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The Internet, Social Capital, and Civic Engagement in Asia

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Abstract In this paper, we seek to explain (1) how the rise of Internet communication is related to the level of social capital and (2) the role of internet and social capital in shaping civic engagement in Asia. We use cross-national public opinion data of thirteen Asian countries from 2010 to 2012 to investigate these questions. Our results show that social capital is still measured best by traditional membership in social organizations. While the Internet increases social contacts, we could not find evidence that social capital is directly increased by the Internet. We also find that social capital developed through voluntary participation in social organizations most effectively promotes civic engagement activities, except for non-electoral actions that involve joining a demonstration or using violence. Internet usage turns out to be the most effective means of civic engagement for these cases.

Keywords Social capital · Internet · Civic engagement · Political participation

What explains cooperation, whether political or economic, among members of a society? While the establishment of an efficient monitoring and enforcement system is considered key to prevent incentives for unilateral defection, it relies on the assumption that members of the society are independent. The possibility of voluntary cooperation can go further depending on the level of social capital. As Putnam (1993, 177) notes, "Norms of

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generalized reciprocity and networks of civic engagement encourage social trust and cooperation because they reduce incentives to defect, reduce uncertainty, and provide models for future cooperation."

Social capital refers to the amount of effective mobilizing power that people possess through developing social relations to achieve private (Bourdieu 1986) or public goals (Coleman 1988).[1] It comprises three elements: networks, capacity, and objective. These elements are interrelated, and each of them is indispensable in shaping the defining features. *Networks* by definition encompass all social relations people have built and which could potentially become the target of mobilization[2] (Burt 2000). *Capacity* means the effectiveness of mobilizing attempts with which people exert their influence over others (Granovetter 1973). *Objective* is related to the nature of mobilizing activities and asks whose goal is being served (Lin 1999a). People use social capital for a private purpose if only they or affiliated groups are beneficiaries, as shown, for example, in the case of rotating savings and credit associations. However, we can identify varying levels of social capital that serve a public purpose when the interest is collective, such as trust, norms, sanctions, and authority (Lin 1999b, 35). In a nutshell, the fundamental theme of social capital research is related to the following questions: how social relations are organized, to what extent different modes of social relations can be effectively mobilized, and what differences account for the effectiveness of mobilizing power.

The above framework is inspired by Lin's (1999b) article in *Connections: The Quarterly Journal*, in which Lin summarized the theoretical development of social capital theory since 1980. Lin's discussion focused on the concept of social networks (pp. 37–38), and he proposed two key measures of social capital: embedded resources and network locations. Embedded resources refer to "the amount or variety of such characteristics (valued resources, such as wealth, power, and status) of others with whom an individual has direct or indirect ties" (p. 36). Network locations refer to "the location of individuals (strength of ties, such as intimacy, intensity, interaction, and reciprocity) in a network as the key to social capital" (p. 36). The measures of embedded resources and network locations both aim to tap into the mobilizing capacity which an individual possesses in his/her social relations.

On the other hand, Lin's article also stressed the different nature of social capital in terms of serving private versus public interest. As a relational asset, social capital can be conceptualized as individual or collective goods, but the theories developed from the two conceptions are very different in terms of their scope of explanations. The former broadly applies to all aspects of social life and the utility of social capital could be simply driven by self-interest. However, the latter is usually associated with human behavior in public domain where implicit cooperation is necessary to achieve a common goal of collective nature. Behind this distinction lies an important assumption: the logic of how social capital explains social or political behavior depends on the different objectives regarding whose interest is being served.

[1] In this paper, most of the discussion on social capital is drawn from the literature in sociology and political science. The authors intend to evaluate how the concept and measure of social capital are affected by the progress of information and communication technologies (ICTs). The main target of investigation concerns what impact the change of social capital might have on civic engagement.

[2] What is the relationship between mobilization and civic engagement? Civic engagement by definition is a collective action that involves with public interest in nature. Because it is a collective action, it depends on how a group of people is intentionally organized to join the action. Thus, civic engagement is inevitably related to the concept of mobilization. However, mobilization is not a synonym for civic engagement since mobilization can occur for other purposes that have nothing to do with public interest.

In this paper, we use cross-national public opinion data from thirteen Asian countries to investigate how social capital and its impact on political participation are changing with the rise of Internet usage. We intend to answer the following two questions. First, does the rise of Internet communication significantly change the level of social capital in East and Southeast Asia? Second, how and to what extent does the role of internet and social capital affect civic engagement in the same region? Our empirical results indicate that social capital is still measured best by traditional membership in social organizations. The Internet plays a role in terms of increasing the number of contact opportunities. While the increase of contact opportunities can elevate the level of social capital, this effect is limited compared to the direct relationship of organizational affiliation with social capital. The Internet could help develop social capital indirectly, but it does not automatically increase social capital, let alone replace the ways in which social relations are organized.

We also examine how and to what extent social capital promotes civic activities such as electoral participation, political contacts, and non-electoral participation. We find that social capital developed through voluntary participation in social organization has the greatest effectiveness in promoting all sorts of civic engagement activities, except for non-electoral collective actions that involve joining a demonstration or using violence. Internet usage is the most effective means of mobilization when the collective action being organized require secrecy and intend to exert severe consequences to the incumbent political order, including joining a demonstration or using violence for a political cause. Interpersonal trust only helps increase mobilizing power in terms of specific trust and when the targeted actions concern the public interest that accords with their own self-interest, such as solving local problems or signing a petition. Other than that, we found no significant finding that links interpersonal trust to participating in civic activities.

1 Social Capital and the Increasing Use of Internet

In this section, we explain how the three elements of social capital—networks, capacity, and objective—can change and how this change affects civic engagement as the Internet revolutionizes the ways in which people interact with one another and, hence, brings about a fundamental change in social relations. While we mainly adopt the theoretical perspective from Lin (1999b), we focus more on the collective nature of social capital, and particularly, varying modes of civic engagement such as electoral or non-electoral political participation. We start our discussion by clarifying the concept of social relations. In the simplest sense, social relations can be defined as intentional interactions between oneself and others that involve mutual understanding of the social roles both play. Putnam (1995) indicates two kinds of social relations. One is "bonding," which indicates relations of people who share in-group loyalty based on ethnicity or religion. The other is "bridging," which is associated with networking interactions and capacity building with people who have different characteristics (e.g., civil rights movements). The last element of objective of social capital is also related to "bonding" and "bridging" when social relations are established to promote or facilitate collective actions with the nature of public interest. Moreover, in both cases of "bonding" and "bridging," people usually categorize social relations by the degree of closeness in terms of the concentric radius to themselves. The closeness of social relations can be ranked by the proximity of interpersonal distance, ranging from lineal descendants, relatives, friends, acquaintances, to strangers (Torche and

Valenzuela 2011). This sequence usually reflects the strength of interpersonal relationships from highest to lowest.[3]

While the strength of the above relationships is inversely related to the length of interpersonal distance, intended organizational participation is very likely to prove an exception under specific conditions. In fact, voluntary participation in social organizations could establish a more consolidated relationship through mutual commitments without actual live contact with other people (Wellman et al. 2001). This diverts our attention from the way social relations are traditionally organized to the varying modes of how social relations are developed under the contemporary technology of social communication. In particular, we refer to the remarkable breakthrough of telecommunication and Internet technology in the last decade (Huysman and Wulf 2004). The key question behind this concern is how much the rise of the Internet and new social media would change social capital in terms of scope, strength, and dependability (Wellman et al. 2001; DiMaggio et al. 2001).

The scope of social capital and its effects could be altered fundamentally because the rise of the Internet, and in particular new social media, has caused a revolution of social networking by making interpersonal contacts extremely easy and costless, and thus has significantly reduced the cost of collective action (Farrell 2012). Unlike the traditional modes of social networking, which are subject to spatiotemporal restrictions, interpersonal contacts via the Internet and new social media can transcend most of the natural barriers in a timely fashion. Once people can easily transcend spatiotemporal restrictions when communicating with others, the frequency of interpersonal contacts and the scale of potential networking resources are expected to rise greatly and thus change the scope of social capital.

A major difference between traditional and Internet-based networking pertains to the authenticity of information and the privacy of communication. Due to spatiotemporal limitations, people spend more effort on obtaining greater pre-knowledge of the target person or institution when they participate in traditional networking activities. Not only do people need to pay coordination costs, but the networking result has to be vindicated through certain forms of verification, such as an identity check for the approval of membership. This reduces the privacy of traditional networking activities, since the whole process requires a certain number of people to be involved. As the Internet is used extensively, however, the exponential increase of contact opportunities and the computer-based interface of communication both increase reasonable doubts about the authenticity of information (Hine 2000, 118–146), while the other side of the coin is the greater protection of privacy for social networking activities.

This generates a theoretical puzzle concerning whether the rise of the Internet would strengthen or weaken the solidarity of the bonding and/or bridging relationship that might become a potential source of social capital. Nie (2001) argues that the Internet causes people to spend more time alone and less time with family and friends; however, Katz and Aspden (1997) note that cyberspace allows people to create friendships. To unravel this

[3] The discussion of social capital in political science literature tends to presume its public or collective character and contrast it with private or self-interested aspiration. In one of the earliest works, *The Moral Basis of a Backward Society*, political scientist Edward Banfield (1958) proposed that the lack of "public spiritedness" (p. 20) and interpersonal trust beyond the immediate family explained why southern Italy was relatively backward in development compared to the northern part of the country. The nuclear argument converges exactly with that of a later classic work of social capital in political science (Putnam 1993), which demonstrates how social capital can explain the level of civic engagement in democratic societies.

question, we need systematic studies on the effectiveness of civic engagement through traditional and innovative means of social networking. In particular, we focus on the capacity dimension: whether the progress of the communication technology would bring about significant changes in the strength of social capital.

Besides the issues of network and capacity, various objectives behind the use of social capital define the nature of the mobilization activity. The categorization of private versus public purpose distinguishes whether social capital is applied to pursue self-interest or a public goal that involves collective interest (Woolcock 1998). In general, the self-interest goals would make the use of social capital akin to currency exchange based on the reciprocal principle, typically exemplified in gift-giving behavior in human society. However, when the goals contain a public interest and can hardly be perceived to concern one's self-interest, the use of social capital requires not just network and capacity but some sense of civic duty and a certain level of social trust (Woolcock 1998, 161–167). Without a sense of civic duty, participation in collective action in the pursuit of public interest is difficult because people have an incentive to free ride anticipating that someone else is going to participate and, therefore, provide public goods for them (Olson 2009). Without social trust, people lack confidence about whether their participation would be exploited by someone for other purposes; such exploitation not only causes emotional suffering but also estranges people from future civic engagement.

The above discussion characterizes two conflicting effects by which the rise of the Internet can affect social capital and civic engagement. On the one hand, Internet makes the pursuit of public interest easier because it plays an important role in networking and capacity building; on the other hand, the trust issue associated with the free-rider problem on the backdrop of increasing numbers and scales of internet frauds can greatly neutralize people's aspiration to engage in civic activities. The net effect of rising internet usage on social capital and civic engagement depends on the relative magnitude of two composing countervailing effects that work in opposite directions. That is, it is an empirical question to ask how the rise of the Internet is associated with the existing social capital and whether the Internet and other social capital measures promote or weaken civic engagement. With the answers to these questions, we are better equipped to explain whether Internet technology makes social capital more powerful in general and what kind of civic engagement could be easier or harder to achieve.

2 Research Hypotheses

In this section, we summarize the theoretical expectations regarding the relationship among the Internet, social capital, and civic engagement as testable hypotheses. The rise of Internet usage has largely reduced the networking cost and increased contact opportunity through technological innovation, but its impact to interpersonal trust might be indeterminate since the issues of anonymity and fraud might countervail the positive effect of internet on, for example, efficient networking in the cyberspace. Hence, we formulate two hypotheses regarding how internet explains the level of social capital in terms of social network and contact opportunity.

Hypothesis 1a Greater internet usage is positively associated with the level of social capital in terms of social network.

Hypothesis 1b Greater internet usage is positively associated with the level of social capital in terms of contact opportunity.

The rise of Internet that represents the progress of social communication can cause salient changes in civic engagement. First, internet shortens the information gap between the ruler and the ruled and, therefore, people can access important information related to public affairs. Second, the interactive mode of communication can affect the way people participate in public affairs. For example, people may expect governments to respond promptly to their demands. People may be able to voice out their discontent easily using the internet. Third, the Internet provides great chances to those who intend to draw immediate public attention in a customized way that satisfies different kinds of audiences with varying demands. These changes suggest that the impact of the Internet on civic engagement is not merely mediated through the factor of social capital, but an all-encompassing phenomenon that greatly changes people's social behavior through technological innovation.

Thus, we argue that interest usage, which signifies the level of socialization, can affect the level of civic engagement in a positive direction. As people become more exposed to internet communication, they are more accustomed to engage in public affairs through interactive ways in gathering information, expressing opinions, and even initiating collective action. This effect makes the Internet a parallel explanatory factor to conventional social capital. We expect that greater internet usage can lead to the increased level of civic engagement in addition to its possible impact mediated through the increase of social capital.

Hypothesis 2 Civic engagements are more likely to occur as measures of internet usage increases.

As discussed earlier, organizational affiliation, interpersonal trust, and social contacts collectively do capture the varying conceptual aspects of social capital. We test whether people are more likely to participate in civic activities as the level of social capital increases (Putnam 2000). Voluntary participation in public affairs requires both a sense of civic duty motivated by commitment to the public interest and the ability to mobilize effectively through social networking that contributes to the successful organization of collective actions. By defining social capital with the features of social networks, mobilizing capability, and concern of public interest, it is reasonable to propose the hypothesis that social capital can explain people's increasing civic engagement. Here, we treat social capital and internet usage as two competing variables to tease out their own respective impact on civic engagement.

Hypothesis 3 Civic engagements are more likely to occur as measures of social capital increases.

3 Data, Variables, and Methods

3.1 Measuring Social Capital

To measure the concept of social capital, we apply the latest data (Wave 3, 2010–2012) from the Asian Barometer Survey in thirteen Asian countries, including Japan (2011), Hong Kong (2012), South Korea (2011), China (2011), Mongolia (2010), the Philippines

(2010), Taiwan (2010), Thailand (2010), Indonesia (2011), Singapore (2010), Vietnam (2010), Cambodia (2012), and Malaysia (2011).[4]

In public opinion studies (Brehm and Rahn 1997; Inkeles 2000; Brooks 2005; Zmerli and Newton 2008), four major groups of indices are developed to measure the concept of social capital, including (1) subjective evaluation of social capital, (2) organizational affiliation, (3) interpersonal trust, and (4) social contacts. While each of the indices tap into different dimensions of social capital, these indices share a common underlying assumption: if people do have a greater level of social capital, they tend to exhibit certain features reflecting some or all of these characteristics. For the first group of indices, they are designed to measure the respondent's subjective evaluation of how much social capital they could receive and are willing to invest. For the latter three groups of indices, each intends to disclose related information associated with the conceptual elements of networks, capability, and objectives, although different indices might be more relevant to one than the others.

The reciprocal exchange of social relations in terms of favor-giving and -receiving characterizes the essential feature of social capital. There are two specific survey questions to measure the perceived level of capitalization of inflow (Beaudoin 2007) or outflow (Antonucci et al. 1990) of social capital, i.e., people's self-projection for the capitalization of social capital by subjective evaluation. From the theoretical point of view, the two questions capture mostly the network dimension, and to some extent the capacity dimension, but nearly no information about the objective. Neither measure examines whether the perceived supply and demand of social capital would be capitalized. More important, although these perceptional measures provide the important information on reciprocity in social capital exchange, they can be subject to the risk of personal bias of respondents. For these reasons, our analysis will focus on the following, more objective, measures of social capital.

The second group of social capital measures, i.e., organizational affiliation, interpersonal trust, and social contacts, focuses on the participation of societal organizations, the level of trustfulness between the knowns and unknowns, and the frequency of contact opportunities. Those measures tap into the extensiveness and strength of the respondent's social networks, as well as the respondent's capability to conduct mobilization acts for public interest (Della Porta and Diani 2009, 15–16).

Table 1 summarizes how variables are coded with exact wording of questionnaire items based on the Asian Barometer Survey for social capital measures and other control variables.

3.1.1 Membership

We posit that participation in social organization makes people likely to develop greater social networks through institutional interpersonal interaction by membership. We expect that people can significantly increase the scope, strength, and dependability of networking relationships with greater participation in social organizations. The frequently applied questions in social surveys ask the respondent to name the most important formal groups of

[4] The ABS 3 dataset is available from the ABS official website at http://www.asianbarometer.org/newenglish/surveys/DataRelease.htm. ABS is one of the most cited cross-national public opinion projects in 13 East Asian and Southeast Asian countries. The survey provides a number of variables that can be used to study the ways in which citizens in Asian countries perceive and behave with respect to the change of social capital and its subsequent impact on civic engagement in different political contexts across Asia.

Table 1 Construction of variables and exact wording of questionnaire items

Variables	Question	Scale	Coding method
Independent variables: social capital			
Membership	Q20–22. Could you identify the three most important organizations or formal groups you belong to?	(0,1)	Coded as "1" if giving at least one valid answer
General trust	Q23. Generally speaking, would you say that "most people can be trusted" or that "you must be very careful in dealing with people"?	(0,1)	Coded as "1" if choosing "most people can be trusted."
Everyone being fair	Q24. Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair?	(0,1)	Coded as "1" if choosing "most people try to be fair."
Specific trust	Q25–27. How much trust do you have in each of the following types of people? Your relatives, neighbors, and other people you interact with.	(1,4)	Coded by the averaged score [1,2) → 1; [2,3) → 2; [3,4) → 4; 4 → 4;
Social contacts	Q28. On average, about how many people do you have contact with in a typical weekday?	(1,5)	Original coding
Internet usage	Q45. How often do you use the Internet?	(1,6)	Reversed coding
Control variables: demographic information			
Male	SE2. Gender	(0,1)	Dummy, male = 1
Age	SE3. BIRTH YEAR	17–94	Survey year-se3
Education	SE5. What is your highest level of education?	1–10	Original coding
Number of generations	SE8b. How many generations of family members live in this household?	(1,4)	Original coding
Income	SE13. HOUSEHOLD INCOME	(1,5)	Original coding
Urban	Level 3	(0,1)	Dummy, urban = 1
Dependent variables: civic engagement			
Electoral participation			
Voting	Q32. Did you vote in the most recent national election?	(0,1)	No/yes
Campaign activities	Q34. Thinking about the national election in [year], did you attend a campaign meeting or rally?	(0,1)	No/yes
Persuading others	Q35. Thinking about the national election in [year], did you try to persuade others to vote for a certain candidate or party?	(0,1)	No/yes
Helping out a party/candidate	Q36. Thinking about the national election in [year], did you do anything else to help out or work for a party or candidate running in the election?	(0,1)	No/yes
Political contacts			
Representative	Q64. In the past 3 years, have you never, once, or more than once contacted elected officials or legislative representatives at any level?	(0,1)	Never/at least once

Table 1 continued

Variables	Question	Scale	Coding method
Higher-level officials	Q65. In the past 3 years, have you never, once, or more than once contacted officials at a higher level?	(0,1)	Never/at least once
Community leader	Q66. In the past 3 years, have you never, once, or more than once contacted traditional leaders/community leaders?	(0,1)	Never/at least once
Influential people	Q67. In the past 3 years, have you never, once, or more than once contacted other influential people outside the government?	(0,1)	Never/at least once
Media	Q68. In the past 3 years, have you never, once, or more than once contacted news media?	(0,1)	Never/at least once
Non-electoral participation			
Solving local problems with others	Q69. Have you never, once, or more than once gotten together with others to try to resolve local problems?	(0,1)	Never/at least once
Signing a petition	Q70. Have you never, once, or more than once gotten together with others to raise an issue or sign a petition?	(0,1)	Never/at least once
Attending a demonstration	Q71. Have you never, once, or more than once attended a demonstration or protest March?	(0,1)	Never/at least once
Using violence for a political cause	Q72. Have you never, once, or more than once used force or violence for a political cause?	(0,1)	Never/at least once

organization they belong to, in an open-ended format (Putnam 2001).[5] The answers can be recoded into a nominal variable by types or an ordered categorical variable by numbers in the process of post-doc categorization. In Asian Barometer Surveys, the respondents were instructed to name up to three formal groups to which they belong. Due to some technical concerns about the standardization of the interview process—such as whether the interviewer presses the respondents to give more answers or whether certain types of groups are politically or culturally sensitive and thus are much less likely to be named—we simply differentiate whether the respondent identifies him-/herself as belonging to any social organization, regardless of types or numbers.

3.1.2 Specific Trust and General Trust

Interpersonal trust is another commonly used indicator to measure social capital (Zmerli and Newton 2008; Torche and Valenzuela 2011). We introduce two indicators of interpersonal trust: specific trust and general trust. First, the conventional wisdom holds that

[5] This is a conventional measure of membership in civic groups. Most of the social and political surveys, such as the World Value Surveys, adopt this indicator to measure the level of social networking. Putnam (2001) also argued that social capital was declining based on the downtrend of membership in civic groups in the United States.

interpersonal trust is inversely related to the distance of the social relationship. This is reflected in the measure of specific trust between lineal descendants, relatives, friends, neighbors, or someone with whom they are acquainted in daily life. If such specific trust is stronger, people are more willing to use, and can more effectively use, social capital from related networking relationships to achieve their goals. Second, as to some other collective actions of a public-interest nature, effective mobilization through the use of social capital requires greater coordination costs and interpersonal trust among the unknowns. Therefore, the measure of general trust is applied to capture the default level of trust in society. The exact question for the specific trust measure is "How much trust do you have in each of the following types of people?" and multiple items can be developed by replacing one category with another, e.g., your relatives, your neighbors, and other people you interact with. On the other hand, we provide two different statements that distinguish the respondent's level of general trust. The respondent indicates whether he/she agrees that "most people can be trusted" or "you must be very careful in dealing with people." The answer sets are four-point Likert scale for specific trust and binary for general trust, respectively.

3.1.3 Everyone Being Fair

We add an indicator of general trust, given that we found that general trust seems to stand alone and lack much relevance to other indicators. We intend to add this indicator as an alternative measure to see whether its inclusion will strengthen the explanatory power of general trust on perceived social capital. We ask the respondents which statement they agree with more: "Most people would try to take advantage of you if they got a chance" or "Most people would try to be fair." Picking the former statement reflects a lack of general trust, while answering the latter signifies a certain level of general trust of strangers in society.

3.1.4 Social Contacts

The last indicator commonly applied to measure social capital concerns the number of contact opportunities (Granovetter 1974; Woolcock 2010, p. 472). In the traditional mode of social contacts, the number of contacts people make in their daily life is rather limited, unless they work, for instance, as a telephone interviewer or sales representative. Therefore, if people do have more opportunity for contact with others, they are expected to develop more social relations that will potentially become the source of social capital. The number of social contacts is assumed to be positively correlated to the amount of social capital, other things being equal.

3.1.5 Internet Usage

Growing attention has been paid to the revolutionary change that allows people to easily increase their contacts exponentially through the Internet and new social media. This leads to a significant question concerning whether social contact developed through the Internet differs from that based on traditional modes. The question can also be phrased from another angle: does the increase in contact opportunities create a significantly larger amount of social capital? To answer this question, we need to incorporate Internet usage as another measure of contact opportunities and analyze whether Internet use would significantly affect other indicators of social capital. If the rise of Internet usage does matter in

the formation of social capital, we should expect empirical evidence that Internet usage explains (1) the varying level of social capital and (2) its resulting effect on different modes of civic engagement. This analysis would help us understand the characteristics of Internet-based social contact and provide deeper insight into the question of whether traditional contact and Internet contact are fundamentally different in relation to the conceptualization of social capital.

3.2 Measuring Civic Engagement

There are many forms of civic engagement. Each could have a very different nature, depending on the type of action, scope of purpose, and degree of intensity. Generally, we can categorize civic activities that are politically relevant into three groups: electoral participation, political contacts, and non-electoral participation (Adler and Goggin 2005, 242).[6] First, "electoral participation" includes voting, joining campaign activities, persuading others to vote for someone, helping a party or candidate, etc. Second, "political contacts" refers to trying to obtain contact with legislative representatives, higher-level officials, community leaders, influential people, or media for various purposes, such as solving private or public problems, reflecting local demands, voicing political opinions, and so on. Third, non-electoral participation contains those social activities in which people participate as citizens, such as getting others together to resolve local problems, signing a petition, attending a demonstration, or even using force or violence for a political cause.

We draw information regarding these forms of civic engagements from the same source: the latest Asian Barometer Survey of thirteen Asian countries. We analyze the effects of social capital on the above three categories of civic engagements: electoral participation, contacting politicians or anyone who can influence on policymaking, and non-electoral participation. In particular, we use survey data that ask different questions for each category. First, we use survey data on *Voting*, *Campaign*, *Activities*, *Persuading Others*, and *Helping Out a Party/Candidate* as measures of traditional ways in which people participate in election-related activities. Second, the survey asks whether respondents have contacted directly the following people who can represent their interests in policymaking process once or more than once in the past 3 years: *Representative, Higher-Level Officials, Community Leader, Influential People*, and *Media*. Third, the survey also asks respondents if they have ever participated in non-electoral activities such as *Solving Local Problems with Others, Signing a Petition, Attending a Demonstration*, and *Using Violence for a Political Cause*. Table 1 summarizes how these variables are coded in detail.

4 Does Internet Usage Increase the Level of Social Capital?

As stated earlier, the current practice of measuring social capital mostly assumes that the aforementioned indices, such as organizational affiliation, interpersonal trust, and social contacts, represent distinctive aspects of social capital. We would like to investigate whether these indices are positively correlated to internet usage, particularly organization

[6] We refer to civic engagement in terms of political involvement, which is a popular definition in political science. Some of the theories were developed from the modernization paradigm, and others might be associated with the normative democratic theory. See Almond and Verba (1963), Dalton (1988), and Elster (1998).

affiliation and social contacts that tap into the concepts of social networks and contact opportunity. Table 2 reports the result of the correlation analysis for the overall as well as country samples.

As Table 2 shows, the correlation does not exhibit expected relationship as Hypothesis 1a suggests because *Internet Usage* and *Membership* are both negatively correlated in the overall sample. We can reach the same conclusion from the country samples, in which 9 of the 13 countries show insignificant or negative correlations. This indicates, while the rise of internet technology largely reduces networking cost, it does not necessarily increase people's social network. However, we should not interpret this result inversely and claim that Internet reduces organization affiliation because the negative correlations are very weak in the overall sample ($r = -0.03$).

The opposite result is found between *Internet Usage* and *Social Contacts*, and the positive correlations appear in the overall sample as well as 12 of the 13 country samples. This result supports Hypothesis 1b, which indicates the rise of Internet communication is positively associated with contact opportunity. While there is no surprise that internet is a very powerful communication tool to connect people together, the near unanimous result vindicates the consistency how internet can increase social capital through expanding people's social contacts, despite the moderate magnitude of the correlations ($r = 0.14$ for the overall and an average 0.18 for the 12 significant country correlations).

Despite the weak positive relationship ($r = 0.06$) between *Internet Usage* and *General Trust* in the overall sample, most of the country samples (12 out of 13) show insignificant correlations. This suggests that the weak positive correlation in the overall sample reflects a country-level instead of individual-level effect. More important, the non-significant findings in most countries show that the relationship of internet usage and interpersonal trust is indeterminate.

We can reach the same conclusion for the relationship between *Internet Usage* and *Specific Trust*. Not only the overall sample shows an insignificant correlation, but also 10 of the 13 country samples exhibit insignificant (6) or negative relationship (4). Again, this result suggests that the rise of internet communication is not associated positively with the level of trust between people and the ones they acquainted with, and it echoes with the indeterminate finding regarding interpersonal trust between people and someone they do not know in the same society.

To sum up, through a correlation analysis between internet usage and some distinct measures of social capital, we conclude that Internet usage only increases contact opportunity, while its impact on social network or social trust is largely insignificant.

5 Do Social Capital and Internet Usage Promote Civic Engagement?

Our previous discussion indicates that organizational affiliation, interpersonal trust, and social contacts collectively capture the varying conceptual aspects of social capital. In this section, we test under what conditions specific indicators can be applied in the social capital explanation. In political science, one of the most important theoretical applications related to social capital pertains to explaining various forms of political participation as a mode of civic engagement (Putnam 2000).

In the third-wave Asian Barometer Survey, the respondents were all asked whether they recently participated in the following forms of civic engagement: (1) electoral participation: *Voting, Campaign Activities, Persuading Others*, and *Helping Out a Party/Candidate*,

Table 2 Correlation analysis of internet usage and measures of social capital

Measures of social capital	Correlation (overall)	Correlation result (out of 13 country samples)		
		Positive	Non-significant	Negative
Membership	−.03	4	6	3
General trust	.06	1	10	2
Specific trust	Non-significant	3	6	4
Social contacts	.14	12	1	0

Entry is Spearman's correlations. Data source: ABS Wave III (2010–2012). Only significant results are reported ($p \leq .05$)

(2) political contacts: *Representative, Higher-Level Officials Community Leader, Influential People*, and *Media*, and (3) Non-Electoral Participation: *Solving Local Problems with Others*, *Signing a Petition, Attending a Demonstration*, and *Using Violence for a Political Cause*.

Note that all the answers are recoded into a binary variable. We apply logistic regression to see whether and how much the six social capital indicators can explain the variation of different modes of civic engagement.

Demographic variables and country dummies are also included in the model for the control purposes. For demographic variables, we include gender, age, education, number of generations in the household, income, and urban residence. The former three are basic demographic variables. The number of generations is considered because we expect that people living in a big family would accumulate greater experiences and cultivate more skills in developing social networks. Income and urban residence are controlled for the socioeconomic conditions, which might be associated with the abundance of contact opportunities given the modernization factors. Finally, we control contextual differences by including twelve country dummies to purge between-country variations with Japan set as the default level of comparison.

5.1 Social Capital and Electoral Participation

In Table 3, we report the four models of regression analysis (Models I–IV) with the model specification previously mentioned. We focus on the comparison of the relative explanatory power among the six social capital indicators. As Table 3 shows, for all four of the activities related to electoral participation, only membership has consistent explanatory power in a positive direction as expected. This suggests that organizational affiliation represented by the membership variable is the most relevant social capital indicator that matches our theoretical expectation in explaining civic engagement. Social contacts also have significant explanatory power in three forms of electoral participation, i.e., *Voting*, *Persuade Others*, and *Help Out for a Party/Candidate*. However, the magnitude is far weaker than membership, which suggests that the larger frequency of contact opportunities does increase the level of social capital, although only a limited portion of such opportunities can successfully turn social contacts into consolidated political participations. Other than these two indicators, neither indicators of interpersonal trust nor Internet usage account for the variation of electoral participation as expected. In fact, Internet usage has a negative relationship with participating in campaign activities. This finding even signals a

Table 3 Regressions on electoral participation

	I. Voting	II. Campaign activities	III. Persuade others	IV. Help out for a party/candidate
Explanatory variables				
Membership	.110**	.230**	.181**	.232**
General trust	.008	.021	−.009	.010
Everyone being fair	.024	.010	.013	.022
Specific trust	−.008	−.004	−.012	−.007
Social contacts	.055**	.020	.060**	.090**
Internet usage	−.021	−.043**	−.009	−.018
Demographic variables				
Male	−.023	.077**	.071**	.125**
Age	.392**	.138**	.101**	.104**
Education	.041*	.029*	.044*	.050*
Number of generations	.006	−.004	−.015	−.016
Income	.018	−.034**	.029	.015
Urban	−.112**	−.073**	−.050**	−.088**
Country dummies (default: Japan)				
Hong Kong	−.010	−.102**	.045	−.039
Korea	.049**	.074**	.090**	.078**
China	−.023	.233**	.147**	–
Mongolia	.169**	.382**	.367**	.341**
Philippines	.042*	.159**	.235**	.304**
Taiwan	.086**	.015	.168**	−.014
Thailand	.194**	.281**	.190**	.151**
Indonesia	.118**	.068**	.133**	.132**
Singapore	−.089**	.005	−.045	.051
Vietnam	.081**	.266**	.030	.141**
Cambodia	.049*	.305**	.176**	.255**
Malaysia	−.003	.245**	.183**	.350**
Explained variables (R-squared)	.266	.332	.164	.268
Sample size (N)	13,664	14,017	14,007	12,430

Entries are standardized beta coefficients. Data source: ABS Wave III (2010–2012). Level of Significance: * $p \leq .05$; ** $p \leq .01$

substitution effect: people would rather spend their time on the Internet than join campaign activities, which could potentially support the speculation that the rise of the Internet might divert people's interest to non-political activities and consequently reduce civic engagement.

As to the demographic controls, male, older, more educated and rural respondents tend to have greater level of electoral participation. These findings consistently appear in all of the four models, except the non-significant result of male on *Voting*. In terms of the relative magnitude, *Age* has the greatest effect among the four significant demographic variables. *Male* has stronger explanatory power on *Help Out for a Party/Candidate*. The age factor indicates that social learning might be a critical factor to explain electoral participation

Table 4 Regressions on political contacts

	V. Representatives	VI. Higher-level officials	VII. Community leaders	VIII. Influential people	IX. Media
Explanatory variables					
Membership	.217**	.178**	.183**	.204**	.127**
General trust	−.010	−.029	−.051*	−.024	−.013
Everyone being fair	−.022	−.023	−.029*	.012	.006
Specific trust	.000	−.006	.011	.010	.013
Social contacts	.022	.077**	.042**	.034*	.032
Internet usage	.035	.056**	.013	.096**	.101**
Demographic variables					
Male	.104**	.089*	.046**	.100**	.082**
Age	.099**	.091**	.006	.039*	.045*
Education	.115**	.130**	.043**	.087**	.060*
Number of generations	.006	.035*	.009	.007	−.044*
Income	.003	.004	−.043**	.016	.032
Urban	−.062**	−.047*	−.069**	−.047**	.011
Country dummies (default: Japan)					
Hong Kong	.016	−.051	−.066*	−.200**	−.033
Korea	.082**	–	–	.003	.378**
China	.063**	.300**	.122**	.227**	.048*
Mongolia	.042	−.018	.102**	.046*	.023
Philippines	.079*	.147**	.193**	.121**	.175**
Taiwan	.027	−.002	Default	.000	.025
Thailand	.143**	−.081**	.482**	−.070**	.101**
Indonesia	−.032	−.104**	.079**	.056*	.058
Singapore	.006	−.045	−.046	−.111**	.020
Vietnam	.243**	.082**	.198**	.152**	.401**
Cambodia	−.063*	.029	.362**	.072**	.109**
Malaysia	.280**	–	–	.194**	.176**
Explained variables (R-squared)	.229	.200	.396	.265	.310
Sample size (N)	15,123	12,960	11,522	15,068	15,130

Entries are standardized beta coefficients. Data source: ABS Wave III (2010–2012). Level of Significance: * $p \leq .05$; ** $p \leq .01$

since it takes time and life experiences for people to understand the importance of electoral participation.

5.2 Social Capital and Political Contacts

We turn to the second-group regression models, which explain political contacts with various positions of politicians, government officials, and people outside the government. As Table 4 presents, from Models V to IX, a salient result is that only membership has

significant explanatory power in all five of the models. The magnitude of the coefficient is also the greatest among all the social capital indicators. The frequency of social contacts and Internet usage are both significant in three of the five models. The frequency of social contacts is positively and significantly associated with the contact with higher-level officials, community leaders, and influential people. Internet usage has significant explanatory power in a positive direction on the contacts with higher-level officials, influential people, and media.

As with our findings concerning electoral participation, we do not see any of the interpersonal trust indicators accounting for any mode of political contacts in Table 4, suggesting that interpersonal trust is not a relevant indicator of social capital with regard to this form of civic engagement. Moreover, our findings about membership, social contacts, and Internet usage corroborate the previous findings in which organizational affiliation is the strongest indicator in explaining political contacts, followed by frequency of social contacts and Internet usage. Note that the two indicators of general trust are inversely related to political contact with community leaders, which shows that those who lack interpersonal trust are more likely to seek someone they trust in their inner circle rather than any other channels to solve their problems.

Findings related to demographic controls show some similarity and difference as opposed to what we found in explaining electoral participation. The similar findings are that the same four variables, indicating male, older, more educated, and rural respondents, show higher level of political contacts, but diverge on the relative magnitude by which *Male* and *Education* has greater explanatory power in general. The latter result does not contradict with our previous findings in electoral participation because political contacts are the type of civic engagement that requires greater cost and initiative than participating in electoral activities. It is understandable that, in Asian countries, male or better-educated respondents are more likely to be engaged due to the social roles they play in the family and society.

5.3 Social Capital and Non-electoral Participation

Finally, Table 5 shows the effects of social capital on non-electoral participation. The results significantly differ from previous findings in regard to the effects of social capital on electoral participation and political contacts. As Models X–XIII in Table 5 show, both membership and Internet usage are significant in three kinds of non-electoral participations. That is, membership is positively associated with *Solve Local Problems*, *Petition*, and *Demonstration*, while Internet usage is positively related to *Petition*, *Demonstration*, and *Violence*. It is worth emphasizing that Internet usage replaces membership as the strongest predictor in explaining the non-electoral participations of demonstration and violent activities. This finding makes sense because participation in a more radical movement, such as one involving violent protest, requires secrecy in organization and mobilization. The Internet as the major means of communication can satisfy this important requirement better than pursuing networks through formal organizations. In fact, the four modes of non-electoral participation in question can be ranked in intensity from low to high in this way: "solving local problems with others," "signing a petition," "attending a demonstration," and finally "using violence for a political cause." We can see the descending explanatory power for membership and, at the same time, the ascending explanatory power for Internet usage when the intensity of non-electoral participations increases.

The rest of the findings all appear in the milder modes of non-electoral participations, such as "solving local problems with others" and "signing a petition." In particular, social

Table 5 Regressions on non-electoral participation

	X. Solve local problems	XI. Petition	XII. Demonstration	XIII. Violence
Explanatory variables				
Membership	.228**	.213**	.112**	.005
General trust	−.005	.014	−.036	−.018
Everyone being fair	−.032**	−.036*	−.001	.047
Specific trust	.051**	.039*	.003	−.015
Social contacts	.065**	.036*	.022	.012
Internet usage	.012	.078**	.131**	.245**
Demographic variables				
Male	.100**	.046**	.069**	.038
Age	.066**	.030	−.037	−.009
Education	.077**	.081**	−.009	−.205**
Number of generations	−.005	−.022	.009	.007
Income	−.002	.029	−.024	.075
Urban	−.050**	−.049**	.004	−.003
Country dummies (default: Japan)				
Hong Kong	−.069**	−.260**	.154**	.024
Korea	−.042**	−.114**	.150**	.152
China	.005	−.177**	.099**	–
Mongolia	.063**	−.111**	.205**	.106
Philippines	.061**	−.098**	.259**	.438**
Taiwan	−.047**	−.147**	.146**	−.015
Thailand	.242**	−.173**	.159**	.190*
Indonesia	.084**	−.157**	.159**	.325**
Singapore	−.091**	−.222**	−.020	.154*
Vietnam	.140**	−.068**	.041	.217**
Cambodia	.071**	−.108**	.088	.126
Malaysia	.194**	−.040*	.187**	.343**
Explained variables (R-squared)	.247	.174	.101	.240
Sample size (N)	15,135	15,135	15,134	13,069

Entries are standardized beta coefficients. Data source: ABS Wave III (2010–2012). Level of Significance: * $p \leq .05$; ** $p \leq .01$

contacts and specific trust are both positive and significant, suggesting that greater specific trust or a higher frequency of social contacts will promote people's participation in milder non-electoral activities. With regard to the two general trust indicators, one (General Trust) does not show any significant finding, but the other (Being Fair) is negatively associated with participating in non-electoral activities.

With regard to the demographic controls, previous patterns applying to explain electoral participation and political contacts stand here. Because all four types of non-electoral participation require political involvement with costly action, we expect to find that *Male* and *Education* have better explanatory power than *Age* and *Urban*. As Table 5 shows, this expectation is corroborated in explaining *Solving Local Problems* and *Petition*, which both

are commonly-seen events of political activism. However, as the level of activism intensifies to actions like *Demonstration* or *Violence*, the explanatory power of those demographic controls quickly fade away, and only *Male* can explain greater level of joining a demonstration.

5.4 Summary of Empirical Results

We summarize our findings about the explanatory power of various social capital indicators and internet usage into five major conclusions. First, organizational affiliation is the strongest predictor for explaining all forms of civic engagement except using violence for political purposes. Second, frequency of social contact in general performs quite well in explaining the variation of civic engagement, though it explains much less than organizational affiliation does. Third, Internet usage has remarkable explanatory power in particular modes of civic engagement, such as contacting influential people outside the government, contacting media, attending a demonstration, or using violence for a political cause. We believe that the Internet will become the main channel by which to mobilize a collective action that requires secrecy and transcendence of natural or social barriers, due to its cost-effective and barrier-free features. Fourth, interpersonal trust matters only in explaining civic engagement when the trust refers to specific trust with relatives, neighbors, or acquaintances and when civic engagement refers to those milder collective actions aiming to promote public interest. Finally, general trust does not serve as a good indicator, contrary to the conventional wisdom. Indeed, it might be the case that the lack of general trust drives people participating in political activities to pursue their self-interest.

Findings support both Hypothesis 2 and Hypothesis 3 in varying degrees depending on specific measures of social capital and civic engagement. Hypothesis 2 is supported when civic engagement refers to political contacts or non-electoral participation, but not electoral participation. This shows that the rise of internet communication does not promote people to engage in civic activities through the conventional channels of electoral politics. The strongest impact of internet on civic engagement is to encourage activist participation because internet technology largely reduces the greater cost in coordination and organization. On the other hand, Hypothesis 3 receives varying level of support in the following order: social network the first, social contacts the second, and interpersonal trust the last. Membership as the measure of social network explains nearly every subtype of civic engagement except *Violence*. Number of contact opportunity as the measure of social contacts also explain most subtypes of civic engagement across electoral participation, political contacts, and non-electoral participation with a few exceptions. The three interpersonal trust indicators, which apply to measure social trust, turn out to be weakest and almost explain none of the subtypes of civic engagement, except for specific trust on non-electoral participation. This result implies nuance and subtlety when we intend to apply social capital to explain civic engagement.

6 Conclusion

Let us revisit the two questions proposed at the beginning of the introduction. First, does the rise of Internet communication significantly change the level of social capital in Asia? Our correlation analysis suggests that the Internet's role is mainly to increase the number of contact opportunities. However, Internet fails to contribute to increasing different measures of social capital such as social network or social trust.

Second, we investigate the effectiveness of mobilizing power based on social capital in three forms of civic activities: electoral participation, political contacts, and non-electoral participation. We find that social capital developed through voluntary participation in social organization has the greatest effectiveness in promoting all sorts of civic engagement activities, except for those intense collective actions that involve joining a demonstration or using violence. The increase in contact opportunities could help increase the effectiveness of mobilization generally, but the magnitude is only stronger when the target is more specific, e.g., achieving definitive goals in electoral or campaign activities, or when the scope of the purpose is more limited, e.g., getting together to solve local problems. Internet usage, however, is the most effective means of mobilization when the collective action being organized require secrecy and intend to exert severe consequences to the incumbent political order, including joining a demonstration or using violence for a political cause. Interpersonal trust only helps increase mobilizing power when specific trust is referred and the targeted actions concern the public interest that accords with their own self-interest, such as solving local problems or signing a petition. Other than that, we found no significant finding that links interpersonal trust to participating in civic activities.

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