Chinese and Indian Engineers and their Networks in Silicon Valley

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Acknowledgments

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In recent years, Asian immigrants have played an important role in Silicon Valley's growth, as suppliers of both engineering and entrepreneurial talent. Given their relatively large numbers, the Indian and Chinese communities' contributions have been particularly noted.[1] The Indians' presence became more marked toward the last few years of the century, bolstered by arrivals working on the Year 2000 (Y2K) problem.[2] The Chinese, by contrast, had older roots set down amid long-standing political, economic, and educational links with Taiwan.

Both communities have formed extensive ethnic professional networks,[3] with large memberships and well-attended, regular "networking" events, such as monthly meetings and special interest group sessions.[4] The popularity of these events suggests that members find them valuable. While some of the value is probably noneconomic, the avowedly economic mission (see below) and long-term popularity of these gatherings means that most members primarily derive economic benefits. These networks and their members are the subject of this paper.

Ethnic groups formed for economic benefit have been extensively studied in the academic literature.[5] Granovetter's (1995) examination of ethnic groups in Asia suggests that ethnic groups help to resolve the problem of "trust in entrepreneurship." For example, trust can overcome the problem of nonenforceability of private contracts in some less institutionalized societies.[6]

As networks for economic benefit, the literature has, however, noted underlying tensions that can affect the survival of such groups. The first is between identity and trust (which favors the existence of ethnic groups) on the one hand and access to the mainstream (which does not) on the other. According to Ben-Porath (1980), modern developments such as "social enforcement of private contracts, ready access to adjudication, morality, and religious pressure for generalized honesty (in contrast to 'contextual morality') all tend to reduce the importance of identity, to facilitate transactions between strangers, and to reduce the need

for specific mutual investment by trading parties, allowing people to trade with a wider circle of others and narrowing the range of goods and services in which any pair or small group deals."[7] Thus, absent any countervailing forces, ethnic networks formed to promote entrepreneurship ought to be less relevant, over time and in a place like Silicon Valley (with its highly developed contractual environment) as their members become more established.

A second tension noted by Granovetter is that transactions among members of ethnic associations can lead to greater pressures for suboptimal economic actions than do transactions with mainstream members. For example, if a borrower is unable to repay dues to a member of his ethnic group, other group members may pressure the lender to be lenient to the borrower in order to preserve harmony.[8] This may induce lenders to move out of the group, or, at least, to limit lending activities within the group. The viable set of economic transactions among members of ethnic groups may consequently become more limited as more members participate in the economic mainstream. If participation in the ethnic networks in Silicon Valley forces some participants to accept suboptimal economic actions, then—again, absent the presence of countervailing forces—we are led once more to conclude that ethnic professional networks might have a more limited role to play over time.

The above implies that there may be reasons for ethnic professional networks to have limited useful lives. However, other forces might exist to offset these reasons. These could include participants' inability to access the mainstream even after they become established. Alternatively, there might be a continuing inflow of new participants that sustains the networks after original participants migrate to the mainstream.

To study these issues, this paper uses a primary data survey to ask two sets of questions. First, who belongs to the Indian and Chinese ethnic professional networks in Silicon Valley? The paper will characterize members by age, place of birth, education, and economic activity. Second, why do they join? What economic benefits accrue to members of these networks? This leads to inferences on whether members actually receive the value they seek, and what this means for the networks' long-term sustainability.

The data for this paper comes from a primary survey of over 10,000 members of Silicon Valley's ethnic Chinese and Indian associations that was conducted by this author and others in May and June 2001.[9] The response rate was over 21 percent (2,272 responses). While this is a large enough sample from which to draw solid conclusions, it should be understood that the survey's conclusions apply to members of these ethnic associations, and not necessarily to all the Indian and Chinese engineers in Silicon Valley, most of whom do not belong to ethnic associations.[10] This may be for good reasons: the associations exist mainly for entrepreneurs and for those interested in changing careers.[11] For example, one of the largest, the Asian American Manufacturers Association (*http://www.aamasv.org*) markets itself as a "forum…to promote and build companies and careers," and The Indus Entrepreneurs (also known as TiE, at *http://www.tie.org*) describes itself as "a global…network…dedicated to the advancement of entrepreneurship."[12]

Section 2: Profiling Members of the Indian and Chinese Networks in Silicon Valley

In this section, we categorize respondents by their birthplace (Section 2a), age distribution, arrival date in the United States, visa status and profile at entry (Section 2b), education

(Section 2c), economic activity and plans (Section 2d) and economic relations with their countries of birth (Section 2e).

Section 2a: Birthplace

Of the survey respondents, 68.5 percent listed Greater China or India as their place of birth. U.S.-born respondents made up 23.2 percent, and the rest came from other countries. More than three-quarters—79.6 percent—of the respondents were male. Please note that, in the tables that follow, numbers refer to percentages unless otherwise noted.

Table 1A: Respondents' Birthplace (Greater China)
(788 responses or 34.7 percent of the total)

Country of Birth	Percentage
China (PRC)	65.6
Taiwan	25.5
Hong Kong	8.5
Other	0.4

Table 1B: Respondents' Birthplace (India)
(769 responses or 33.8 percent of the total)

City/Region of Birth	Percentage	Percent Share of Nat'l Population	Percent Share of Nat'l Wealth
Mumbai	17.6	1.5	
Delhi	9.5	1.0	
Chennai	9.5	0.7	
Hyderabad	8.7	0.5	
Bangalore	8.1	0.5	
Uttar Pradesh	6.4	16.4	
Others[1]	40.2		
South India[2]	36.5	23.2	24.9
West India[3]	29.6	19.6	28.9
North India[4]	24.1	31.3	28.5
East India[5]	10.3	25.8	17.7

[1] Others includes all cities/regions with less than 5 percent individually.
[2] South India includes all respondents from the states of Andhra Pradesh, Karnataka, Kerala, Pondicherry, and Tamil Nadu.
[3] West India includes Maharashtra, Goa, Gujarat, and Rajasthan.
[4] North India includes states north of (and including) Madhya Pradesh, and west of (and including) Uttar Pradesh, but excluding the states of West India.
[5] East India includes states north of (and including) Orissa and east of (and including) Bihar.
Source for percentage share of national population and wealth: Statistical Outline of India, 2000–01, p. 1135.

Among China-born respondents, the largest group was born in mainland China. At one time, Taiwan had been more prominent, but a decisive shift occurred after 1990, as we show in more detail below (Table 3). There are various reasons for this, which have to do with how the mainland Chinese entered the United States, and the possibly increasing numbers of returning migrants to Taiwan.

The survey gleaned more information from India-born respondents, allowing us to show that Mumbai is the leading birthplace among respondents. Chennai and Delhi both exceed India's "Silicon Valley," Bangalore, though not by much. It is remarkable that five cities with less than 5 percent of India's population account for over half the respondents' birthplaces, an indication perhaps of the economic advantages that accrue from being born in a big city.

South India, where Bangalore, Hyderabad, and Chennai are located—and which is sometimes suggested as the location of India's IT "brain trust" due to the greater prevalence of its engineering institutions relative to other parts of India—accounts for 36.5 percent of respondents. East India's proportion is low relative to its population.

Section 2b: Current Age Distribution, Entry, and Stay in the United States
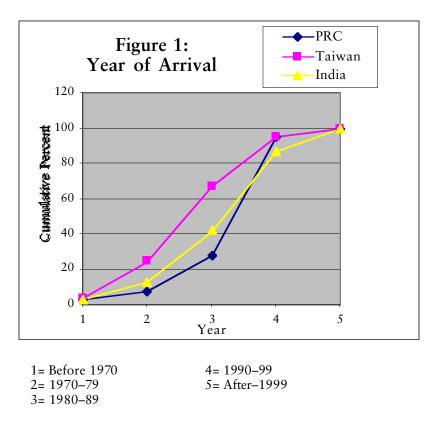
Table 2: Current Age Distribution (percentage)

Age	PRC	Taiwan	India
18–25	2.3	2.5	5.21
26–35	55.9	34.3	54.43
35–50	34.2	50.7	34.51
50+	7.6	12.4	5.86
Total	100.0	100.0	100.00

Table 3: Arrival in the United States

Year of Arrival	PRC	Taiwan	India
Before 1970	2.9	3.5	3.3
1970–79	4.3	21.6	9.5
1980–89	20.7	42.2	29.3
1990–99	67.1	27.6	44.9
After 1999	5.0	5.0	12.9

Table 4: Visa Status

Visa Status	PRC	Taiwan	India
U.S. Citizen	32.9	65.7	25.5
Permanent Resident	34.3	18.4	27.3
H1B	26.5	11.9	42.4
Other	6.2	3.0	4.7

Figure 1: Year of Arrival

1= Before 1970   4= 1990–99
2= 1970–79   5= After–1999
3= 1980–89

Tables 2 and 3 show that the Taiwanese are older than the mainland Chinese and Indians, and also came to the United States earlier. The Indians have a similar age distribution to the mainland Chinese. The mainland Chinese arrived primarily after 1990, as did the Indians, though there were substantially higher numbers earlier as well. The relationship between age and arrival date is therefore not uniform across the three groups.

Table 4 shows that there may be a link between arrival date and visa status, at least for Taiwan-born respondents, since the earlier arrivals seem to be more permanently settled in the United States. This may be due in part to the time it takes to convert one's visa status from nonimmigrant to immigrant (permanent resident or citizenship) status, but it is possible to stay on a nonimmigrant visa status by choice. If the latter, then the link between arrival date and visa status would not be positive.

To test this link more generally, we did a regression of visa status on arrival dates across all three groups.

y = visa status and can take the values 1 = U.S. Citizen, 2 = Permanent Resident (PR),
      3 = H1B, 4 = Other Status
x = period of arrival and can take the values 1 = Pre-1970, 2 = 1970–79, 3=1980–89,
      4 = 1990–99, 5 = after 1999

The regression result is: y = −0.38 + 0.68x
S.E: (0.066) (0.017)
t = (−5.73) (39.77)
r^2 = 0.47

The low value of the coefficient of determination has little significance in a test in which the variables take a few discrete values. The t values, however, are significant. The positive slope indicates that the relationship between arrival date and visa status cuts across ethnicity of these groups.

Table 4A: Visa Status and Arrival Date

Year of arrival	x	Predicted y	Likely Visa Status
Before 1970	1	0.3	U.S. Citizen
1970–79	2	0.98	U.S. Citizen
1980–89	3	1.66	U.S. Citizen/PR
1990–99	4	2.34	PR/H1B
After 1999	5	3.02	H1B

The regression should be interpreted thus: if the respondent arrived in the United States before 1979, y < 1, implying that the person is most likely to be a citizen. If the person came between 1970 and 1979, the y estimate of 0.98 indicates that he or she is now a citizen. If x = 3, i.e., the person arrived during the period 1980–89, the corresponding y estimate is 1.66, indicating that the person is either a citizen or a permanent resident by now. However, a more recent arrival—say x = 5 (arrival after 1999)—means that y = 3.02, i.e., the respondent is most likely to be an H1B visa holder. Hence, we conclude that all the three ethnic groups desire to convert to more permanent visa status.

The observed lower incidence of permanent residency and citizenship of the Indians is due to their later arrival in the United States. But it should also depend on respondents' initial situations upon arrival in the United States, though not usually on their age at the time of entry. For example, if a person enters the United States on a student visa and then takes a job, conversion to citizenship will require at least the number of years of study, plus two to three years on an H1B visa (or similar working nonimmigrant visa), and then at least five years as a permanent resident. On the other hand, someone who comes into the country on an H1B visa must possess an undergraduate degree and can apply relatively quickly for permanent status.

Hence, we would expect that those who came in to the United States as students would take longer to become permanent residents/citizens than those who came directly into the workforce from outside the United States. We show below in Table 5 that Indians were more likely than the Chinese to come directly into the workforce from India. The Chinese, by contrast, were more likely to come as students. It therefore follows that the Indians ought to become permanent residents/citizens earlier than the Chinese. The data show that, of the Indians, 52.8 percent are permanent residents/citizens, which would include almost all those who came by 1989 (42.1 percent) and another 10.7 percent who came after 1990. The PRC data is less useful for making such inferences, since we do not have information about arrival dates within the crucial 1990–99 period (a long enough period to arrive as, say, a student, and obtain permanent status).

Table 5: Route to the United States

Arrival in United States	PRC	Taiwan	India
Stayed on after U.S. education	78.9	78.8	54.7
Recruited by domestic intermediary	0.4	0.5	3.9
Recruited by U.S. intermediary	1.9	0.5	5.5
Recruited directly by U.S. firm	10.5	9.1	15.5
Company transfer to United States	1.6	1.5	10.3
Other	6.6	9.6	10.2

The results of Table 5 show that domestic intermediary recruitment and intra-firm transfers are more common in India. In the PRC, the absence of domestic intermediary recruitment may be due to restrictions on the activities of such firms.

The shortage of domestic firms in China doing transnational work may explain the low level of intra-firm transfers. For example, if the transnational firms in China are mostly owned by overseas interests, using China for its lower labor costs, then it would make little sense to transfer such persons to the higher-cost U.S. environment. On the other hand, in India, there are several large domestically owned Indian firms that may have an interest in sending certain categories of employee overseas (e.g., marketing personnel), as it may be cheaper than recruiting such persons in the United States. However, this does not explain the low level of intra-firm transfers among Taiwanese respondents, since Taiwan also has a large number of domestically owned IT firms.

Section 2C: Education

Table 6: Place of Highest Educational Degree

	PRC	Taiwan	India
United States	81.0	92.0	62.9
Mainland China	13.9	0.0	0.0
Taiwan	0.6	7.0	0.1
India	0.0	0.0	32.4
Other Asia	1.4	0.5	0.5
Other	3.1	0.5	4.1

Seen together, Tables 5 and 6 show a close match between the percentage of respondents who completed their highest degree in the United States and those who came to the United States through acceptance in an American university. We expected that the former would be greater than the latter since there would be some who came to the United States as employees of firms but then returned to school (in the United States) to acquire additional degrees. This is indeed the case. The difference is greatest for the Taiwanese, which may be due to their

having been in the United States longer than the other groups. Many new migrants might prefer to wait for permanent resident status before undertaking fresh education.[13] Over time, as the PRC and Indian communities become more settled, the difference from the Taiwanese numbers will probably diminish.

As Table 7 shows, educational qualifications are high for all three groups. Although a bachelor's degree in engineering is not a prerequisite for a high-technology job, there are two reasons to expect ethnic engineers to have at least a bachelor's degree. First, eligibility for a student visa requires enrollment for a full-time degree, diploma, or certificate at an accredited college or university. Second, the minimum requirement to obtain an H1B visa is a four-year undergraduate degree. Therefore, whether the respondent entered the United States to study or directly to work, a bachelor's degree would be the minimum qualification possessed.

Table 7: Highest Level of Educational Attainment

Education	PRC	Taiwan	India
High School	0.2	0.0	0.39
Bachelor's[1]	10.5	15.4	20.8
Master's[1]	52.2	53.7	39.8
MBA	7.2	14.9	28.0
Ph.D. [1]	28.6	14.9	8.4
Other	1.2	1.0	2.5

[1] Refers to technical degrees only.

After the bachelor's degree, the survey shows that mainland Chinese and Indian educational paths diverge to an extent. All groups overwhelmingly went on to a graduate program, the Chinese more than the Taiwanese and the Taiwanese more than the Indians. All groups preferred a master's program in engineering to its "natural" alternative, an MBA, but a substantial proportion of Indians chose the MBA. This may have been due to language issues for Chinese and Taiwanese relative to the Indians, since it is assumed that an MBA requires better English language skills than an engineering degree. It may also be due to career preferences, which are discussed in greater detail later on.[14]

While all groups mostly ended their education with either an MBA or a master's degree in engineering, a substantial proportion of the Chinese (nearly double the Taiwanese and over three times the Indian proportion) acquired doctoral degrees in engineering. Thus, the Chinese seem to have acquired significantly higher research skills than the other groups. This may have a significant impact on occupation, to which we now turn.

Section 2d: Economic Activities and Future Plans

Table 8: Job Status

Job	PRC	Taiwan	India	MBAs who are[1]
Executives	9.6	24.1	41.4	46.2
Managers	13.3	30.9	26.1	34.8
Technical, nonmanagerial	67.7	35.2	28.7	7.3
Other	9.4	9.8	3.8	11.7
Total	100.0	100.0	100.0	100.0
Hardware firms'[2] employees who are executives/managers	19.7	52.9	62.9	
Software firms' employees who are executives/managers	16.8	43.4	65.0	

[1] Data for this column is for all respondents.
[2] Hardware firms refers to firms specializing in semiconductors, computers, and communications.

Table 9: Employing Industry

Firm Activity	PRC	Taiwan	India
Semiconductors	17.8	20.1	9.1
Computers/Communications	26.3	23.9	19.6
Bioscience	5.3	4.4	1.4
Defense/Aerospace	0.7	1.3	0.4
Software	25.8	18.9	38.5
Engineering/Manufacturing-Related Services	3.4	4.4	2.1
Professional Services	6.8	8.8	12.9
Internet Content/Service	6.7	6.3	9.1
Other[1]	7.3	11.9	6.9

[1] 4.7 percent of all respondents provided venture capital and other financial services to the IT industry.

Table 8 shows that Taiwanese and Indians (the latter more so) are primarily executives and managers, while the mainland Chinese are primarily in technical, nonmanagerial jobs. Despite their relatively short stay in the United States, this indicates that the Indians may have advanced relatively rapidly up the corporate ladder, a hypothesis we examine below. The mainland Chinese and Taiwanese tend to work for similar industries: 44 percent are employed in the hardware-dominated fields of semiconductors, computers, and communications, versus 29 percent for Indians. Over 60 percent of Indians work in software-dominated fields (software, professional services, and Internet content/service), versus less than 40 percent for mainland Chinese and Taiwanese.

To test the hypothesis that Indians have advanced relatively rapidly up the corporate ladder compared with mainland Chinese and Taiwanese, we assume that firms will typically

place new recruits with technical degrees in nonmanagerial positions. We further assume that, based on performance, such firms might offer managerial positions to some of these recruits. The offer will be accepted if the employee considers being a manager or executive to be desirable relative to choosing to stay in a technical, nonmanagerial position.

Note that all three groups' presence in executive and managerial positions exceeds the percentage of MBAs in their respective groups. This, therefore, suggests a desire among all three groups to rise to managerial positions. Second, data for hardware employees (semiconductors, computers, and communications) showed that (see penultimate row of Table 8) Indians are more likely to be managers and executives than the other groups, even in the fields where Chinese are relatively dominant. This finding is even more true in software (see last row of Table 8).

Why is this so? Better English and having an MBA seem to matter. As Tables 7, 8, and 9 show, there is a link between career choice and education. The PRC respondents, who have a higher proportion of graduate degrees in engineering, are also more present in technical, nonmanagerial jobs than in managerial or executive ones. By contrast, the Indians, who have a higher proportion of MBA graduates, are mostly in executive or managerial jobs. The Taiwanese are in-between. Thus, the Indians appear to have educated themselves for managerial positions and have achieved this goal. Though both Taiwanese and Indians work primarily in managerial positions, the Indians appear to have risen higher, since the proportion of Indians occupying executive positions is greater. This may reflect language difficulties for the Taiwanese, or their relative lack of MBA degrees. The importance of an MBA in obtaining managerial status is further confirmed by the last column of Table 8, which shows that over 80 percent of MBAs are either executives or managers.[15]

Table 10: Firm Size

Number of Employees	PRC	Taiwan	India
1–9	5.0	14.2	10.4
10–49	13.3	19.1	20.3
50–99	8.7	8.6	12.4
100–499	19.5	17.9	21.2
500–999	8.7	8.0	5.3
1,000–9,999	19.0	15.4	13.3
10,000+	25.7	16.7	17.0

Table 11: Age of Firm

Year of Establishment	PRC	Taiwan	India
Before 1980	3.4	0.0	0.7
1980–85	3.4	6.0	3.3
1986–90	6.8	8.0	5.1
1991–95	20.3	24.0	11.3
1996–2001	66.1	62.0	79.6

Table 10 shows that about 40 percent of Taiwanese and Indians worked in firms with fewer than one hundred employees, while about 30 percent of each group worked in firms with more than one thousand employees. The distribution of employees is therefore somewhat bi-modal, with a greater presence in smaller firms. The respondents from mainland China showed a bi-modal trend in the opposite direction: 45 percent worked in firms with more than one thousand employees while 27 percent worked in firms with fewer than one hundred employees.[16]

Why might this difference arise? Large firms might be considered to be less risky environments (from the viewpoint of job security) than small firms (our data shows a small negative correlation of 18 percent between firm age and size). Similarly, newer firms might be considered to be more risky than older firms. If Table 10 suggests that the mainland Chinese choose larger firms to work in because they are more concerned about job security, then this should show up in a preference for older firms as well. And yet, such a tendency does not emerge from Table 11, which indicates that all three groups generally prefer younger firms.[17]

Another possibility, given the Chinese presence in hardware, is that hardware firms are larger than software firms (due to the nature of the business, with high fixed assets).[18] But this does not explain the Taiwanese presence in smaller firms (even though they are also as concentrated as the mainland Chinese in hardware). We are therefore unable to make any firm conclusion about why the mainland Chinese on the one hand and the Indians and Taiwanese on the other make different choices in the size of firms that they work for.

Concerns about job security, therefore, do not seem to be a differentiating factor across the different ethnic groups. But could it be that there is a difference in the kinds of work done that leads to different choices? Specifically, are startups more attractive to one group than another, because startups perform a given kind of work or offer different risk-reward combinations? While it is hard to generalize about the work being done in startups versus older firms, it seems fair to assume that the average employee in a startup is more likely to be working on newer technologies than the average employee in an older firm.[19]

Under this assumption, a more direct measure of risk-taking ability and entrepreneurship may be developed from startup information and preferences in Tables 12 and 13:

**Table 12: Respondent is Involved in Founding
        or Running a Startup**

	PRC	Taiwan	India
Yes, full-time	14.8	34.2	43.3
Yes, part-time	16.5	16.5	16.6
No	68.7	49.4	40.1

Table 12 shows that the Taiwanese are evenly divided in their involvement in founding or running startups, while the Indians and mainland Chinese show trends in opposite directions. Sixty percent of the Indians are involved in startups, while 70 percent of the mainland Chinese are not involved in startups.

Table 13: If Not Currently Involved in a Startup, Respondent Plans to Start Own Full-time Business

	China	Of Which, Taiwan	India
Yes, in 2001	1.1	2.9	10.5
Yes, in the future	50.7	50.9	63.8
Never	7.0	16.5	2.2
Don't know	41.2	29.8	23.5

Table 13 shows that all groups have an interest in startups, although the preference is most marked among Indians. Taken together, the data on firm size and age, and respondents' involvement and preferences for startups show a relatively stronger presence and interest among Indians for startups, entrepreneurship, and a preference for working on newer technologies.

Tables 12 and 13 are relevant to our understanding of the primary motives of respondents in joining ethnic networks, which we will discuss in more detail below. For Indians, 59.5 percent were involved in a startup in some way, while 74.3 percent of those who were not involved planned to start one; overall, 89.3 percent were already involved or planned to become involved in a startup. The corresponding figures for the mainland Chinese and Taiwanese are 66.9 percent and 77.2 percent. Thus, the membership of professional networks is dominated by those planning to start or fund a new company,[20] which is in turn consistent with the stated objectives of such networks.

Section 2e: Transnational Activities of Respondents

Table 14 presents results on whether respondents have invested in businesses in their home country.

Table 14: Whether Respondents have Invested in Startups in their Home Countries

Response	PRC	Taiwan	India
Yes, more than once	4.7	11.5	9.7
Yes, only once	6.3	4.4	12.5
Never	89.0	84.1	77.7

Several reasons could underlie the limited extent of transnational investment. First, Silicon Valley might have offered greater opportunities than the home countries, although this is unlikely given the high rates of growth in the IT sector in all the three countries during the period. Another more likely explanation is greater information and ability to control outcomes closer to one's place of residence. In this way, the respondents resemble formal venture capitalists, in that they tend not to stray out of their home turf (Gompers and Lerner, p. 171).

Nevertheless, the number, particularly of Taiwanese respondents, seems surprisingly small relative to anecdotal accounts of transnational activity (Saxenian and Hsu, 2001).

Given the limited investment, how likely are respondents to return to their countries of birth? We present first the factors of importance in Table 15.

Table 15: Factors Influencing Return to the Home Country
(Ranked between 1 and 10, with 1 being not important, 5 being neutral, and 10 being most important)

Factors	PRC	Taiwan	India
Professional opportunities	8.3	8.1	7.8
Culture and lifestyle	7.5	7.0	8.3
Tax and other incentives	7.0	5.7	6.8
Limits on U.S. professional opportunities	6.7	5.9	5.0
Desire to help home country	7.0	6.1	7.8

The findings of Table 15 show some differences among the three groups. Indians are most concerned about culture and lifestyle issues (related perhaps to their relatively low population in the Bay Area) and also have the most interest in helping their country of birth. Accordingly, they seem to have "fitted in" the least to Silicon Valley relative to their aspirations and cultures. This is particularly striking given that Indians are least concerned about limits on professional opportunities. The Taiwanese respondents seem to have fitted in best, with the mainland Chinese between. These findings are probably linked to their years of arrival and their ages.

As the following table shows, the above factors are nonetheless not decisive enough to induce a near-term return for the majority of respondents.

Table 16: Likelihood of Return to the Home Country

Purpose of return	PRC	Taiwan	India
To work full-time[1]	42.8	24.8	45.1
To work full-time, if respondent's age is 26–35	46.6	41.8	52.7
To work full-time, if respondent's age is over 35	37.0	14.4	33.9
To locate a business[2]	78.3	55.4	76.1

[1] Participants were asked to choose between "quite unlikely," "somewhat unlikely," "don't know," "somewhat likely," and "quite likely." The data in the table are for those who answered "somewhat likely" and "quite likely."
[2] Participants were asked to respond either "yes" or "no." The data in the table are for those who answered "yes."

17

A substantial proportion of respondents from all three areas have a keen interest in returning to or starting a business in their countries of birth. As Table 16 shows, younger respondents are more likely than older ones to return to their home country to work. Taiwan's relatively low numbers come as a surprise, given its recent growth and other literature suggesting strong transnational business ties. (Saxenian, 2001, Portes, 1996)

Table 17 shows where respondents would locate their businesses if they invested in their countries of birth.

Table 17: Preferred Business Locations

	PRC	Taiwan	India
Beijing	34.6		
Guangzhou/Shenzhen	14.0		
Hong Kong	2.9		
Shanghai	46.3		
Other PRC	2.2		
Hsinchu		28.6	
Taipei		71.4	
Other Taiwan		0.0	
Bangalore			27.1
Mumbai			17.6
Chennai			11.6
Hyderabad			15.1
Delhi			10.1
Other India			18.5

The most surprising factor appears in the Taiwanese data, where there is a clear preference for the PC- and software-dominated sector of Taipei over its close neighbor, the more recent and successful hardware-oriented Hsinchu Science Park (see also Table 20). Among Indian respondents, there is a preference for Bangalore, while other areas seem to be in line with respondents' places of birth.

This data is consistent with respondents' current lines of work. As Table 18 shows, most work in firms that do business with their home countries.

Table 18: Whether Respondent's Employer Does Business in Country of Birth

	PRC	Taiwan	India
Respondents saying yes	60.7	55.1	51.7

Table 18 correlates with data showing a significant presence of respondents in larger firms (particularly for the mainland Chinese) since large firms are more likely to have multinational presences. Most of the relationships are recent, as Table 19 shows.

Table 19: Year of Establishment of Relationship in Country of Birth

Year of Establishment	PRC	Taiwan	India
Before 1980	0.0	8.0	3.9
1980–85	10.0	8.0	3.9
1986–90	13.3	4.0	3.9
1991–95	13.3	8.0	10.9
1996–2001	73.3	72.0	77.3

The relationships are usually established in the following cities.

Table 20: Current Locations of Employer's Business Relations in Country of Birth

PRC		Taiwan		India	
Beijing	63.3	Hsinchu	36.0	Bangalore	42.5
Guangzhou/Shenzhen	30.0	Taipei	72.0	Mumbai	26.0
Shanghai	46.6	Other Taiwan	0.0	Chennai	19.7
Other China	26.6			Hyderabad	19.7
				Delhi	16.5
				Pune	13.4
				Other India	13.4

Section 3: Networking and Its Benefits

In this section, we present some of the survey's results on the benefits of networks. For purposes of comparison, we consider the value of some informal networks—such as business colleagues, classmates (some of these connections may be formalized through alumni associations) and personal friends—in relation to formal networks, such as the professional ethnic networks.

First, we present results on the value of Silicon Valley-based networks (Tables 21–28) and then consider networks with the respondents' countries of birth (Tables 29–30).

Tables 21 and 22 deal with a probable outcome of ethnic networks: the concentration of employment from one's country of birth.

Table 21: Number of Respondent's Firm's Founders from the Country of Birth

Number	PRC	Taiwan	India
None	17.5	20.0	11.0
1	31.6	28.0	34.4
2–4	49.1	46.0	50.2
5 or more	1.8	6.0	4.4

Table 21 shows that a respondent is most likely to be employed in a firm that has at least two founders from the country of birth. Given that the number of founders of any given firm is typically small (exact data are not available, but we conjecture that the number would rarely exceed five), it would appear that ethnic linkages are important sources of employment. Table 22 supports this conclusion.

Table 22: Percentage of Fellow Employees from the Home Country
(Figures show the ethnic percentages of respondents working in firms that employed varying percentages of fellow employees born in their country of birth)

Percentage	PRC	Taiwan	India
None	0.3	13.0	6.0
Less than 10 percent	45.5	53.6	40.7
Greater than 10 percent	54.5	46.4	59.3

The data show that the Taiwanese are least likely to work in firms with employees from their country of birth. Given the relatively early arrival of the Taiwanese to the United States, this is consistent with the hypothesis that earlier arrivals seek to join the mainstream and need to rely less on ties with fellow ethnics for economic benefits.

Based on Tables 21 and 22, how much employment was generated through formal networks (such as network associations) as contrasted with informal networks developed outside the network (such as through introductions made by friends)? First, we measure the frequency of participation in network events. This is taken to be a proxy of the overall value of belonging to the formal network, and presented in Table 23.

Table 23: Frequency of Participation in Professional Ethnic Network Events

Frequency of participation (attendances per year)	PRC	Taiwan	India
1–2 or more	18.0	23.3	14.3
4–6	21.5	25.8	20.9
2–3	27.4	22.0	26.5
1	20.8	18.9	23.1
Never	12.3	10.1	15.3

Assuming that four events per year is a good benchmark of active participation and one event or less per year is a good benchmark of inactive participation, Table 23 shows that over one-third of the respondents in all groups participated actively and about one-third were inactive. Among the ethnic groups, the Taiwanese were the most active, while the figures for mainland Chinese and Indians are similar.[21]

Table 24: Ranking of Professional Ethnic Networks
Measure: Attendance at network event at least once in the past two years.

Network	PRC	Taiwan	India
AAMA	17.5	30.3	0.0
CASPA	18.5	25.4	0.0
CIE	7.2	13.9	0.0
CINA	22.9	37.7	0.0
CITA	10.9	4.1	0.0
CSPA	15.8	22.1	0.0
MJSTA	18.8	57.4	0.0
NACSA	20.5	5.7	0.0
SAPA	3.1	0.0	0.0
SCEA	58.6	7.4	0.0
TiE	0.0	0.0	94.2
SIPA	0.0	0.0	22.4
NetIP	0.0	0.0	14.2

AAMA: Asian American Manufacturers' Association
CASPA: Silicon Valley Chinese American Semiconductor Professionals Association
CIE: Chinese Institute of Engineers
CINA: Chinese Information Network Association
CITA: Chinese Internet Technology Association
CSPA: Chinese Software Professionals Association
MJSTA: Monte Jade Science and Technology Association
NACSA: North American Chinese Semiconductor Association
SAPA: Sino-American Pharmaceutical Professionals Association
SCEA: Silicon Valley Chinese Engineers Association
TiE: The Indus Entrepreneurs
SIPA: Silicon Valley Indian Professionals Association
NetIP: Network of Indian Professionals

Table 24 shows that, despite similar economic activities and similarities of language,[22] mainland Chinese and Taiwanese do not strongly network together. The mainland Chinese seem to prefer SCEA—which was founded by mainland Chinese-born respondents—and have a relatively low presence in most of the other associations. The Taiwanese also mostly prefer their own particular ethnic network, MJSTA, but have a relatively higher presence than the mainland Chinese in other Chinese network associations.

Indian respondents cluster mainly around TiE, and there is no evidence of Indian and Chinese networks intersecting, an interesting finding which suggests isolation from each other. This is true even for AAMA, an organization that includes an Indian on its board of directors and whose mission statement explicitly includes all of Asia.

**Table 25: Value Obtained from Different Networks,
      as Sources of Business and Technology Information**
(Ranked between 1 and 10, with 1 being not important,
5 being neutral, and 10 being most important.)

Network	PRC	Taiwan	India
Business associates	7.4	7.4	8.2
Mainstream media	7.4	7.7	8.1
Networking associations	7.0	6.9	7.1
Family/friends	7.2	6.5	6.8
Ethnic media	5.4	4.9	5.9
Contacts in region of birth	5.0	5.2	5.0

Table 25 shows that ethnic media and contacts in the home country are least useful as sources of business and technology information. All other networks are more important, although the most formal, the networking associations, rank third for Indians and Taiwanese and fourth for mainland Chinese.

Table 26: Assistance of Networks in Raising Funds for Respondents' Startups
(Percentage responding positively to each option)

Network of assistance	PRC	Taiwan	India
Family and friends	79.4	75	66.5
Current or former colleagues	50.0	47.2	55.0
Alumni	52.9	50	27.2
Ethnic professional association	23.5	22.2	24.6
Other professional associations	20.6	19.4	11.0

Table 26 shows that ethnic professional associations are useful for about 23 percent of respondents for raising funds. While this ranks fourth among each of the ethnic groups, whether it is satisfactory or not depends on expectations. If family and friends might be expected to provide financial support more often than those with weaker ties to the respondent—such as members of professional associations—then the ranking above is consistent with this expectation. Granovetter's work on weak ties (1973) suggests that weak ties can be more useful than strong ones because they allow persons to make connections that more

insular strong ties, such as family, may not. Since we do not have data on expectations, we cannot provide direct evidence on the value of weak ties.

Combined with Tables 12 and 13, which showed that most of the respondents were involved in or planning a startup, this finding suggests one of two hypotheses. The first is that finding funds 23 percent of the time through professional networks is a satisfactory outcome, creating value for the network. The second is that success in finding funds falls below expectations and therefore does not fulfil one of the goals of entrepreneurs, which is to locate financing for a startup, making the network of low value. If the second hypothesis is correct, then a third is also possible, namely that respondents find other goals for joining networks (such as finding employment) to be more important than fundraising.

We conjecture that fundraising is an important goal for those who join professional ethnic networks. The first hypothesis is supported by the finding that the proportion of respondents with second-round fundraising experience was 86.2 percent of those with first-round fundraising experience, implying that members are satisfied with the 23 percent response rate. To explore this issue further, we examine responses to the sources of funds at different stages of a startup in Table 27.

Table 27: Sources of Funds for Those Respondents Involved in Founding Startups

Sources of Capital	Initial Funding Round			Subsequent Funding Rounds		
	PRC	Taiwan	India	PRC	Taiwan	India
Personal savings	52.7	42.0	61.5	19.5	19.6	25.1
Family/friends in United States	16.4	26.0	23.1	9.8	21.7	10.0
Family/friends outside United States	20.0	20.0	5.1	12.2	19.6	4.2
Angel investors	41.8	38.0	46.5	26.8	26.1	25.5
Venture capital (VC) firm in United States	34.5	18.0	35.9	58.5	34.8	61.1
VC firm outside United States	10.9	30.0	5.1	31.7	47.8	14.6
Banks, government loans, other	12.7	8.0	16.5	26.8	30.4	28.5

Table 27 shows the reliance on different sources of financing for a startup in initial and subsequent funding rounds. The first three rows show the reliance on personal savings and informal personal networks. We posit that angel investors, also an informal source of funds (the fourth row of the table), might typically be contacted directly through ethnic professional associations, while formal VC firms inside and outside the United States and bank, government, and other sources might be contacted indirectly through ethnic professional associations. We expect angels to be more important sources of funds in initial rounds, and VC firms to be more important in subsequent rounds. We also expect Taiwanese-born respondents to rely more heavily on their home country's venture capital firms than do other groups, because Taiwan's VC industry is much more developed than that in the PRC or India.

As expected, the table shows greater reliance on informal than formal sources in the initial stages. Personal savings and angel investors are the two most important sources of initial finance. The importance of angel investors in particular suggests that networks serve as

useful sources of informal finance. The data are also consistent with the hypothesis that networks provide connections both to U.S.-based VC firms for PRC- and India-born respondents, and to Taiwan-based VC firms for Taiwan-born respondents.

There is also a shift toward formal sources of funds in subsequent rounds. This, too, is as expected, since subsequent funding is typically based on a record of company performance (i.e., is more credible information that may be given to any financier), thereby allowing access to larger and cheaper funds in the mainstream. The Taiwanese clearly prefer VC firms outside the United States (and presumably located in Taiwan) to U.S.-based firms. As noted above, this probably reflects the well developed state of venture capital in Taiwan and the value of connections there. In India and China, the local venture capital industry is less well developed than in Taiwan or the United States, with China lagging behind India in this respect. In fact, the Taiwanese use of VC firms in Taiwan increases in subsequent rounds and seems also to be utilized by mainland Chinese, whereas Indians rely almost entirely on U.S.-based formal funding sources.

There is little difference how much PRC- and Indian-born respondents rely on VC firms in the United States at initial or subsequent funding rounds. This suggests that language differences or management training that might give Indians an advantage in, for example, making presentations to VCs, might be offset by other systemic or specific factors. Table 28 explores this possibility by asking respondents about difficulties experienced in raising capital.

Table 28: Difficulties Experienced in Raising Capital for Startups

	PRC	Taiwan	India
Access to investors	61.8	64.7	69.9
Language difficulties during presentation	11.8	11.8	1.8
Inadequate business plan	26.5	41.1	23.5
Inadequate technical skills	2.9	5.9	2.4
Inadequate management skills	26.5	41.2	15.7

Table 28 shows that the most important systemic disadvantage that cuts across all groups is access. For PRC- and Taiwan-born respondents, there are the additional specific disadvantages of lack of management training and poor English language skills (relative to Indians), both of which might be expected to affect the quality of the business plan and management skills. While these results might provide the reason why Taiwan-born respondents use VC firms outside the United States more than those within the United States, they do not explain the nearly equal reliance of both Indian- and PRC-born respondents on U.S.-based VC firms in initial and subsequent funding rounds.

The data above show that most respondents have not made transnational investments, and that they are unlikely to return to their home countries. At the same time, there does exist a keenness to invest in or start a business in the country of birth under the right conditions. The starting point of such business development ought to be via the exchange of information on opportunities in the country of birth.

Table 29: Value of Informal Transnational Networks for Exchanging Information
(1 = Never; 2 = Sometimes; 3 = Regularly. Numbers below are averages.)

Information exchanged with classmates/friends in home country on:	PRC	Taiwan	India
Jobs in the United States	2.0	1.9	2.1
Jobs in the country of birth	1.9	1.7	1.9
Technology	2.0	2.0	2.2

Table 30: Value of Transnational Networks for Business Development and Employment
(Percentage of respondents replying in the *negative.)*

Contacts with the home country	PRC	Taiwan	India
Business development/R&D activities[1]	66.0	59.5	54.2
Meeting local government officials[2]	64.0	67.4	59.8
Frequency of business travel[3]	64.9	36.7	47.6
Advisory work for companies in the home country[4]	84.8	75.9	66.1

[1] Respondents were asked to reply "yes" or "no."
[2] Respondents were asked to reply "never," "sometimes," or "regularly" to the question as to whether they had met government officials in the past three years. The figure in the table is for those who said "never."
[3] Respondents were asked how often they traveled to the home country on business, choosing between "never," "once a year," "2–4 times a year," and "5 or more times a year." The table figures are for the percentage who responded "never."
[4] Respondents were asked to reply "yes" or "no" to the question as to whether they had advised or consulted for companies in their home countries.

Tables 29 and 30 show that informal networks of family and friends in the country of birth are not used regularly by any of the groups to exchange information. This finding is consistent with the results of Table 16 on the likelihood of return to the home country. Table 30 provides further insight into why informal networks are not used. Respondents from all three regions did not maintain contacts with government officials, undertake exercises for business development or R&D, or do advisory work for firms in their home countries. The exception to this finding is Taiwan-born respondents' relatively higher frequency of travel to Taiwan, which is consistent with their greater use of overseas VC firms, as highlighted in Table 27.

The picture of transnational networking that emerges from the above information is that it remains limited. This may reflect the relatively recent status of immigrants or a relative dearth of opportunities back home. The latter is probably true at the early stages of an immigrant's life in the United States, but as they settle down, this is unlikely to be true, especially given the high growth rates in their home countries.

Section 4: Discussion and Conclusion

The survey confirms several of the popular views about the contributions of the mainland Chinese, Taiwanese and Indian-born immigrants into Silicon Valley. Across the board, they are highly educated, entrepreneurial, and derive important benefits from their formal and informal networks. Yet, there were also important differences within these parameters. The mainland Chinese and Taiwanese have a greater proportion of U.S. degrees, a higher level of technical education, and a lower level of managerial education than the Indians. The Indians, correspondingly, have a higher presence in professional services and executive jobs, as influenced by their management education and perhaps also influenced by language differences. The Indians also have a higher presence in startups than the mainland Chinese and Taiwanese. The Indians' forte is software, and for the mainland Chinese and Taiwanese it is hardware, though this focus is less concentrated for the latter groups.

All three groups have very limited interactions with their home countries, whether for investment or for exchanging information on jobs, technology, or business development. They rely mostly on local informal networks for jobs, business information, and venture finance, although respondents move toward more formal, mainstream sources as they become established.

Despite these factors, all groups look to their countries of birth as places to return to, subject to the right conditions, such as professional opportunities. Bangalore in India, Taipei in Taiwan, and Shanghai in China are the most preferred destinations. Although over half the respondents report that the firms they worked for have business connections in their countries of birth, the respondents' *actual* business connections with these countries is unexpectedly low.

The survey data show that ethnic professional networks are valuable sources of information on business issues (including jobs) and technology, but less useful than the respondents' business associates, mainstream media, and, for the mainland Chinese, family and friends. While ethnic professional networks were of lower value than informal networks in raising funds for entrepreneurs, they created enough value for members to continue seeking funds via network connections in subsequent rounds of financing.

What do these findings mean for the long-term sustainability of ethnic networks? It might be assumed that ethnic engineers will increasingly participate in mainstream activities and find ethnic networks less useful. Table 28 shows one of the difficulties that they might encounter in entering the mainstream—that of raising capital in the face of poor access to investors and language difficulties. While the latter will diminish with time, the ethnic network ought to reduce its relevance still more quickly. Even for those without language difficulties, the ethnic network should provide access to investors who can verify the quality of fellow ethnic entrepreneurs more easily than mainstream investors.

Tensions affecting network survival may nonetheless remain. Perhaps the ethnic networks do a good job of matching angels and first-time entrepreneurs, but this may not be what angels ideally want. From the angels' viewpoint, their "pecking order" might be to fund proven entrepreneurs first and, then new ones.[23] If the ethnic network contains a coterie of proven entrepreneurs who are identifiable and accessible,[24] and if search costs for new entrepreneurs are also low,[25] then angels might participate more readily in the network.

But why would proven entrepreneurs want to participate in the ethnic group's activities when their proven success enables them to access the mainstream?[26] Some may, for noneconomic reasons such as "paying back to the community" once they have made it, but if most

do not, this reduces the incentive of angel investors to participate in the network. Thus, the above discussion raises concerns about network sustainability, at least as a forum to finance entrepreneurship.[27]

The survey analysis leaves several questions on network sustainability unanswered. The first is the presence of *externalities*. Do the benefits of networking lead to higher levels of innovation? Do they result in increasing the flow of native-born Indians and Chinese to Silicon Valley from their countries of birth by creating a better environment in which they can work? Do networks affect the entrepreneurial activities of immigrants in their regions (or countries) of birth? The second set of questions is related to *network evolution*. How do networks evolve as older immigrants become more established? Do they continue to focus on newer immigrants or seek to retain old members by changing their mission? This does not necessarily mean mainstreaming, which might be accompanied by the risk of losing membership in the mainstream. But it could, for example, mean accessing opportunities in the country of ethnic origin (i.e., continuing to provide special situations and advantages to members). How does the network's activity influence the size of its membership? For example, the Chinese networks tend to be individually smaller than the Indian networks. Why is this so? A clear articulation of these issues can add substantially to understanding not only the role of Indian and Chinese professional networks in Silicon Valley, but also how they will evolve.

Notes

[1] As of 1998, 24 percent of Silicon Valley high-technology firms were led by an Indian or Chinese CEO. (Saxenian 1999, p. 23)

[2] The Y2K problem was largely a mainframe computer problem arising from expensive computer memory (starting from around 1965). To save memory, databases used two digits rather than four to identify a particular year. This was not a problem until 1999, but would have been a big one from 2000 onwards, when 00 would be understood as 1900 rather than 2000. Solving the Y2K problem required reprogramming old financial and other date-sensitive software, and created employment opportunities for thousands of Unix-skilled programmers worldwide.

[3] We use the term "ethnic" to denote membership of a group identified by nationality, heritage or culture, but residing outside its national boundaries. This is contrasted with the "mainstream", which is the dominant nationality, heritage or culture residing within the nation's boundaries. A "professional network" is defined to consist of a voluntary association of professionals.

[4] The largest South Asian professional group in Silicon Valley, the Indus Entrepreneurs—or TiE—averaged over six hundred attendees at its monthly networking meetings in 2000. (Information from Raj Desai, executive director, TiE, January 14, 2002)

[5] See Granovetter (1995).

[6] One might add that reputation can be more cheaply verified if there is an ethnic link, thus reducing up-front due diligence costs.

27

[7] Ben-Porath (1980), p. 13.

[8] Of course, rational lenders may anticipate such pressure and seek a higher rate of return up front.

[9] By design, 97 percent of the responses were from members of ethnic Chinese and Indian/ South Asian associations. All of the Chinese and Indian ethnic professional associations of engineers in Silicon Valley participated (see Table 24 for the list). The author of this paper and Professor AnnaLee Saxenian of the University of California, Berkeley designed the survey.

[10] Saxenian (1999, p. 18) shows that there were about 26,500 engineers of Indian and Chinese origin in Silicon Valley in 1990 and the numbers have undoubtedly grown since then.

[11] Well-settled employees of large firms in Silicon Valley, for instance, may not feel the need to belong to such associations, which cost money and time.

[12] In addition, the survey does not necessarily represent all IT entrepreneurs of Indian and Chinese origin, many of whom may develop their projects independently of the ethnic network. Of course, observed data can be misleading because of errors of omission. For example, Hotmail founder Sabeer Bhatia developed his project with a nonethnic co-founder (who was a colleague at their pre-Hotmail employer, Apple Computers) and obtained funding from mainstream, nonethnic venture capitalists. Initially, however, he had tried unsuccessfully to obtain funding through the premier South Asian network group.

[13] H1B or other nonimmigrant visa holders are not allowed to be full-time students.

[14] The data do not indicate what proportion of respondents did both the MBA and a graduate degree in engineering, but we have assumed that the two were exclusive choices.

[15] The presence of Taiwanese data acts as a useful check to hypotheses that state that the relatively high proportion of managers among Indians vis-à-vis the Chinese arises from the economic environment in their birthplace. The Indians, in other words, come from a freer enterprise system than the Chinese. If this hypothesis were true, then the proportion of managers/executives for the Taiwanese would match that of the Indians, since they share similar environmental backgrounds. But it is not so, suggesting, at least from the above tables, that language plays a bigger role.

[16] These findings allow us to reject hypotheses that relate firm size to firm activity. For instance, there may be fewer scale economies to the number of employees in software than in hardware, given the higher fixed asset component of the latter. This would suggest that Indians (who work more in software than hardware) would be found in smaller firms—and this is indeed the case. It would also suggest, however, that the Taiwanese would work in larger firms, which is not the case.

The data for Table 10 provide a snapshot of current employment. It may be that some groups have worked longer in large firms and switched to small firms. The flourishing of small firms in Silicon Valley in the latter half of the 1990s suggests that this is possible. But there is no reason to expect systematic differences across ethnic groups. Further, to the

extent that there is "stickiness" in jobs because of search costs (i.e., people do not easily change jobs), then the stickiness ought to be highest for the Taiwanese because of their relatively early arrival into the United States. The data do not support this conclusion.

[17] We assume that respondents had a choice of young and old firms to work in. This might not be true if most of the jobs available were in younger firms.

[18] I thank Henry S. Rowen, of A/PARC, for suggesting this possibility.

[19] This does not mean that older firms do not undertake "cutting-edge" technology development, but that the relative proportion of such work is lower than in a startup. Since many small firms may be consultants or contractors, our assumption is not a trivial one.

[20] Note that "starting" a company may involve finding finances, employees, co-founders, and strategic partners, while funding a company involves providing financing as a response to a startups' need for funds, with no other legal obligations (although there may be several accompanying activities).

[21] The inactive respondents might simply not have responded to the survey, thus biasing it in favor of the more active. However, given that even lack of activity may have fixed costs (e.g., members pay annual dues), we conjecture that there is no such bias.

[22] Some of the differences might reflect cultural or political differences.

[23] Angels might get better valuations if they funded newcomers rather than proven entrepreneurs, but we assume that the risk-reward relation favors a preference for the established entrepreneurs.

[24] Networks tend to publicize their successful members and ask them to speak at public forums, thus increasing the opportunities for interaction.

[25] The monthly networking meeting is usually the forum at which new entrepreneurs seek out angels. We conjecture that other networking methods, such as through mainstream groups, are at least as costly.

[26] Of course, the mainstream, such as formal venture capitalists, offers advantages and disadvantages (more money, better monitoring, and connections on the one hand versus lower valuations and less control on the other), but the proven success of venture capital and the relatively poor record of angel finance suggests that there is a net benefit to choosing organized, mainstream venture capital.

[27] It may be argued that angels will stay within their ethnic network because they have nowhere to go. Organized venture capitalists may not accept their money and more mainstream angels groups may have higher search costs. Further, though the data do not support their importance, other rationales for network sustainability, such as finding jobs, must withstand similar arguments.

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