpose of this section is to identify the households’ characteristics in terms of social capital change during the crisis period. This allows identification of the most affected households.

One distinct characteristic that can significantly explain the social capital status is the importance of occupation sector of head of households. In terms of occupational sector, it was found that household’s experienced on the erosion of social capital differed significantly ( $P < 0.01$ ) among the various occupational sectors of the heads of households. The highest number of households (73.6 percent) experiencing reduction in social capital was in the informal sector (Table 2) followed by the services sector (72.4 percent), construction (71.0 percent), and manufacturing sector (69.7 percent) seem to have experienced greater erosion in social capital formation compared to those in agriculture. There are 432 (55.2 percent) head of households out of 784 were reported to have experienced social capital erosion resulting from the crisis. Overall 65.3 percent households had experienced social capital erosion as a result of the financial crisis.

This situation arose because the workers of the rural and the urban informal sectors faced acute financial strain. The petty trader’s business was negatively affected by the financial crisis. Moreover, the poor economic situation, the corporate crisis and the credit squeeze contributed greatly in declining margins in the informal sector. For instances, households earning a living from the informal sector were hardly-hit because it has been historically left out from the design of formal social and financial security safety nets due to their disadvantage in regard to education and skills. Thus these households were being out of business or staying within it at a reduced scale and they were left without any means to supporting themselves other than dipping into their personal savings if they have got any.

Based on a classification of the sample by residential domain into urban and rural, an analysis in regard to erosion of social capital has been carried out. Findings as obtained from such analysis have shown that household’s views on social capital erosion differ significantly among residential areas ( $P < 0.01$ ). Households in urban areas were found to have experienced social capital erosion, which was higher than rural households as generally rural people are engaged in agriculture sector. The higher percentages (71.2 percent) of households that had experienced social capital erosion were reported to reside in urban areas compared to rural areas (57.8 percent). These are shown in Table 2. This situation arose because the financial crisis affected non-agriculture sectors more severely compared to agricultural sector, which are based in rural areas. Moreover, social relations, family ties and helpfulness were found to be stronger in rural areas in comparison to urban areas. The analysis demonstrates that residential location is one of the determinants of social capital formation.

Based on the ethnic background of household heads, the study shows that the social capital erosion differs significantly ( $P < 0.01$ ) i.e. significant at 1 percent level, among the low-income households. Table 2 shows that the group designed as “others” and

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non-Bumiputera experienced relatively higher social capital erosion. This situation is indicated by higher percentage of positive responses of households regarding the social capital erosion both in Chinese (79.3 percent) and Indian (74.5 percent) compared to Bumiputera [Malay 72.8 percent, Natives of Sarawak 53.8 percent and Natives of Sabah 49.9 percent]. It was found in the survey that most of the non-Bumiputras and other migrants were engaged in non-agriculture sectors those were more negatively affected by the financial crisis than agriculture sector. For this reason, non-Bumiputras and migrants were experienced higher social capital erosion than Bumiputras.

Majority of the Bumiputera in Sabah and Sarawak are engaged in the agriculture sector and live in the rural areas. From the preliminary analysis, agriculture sector and rural areas were found to be less affected by the crisis. Among the Chinese and Indians, the majority of them live in the urban areas and are engaged in informal, services, construction and manufacturing sectors. These sectors were more affected by the crisis compared to agriculture. Thus they experienced higher social capital erosion, compared to Bumiputera especially those from Sarawak and Sabah.

Concerning the gender status of the head of households, households' view did not differ significantly ( $P > 0.10$ ). The percentages of households who have experienced social capital erosion were slightly higher for female (69.9 percent) than male (64.9 percent) (Table 2). Historically, men have enjoyed several advantages over women in all respects. For example, men have had, on average, higher occupational status, higher benefits from Social Security, higher rate of self-employment, and higher income than women. But in the case of Malaysia, both are having almost same advantages and benefits because women are found to be educated as well as skilled in Malaysia. For this reason, social capital erosion resulted from the crisis were not significantly different for gender differential.

In terms of education level of head of households, social capital erosion differed significantly ( $P < 0.01$ ) among the low-income people. The result of the study shows that the heads of households who were uneducated (50.6 percent) experienced less social capital erosion compared to head of households with education (Table 2). Head of households having secondary school level education experienced higher social capital erosion (about 72.4 percent) followed by the household heads with primary education level (60.8 percent) and then household heads with tertiary education level (53.1 percent). In general, uneducated people are engaged in agricultural sector and particularly secondary level educated people are employed in low-skilled or semi-skilled jobs in informal and services sectors.

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**Table 2: Households' Positive (Yes) Responses to the Erosion of Social Capital**

Factor s	Erosion of social capital due to Global financial crisis			
		'Yes' Responses	Total Number	Percentage
Occupation Sector	Informal	178	242	73.6 <sup>***</sup>
	Service	328	453	72.4 <sup>***</sup>
	Construction	154	217	71.0 <sup>***</sup>
	Manufacturing	212	304	69.7 <sup>***</sup>
	Agriculture	433	784	55.2 <sup>***</sup>
	Chi-Square likelihood ratio = 57.772, D.F. = 4, *** = Sig. at 0.01			
Residential Area	Urban	792	1113	71.2 <sup>***</sup>
	Rural	513	887	57.8 <sup>***</sup>
	Chi-Square likelihood ratio = 38.564, D.F. = 1, *** = Sig. at 0.01			
Ethnicity	Malay	743	1021	72.8 <sup>***</sup>
	Chinese	115	145	79.3 <sup>***</sup>
	Indian	35	47	74.3 <sup>***</sup>
	Natives of Sabah	231	463	49.9 <sup>***</sup>
	Natives of Sarawak	163	303	53.8 <sup>***</sup>
	Others	18	21	85.7 <sup>***</sup>
Chi-Square likelihood ratio = 109.294, D.F. = 5, *** = Sig. at 0.01				
Gender	Male	1196	1844	64.9 <sup>NS</sup>
	Female	109	156	69.9 <sup>NS</sup>
	Chi-Square likelihood ratio = 1.628, D.F. = 1, NS = Not Significant			
Education	No education	157	310	55.6 <sup>***</sup>
	Primary	332	546	60.8 <sup>***</sup>
	Secondary	782	1080	72.4 <sup>***</sup>
	Tertiary	34	64	53.1 <sup>***</sup>
	Chi-Square likelihood ratio = 61.778, D.F. = 3, *** = Sig. at 0.01			
Occupation Status	Unemployed	22	27	81.5 <sup>***</sup>
	Employer	47	62	75.3 <sup>***</sup>
	Employee	681	967	70.4 <sup>***</sup>
	Self-employed	555	944	58.6 <sup>***</sup>
	Chi-Square likelihood ratio = 36.720, D.F. = 3, *** = Sig. at 0.01			

Notes and Source: Field data (Year 2009)

Household heads, who were working in informal sector, were affected negatively since they failed to get loan approvals during the country's "economic austerity phase". Indeed, maximum service sector workers were retrenched during the crisis period due

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to closure of banks, and financial institutions and other private service sectors. Some employees faced pay cuts, temporary layoff, and voluntary layoffs. For these reasons their income declined drastically. Retrenchment and income declination led to social capital deterioration of these households simultaneously. From an economic viewpoint, higher income leads to a greater social capital (Narayan & Pritchett 1997).

Occupational status is also important to characterize those who experienced changes in social capital. On the basis of the households' view, the study shows that the social capital erosion differed significantly ( $P < 0.01$ ) among the low-income households. Table 2 shows that social capital erosion was the highest, about 81.5 percent, amongst the unemployed. Those who were unemployed had less social relations. Social capital erosion was the lowest among the self-employed households.

### 4.3 Estimated Logistic Model for the Determinants of Social Capital Erosion of Households

The results of the model are found very satisfactory. The  $R^2$  value is 0.465, which is considered as acceptable. In the present model, the Chi-square value of 462.212 at 0.01 significant level with 15 degrees of freedom indicates that logistic regression was meaningful in the sense that the explained variable was related to each specified explanatory variables.

The results of fitting the logistics regression model to the Malaysian data for the whole sample are presented in Table 3. The effects of the financial crisis on the erosion of the social capital in Malaysia were estimated and an array of variables used as regressors are given in the Table 3.

The regression analysis demonstrates that the coefficient value of the variable of residential areas was found to bear positive sign with the statistical significance at 0.05 level. It indicates that holding other factors constant; households who lived in the urban areas tended to experience higher social capital erosion than those who lived in the rural areas. The estimated odd ratio 1.328 indicates that the households who lived in the urban area ( $D_2 = 1$ ) were 1.328 times more likely to experience the social capital erosion than the households who lived in the rural area ( $D_2 = 0$ ). This result is supported by the conclusions of recent research works on social capital by Putnam (1996), Moser (1996), Narayan and Pritchett (1997), Onyx and Bullen (1998), Fountain (1997), Pena and Lindo-Fuentes (1998), and Krishna and Elizabeth (1999).

The negative relationship of marital status ( $D_3$ ) indicates that the head of household's that was single is more likely to experienced social capital erosion compared to married household' head. The estimated odds ratio of 0.569 indicates that single (unmarried) headed households ( $D_3 = 0$ ) were 1.76<sup>4</sup> times as high at risk for experiencing the social capital erosion as the married headed households. This result is strongly supported by findings of Coleman (1998) Putnam (1999), and Richard (2000). They also reported that social capital is lower among single-headed households (such as single mother or father) compared to households headed by both mother and father. In general, family is the main source of social capital. So single peoples are less strong family ties and social relation than married people.

Head of household's age ( $D_1$ ) proved to be an important determinant of social capital erosion. This variable bears a positive sign, meaning that the higher the age of the

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household's head, the more likely that the household would experience social capital erosion. It is statistically highly significant at 0.01 level. The estimated odds ratio of 1.031 indicates that the households with old head of household were 1.031 times more likely to experience the social capital erosion than the households whose heads were young. This result contrast somewhat with the findings of the Boulder country results of the National Social Capital Community Benchmark Survey, Rash (2001), Jackson (1998), Putnam (1999) and Krishna and Elizabeth (2000). They found that level of social capital remain consistently high throughout the higher level of age. This may be dependent on the research period and economic condition. Probably the results of this study showed the different signs due to abnormal economic conditions and it is strongly supported by findings of the study of Onyx and Bullen (1998). In the crisis period, the old people experienced more termination from work, job-loss and decrease in wages than younger people. When the old people lost job and experienced decrease in wages, they suffered a loss of social status and income, and became less trusting, participatory in family and community.

The positive sign of dependency ratio of households ( $D_4$ ) indicates that the household with high dependency ratio tended to experience relatively high social capital erosion compared to the household with lower dependency ratio. The estimated odds ratio 1.350 implies that the households with higher dependency ratio were 1.350 times more likely to experience the social capital erosion than lower dependency ratio households. A recent study by Coleman (1990) has also found a strong negative correlation between social capital and dependency ratio. The higher the ratio of dependency, the lower the social capital. His findings strongly supported the results of this study. On the other hand, the finding of this study contradicts with the result of Onyx and Bullen (1998). The different consideration of social capital dimensions and economic group can be the reason of this contradiction. They measured social capital as participation to local community and considered higher or more equal income community. Low-income households with higher dependency ratio were bound to be experienced erosion of social capital dimensions due to economic hardship in the form of lower income and financial frustration that resulted from the crisis.

The positive relationship of the change of income ( $D_5$ ) indicates that households with decreased income were more likely to experience with social capital erosion compared to the households whose income was unchanged or increased. It is statistically highly significant at the level of 0.01. The estimated odds ratio 1.514 indicates that for this data set, the risk of social capital erosion for the households who experienced the decrease of income ( $D_5 = 1$ ) was higher than the risk for those households who did not experience decrease of income ( $D_5 = 0$ ). The findings of the recent studies conducted by Narayan and Pritchett (1997), Grootaert (1999), Putnam (1993), Putnam (1999), Lawrence, Maluccio, & May (1999), Putnam (1996), Knack and Keefer (1997), Kawachi et al (1997) and Onyx and Bullen (1999) have strongly supported the results of this study. They also found a strong positive correlation between social capital and income. Generally it is true that people with lower income and those who feel financially strapped are less engaged in community life and less trusting than those who are better off. So it can be confidently said that income is an important factor of social capital.

The variable labour market shock ( $D_6$ ) has been found to be statistically significant at level 0.01 and positively related to the declination of the households' social capital. It indicates that, the households whose members experienced labour market shock were

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more likely to experience social capital erosion compared to those households whose members had not experienced. The estimated odds ratio 12.345 indicates that the households whose family members faced labour market shock ( $D_5 = 1$ ) were almost 13 times more likely to experience the social capital erosion than the household with members who did not face labour market shock ( $D_5 = 0$ ), where the other variables were treated as control variables. This result is strongly supported by the findings of Richard Lyton's (2000) and Gaurav & Hoogeveen (2000). They stated that labour market shock is significantly negatively related with social capital. Thus the study concluded that the social capital had deteriorated in Malaysian lower income households by the financial crisis through termination, losses of job and decrease of wages.

Taking agriculture sector as a reference occupation sector, in terms of occupation sectors the findings indicate that the households whose heads were engaged in informal, construction, service and manufacturing sectors were found to be more likely to experience social capital erosion compared to those households whose heads were engaged in the agricultural sector. This implies that the sectoral distribution of households by mode of economic activity is a determining variable as far as the inter-relationship between social capital and factors' affecting it is concerned. The estimated odds ratios 1.803, 1.684, 1.687 and 1.548 indicate that the households whose head's occupational sectors were informal ( $D_7 = 1$ ), construction ( $D_8 = 1$ ), service ( $D_9 = 1$ ) and manufacturing ( $D_{10} = 1$ ) respectively had 1.803, 1.684, 1.687 and 1.548 times more risk for experiencing the erosion of social capital than the households whose head's occupation sector were agriculture. It is clear in the previous analysis that informal sector was worst affected by the financial crisis



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**Table 3: Results of Logistic Regression Analysis for the Determinants of Social Capital Erosion of Households ( $Y_{SC} = 1$  represents households which experienced erosion of social capital during the crisis and  $Y_{SC} = 0$  otherwise)**

Variable	Estimated Coefficient ( $\beta$ )	S.E	Exp( $\beta$ ) <sup>a</sup>
Constant	-2.385 (-6.310)***	0.378	0.092
Age of head of Household ( $D_1$ )	0.031 (5.167)***	0.006	1.031
Residential Area ( $D_2$ ) (1 for urban)	0.301 (1.967)**	0.153	1.328
Marital Status ( $D_3$ ) (1 for married)	-0.563 (-2.582)***	0.218	0.569
Dependency Ratio ( $D_4$ )	0.300 (3.448)***	0.087	1.350
Change in Income ( $D_5$ ) (1 for decrease)	0.415 (3.807)***	0.109	1.514
Labour market shock ( $D_6$ ) (1 for experienced labour market shock)	2.513 (12.502)***	0.201	12.345
Occupation Sector			
Informal ( $D_7$ )	0.590 (2.706)***	0.218	1.803
Construction ( $D_8$ )	0.521 (2.357)**	0.221	1.684
Service ( $D_9$ )	0.523 (2.753)***	0.190	1.687
Manufacturing ( $D_{10}$ )	0.437 (2.132)**	0.205	1.548
Education Level of Household head			
Primary level Education ( $D_{11}$ )	0.292 (1.718)*	0.170	1.339
Secondary Level ( $D_{12}$ )	0.968 (5.378)***	0.180	2.632
Tertiary Level ( $D_{13}$ )	0.049 (0.147) <sup>NS</sup>	0.334	1.050
Living Region of Households			
Peninsular Malaysia ( $D_{14}$ )	0.569 (4.411)***	0.129	1.766
Sarawak ( $D_{15}$ )	0.334 (2.272)**	0.147	1.397
Chi-square statistic	462.212***		
d.f	15		
Cox & Snell $R^2$	0.341		
Nagelkerke $R^2$	0.465		
-2 Log likelihood	2121.329		

Notes and source:

1. Field data (year 2009)

2. Figures in parenthesis denote the 't' values of the regression coefficients

3. \*\*\*, \*\*, \*, and 'a' indicate significant at 0.01, 0.05, 0.10, and estimated odd ratio. NS indicate not significant.

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and the income of the households who were engaged in this sector was drastically reduced. In this regard, to reduce their expenditures, the households in informal sector took back their children from schools and reduced the charity activities. They also experienced family conflicts, mental stress, selling of properties and withdrawal of savings due to reduced income. The results clearly suggested that in terms of occupational sector, households with the head working in the informal sector seem to have experienced the highest level of social capital erosion followed by service, construction, manufacturing and agriculture sectors.

Taking no education as a reference education level, this study found that the households with a head having primary and secondary levels of education were more likely to experience social capital erosion compared to those households whose heads were non-educated. The estimated odd ratios 1.339 and 2.632 provided the evidence to the effect that the household with primary level educated head ( $D_{11} = 1$ ) has 1.339 times and with secondary level educated household head ( $D_{12} = 1$ ) had almost three times more risk to experience social capital erosion than the household with non-educated household head. On the other hand, the coefficient of the variable  $D_{13}$  (tertiary level) was positively related to social capital erosion toward the financial crisis but was statistically insignificant. The result suggests that the household heads with secondary level education were the highest to experience social capital erosion followed by primary level educated and non educated heads. This result contradicted with the findings of Putnam (1995), Knack and Keefer (1997), Onyx and Bullen (2000) and Hughes, Bellamy, & Black (2000). They stated that higher is the level of education, the higher is the social capital because the highly educated individuals have more resources, knowledge, skills and external relations that facilitate their participation in associations or to trust others. Normally educated people are occupied in non-agricultural sector. It could be the reason for the contradiction with this study.

From the estimated equation it is noted that households' living region categories  $D_{14}$  (Peninsular Malaysia) and  $D_{15}$  (Sarawak), had a significant positive effects on social capital erosion towards the financial crisis. Sabah was taken as a reference living region against which the categorizations of other regions were carried out. The positive relationship indicates that households living in Peninsular Malaysia and Sarawak were more likely to experience social capital erosion compared to those living in Sabah. The estimated odds ratios of 1.766 and 1.397 indicates that the households living in Peninsular Malaysia ( $D_{14} = 1$ ) and Sarawak ( $D_{15} = 1$ ) were almost two times and 1.397 times more likely to experience social capital erosion compared to households living in Sabah ( $D_{14} = 0, D_{15} = 0$ ). The results clearly suggest that in terms of living region, households living in West Malaysia experienced the highest level of social capital erosion followed by Sarawak and Sabah. The finding of this study is soundly supported by the study of Putnam (1999). According to them, social capital depends on one's social location and is constrained by various factors such as the level of the geographical and social isolation, sources of economic development of the region, lack of financial resources and the specific institutional arrangements that structure everyday life.

## 5. Concluding Remarks

This study attempts to understand how the financial crisis has affected social capital with identification of demographic, geographic and socio-economic factors that

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influenced social capital declination of the low-income households. This study reconfirms that the low-income population have experienced enormous social impacts from a severe financial crisis. Global financial crisis brought about social dysfunctioning at individual level, as illustrated by incidence of crimes, theft, school dropout, withdrawal of savings, drug abuse, fraud, mental unrest, family conflicts, racial conflicts and conflicts between local and foreigners/immigrants. The arrays of social problems as faced by households were school dropouts (27.2 percent), followed by withdrawal of savings (27.0 percent), decrease of remittances (26.2 percent) and mental unrest (22.8 percent) respectively. Moreover, it can also be concluded that in terms of intensity of social capital erosion, the effect was highest among households in Peninsular Malaysia, urban dwellers, households working in informal sector and non-Bumiputras (especially Chinese), households who were higher age of heads, higher dependency ratio, secondary level educated heads, and unmarried heads. This study concluded that demographic factors; age, gender, and dependency ratio, geographic factors; residential area and living region, and socio-economic factors; change in income, education, marital status, and labour market shock have significant effect on social capital declination by the global financial crisis. Investigation aimed at identifying the determinants of social capital formation, which was necessary as they can help policy makers to embark on taking measures and formulation of policies targeting the protection and development of social capital stock. This applies in a stronger sense to the lower income category in Malaysia.

The study showed that the existing social welfare/safety system in the crisis-hit Malaysia is inefficient to prevent economic shocks that cause social unrest. In this regards, this study recommends the following specific suggestions: social safety net should be in line with the lull in economic growth and changes in the demographic and family structure as well; appropriate categorisation of those vulnerable to the financial crisis and other risks should be taken into consideration especially in the design of the poverty indicators; welfare policy should be targeted to the poor who are the most victim of the economic crisis instead of trying to maximize the number of beneficiaries; Government should design social programmes in such a way that is ensure participation of local governments, non-government organizations, civil and community organization, and beneficiaries in the implementation process such as planning, executing, monitoring, and evaluating of poverty eradication programmes.

Since cross-sectional data were collected at one point in time, causal inferences based on correlations must be guarded. Additionally, all data were drawn from low-income household surveys, posing risks of method variance or response biases. Since we could not directly compare respondents with medium and high income households.

### Endnotes

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<sup>4</sup> The estimated odds ratio 0.569 is less than 1, indicating that, for the data set, the risk of social capital erosion for married headed households is less than the risk for single (unmarried) headed households. In particular, we can write  $0.569 = 1/1.76$ , it means that the risk for single headed households is estimated as 1.76 times as larger as the risk for married headed households.

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