Constructing the Indian Interorganizational Ownership Network

We collected all network data from Prowess CMIE (Centre for Monitoring

the Indian Economy), a standard data source for research on Indian firms

(Khanna and Palepu 2000b; Mahmood and Lee 2004) that contains annual

report and stock market data. To ensure that we have full representation of

the economy, we construct the network for all publicly traded firms in 2001

and 2005, typical years in an economy that has steadily grown for the past

two decades (World Bank 2013). Our primary structural interest is in the

ownership network, which we capture through shareholding.8 The first author’s

conversations with Indian managers and auditors indicated that coordination

among business group firms is indirectly established through

different members of a controlling family; each individual family member

might own a very small percentage of shares, but in concert, the family retains

control of the firm. To effectively track this distributed ownership

structure, Indian accounting laws mandate that shareholders 1% and

above are reported, and we follow the same threshold.9

Our focus is on ownership that provides potential for management and

control, rather than simple investment. Company annual reports classify

shareholders into different categories that reflect levels of control. We include

shareholders classified as “Indian promoters,” “private corporate

bodies,” and “persons acting in concert,” a general category defined as “as

persons who directly or indirectly cooperate by acquiring or agreeing to

acquire shares or voting rights.”10 Approximately 75% of all shareholders

are represented by the above three categories. Shareholders categorized

as “Indian public,” “foreign,” “nonresident Indian,” or minor institutional

investors are excluded since they do not have operational control over the

firm.11

The data consist of 44,528 firm-shareholder pairs for 2001 and 2005. We

cleaned these data by manually going through this list as described in the

appendix. The 44,528 firm-shareholder pairs in 2001 and 2005 represent

28,429 unique actors and include individuals, privately held firms, and

publicly traded firms ð2,781 publicly traded firms in 2001 and 2,600 publicly

traded firms in 2005Þ. We use these shareholding data to construct

the ownership network, where links are both directly between firms (direct

investment of one firm in another) and between individuals and firms

(proprietor investment ties).12 As our focus is on the relations among firms,

all descriptions below focus on firms.

FNs:

8The type of tie studied naturally influences the observed network ðMani and Knoke

2011Þ. If short-term transactions or spot transactions were used to construct the network

rather than ownership, we might expect a sparser social structure. However, theory suggests

that firms residing within small or nested social worlds tend to engage in multiplex

ties and use existing relationships for a variety of different transactions. If so, using more

short-term ties to construct the network would yield a network that is sparser but continues

to correspond roughly to the meso level structures we predict. Future research should

investigate how the network structure differs by relation and network position.

9Shareholdings greater than 50% are treated by Indian law as a hierarchical subsidiary parent

relationship. We reconstructed the network and reran the analysis excluding

shareholdings greater than 50%, but this did not change the results.

10 “Indian promoters” are owner-managers—typically a set of family owners—but this

category also includes parent companies, mutual funds, banks, and other investment

companies. “Private corporate bodies” are public or private firms that are not government

controlled.

11Minor institutional investors are defined as “banks, financial institutions, insurance

companies, mutual funds, and UTIs” who are not Indian promoters. Foreign firms are

described as forming ties with Indian firms explicitly for the purpose of gaining entry

into the Indian economy; the Indian firm provides the contextual and relational capital.

We report the results of the network excluding foreign shareholders, although results do

not change if foreign shareholders are included in the network.

12Network data are available by request from the first author. The network is also reconstructed

as a firm-to-firm network by replacing indirect ties between firms (established

via individual promoters) with direct firm-to-firm ties; the results do not change.