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PERSPECTIVE

Business groups and the study of international business: A Coasean synthesis and extension

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Abstract
This paper harmonizes the business group literature in international business and across relevant fields within a unified theoretical framework. Business groups (firms under common control but with different, if overlapping, owners) are economically important in much of the world. Business groups' economic significance co-evolves with their economies' institutions and market environments, patterns of particular interest to international business scholars. The vast literature on business groups raises discordant perspectives. This paper first proposes a unifying definition and provides a list of stylized historical observations on business groups across different parts of the world. It then develops a Coasean framework to harmonize seemingly disparate views from the literature by building on recent surveys and the stylized historical patterns of business groups. We enlist two concepts – fallacies of composition/decomposition and time inconsistency – to harmonize these perspectives. This yields a theoretical framework for understanding business groups that mobilizes concepts long-used to understand multinational enterprises: the economy's market and hierarchical transaction costs, openness, and their dynamic interactions. We then apply this framework to globalization and business group internationalization. This work leads to an overarching research agenda encompassing seemingly inconsistent prior work.

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INTRODUCTION

Business groups (BGs) are not only prevalent across much of the globe but, in many countries and regions, are the primary form of business organization (Khanna & Yafeh, 2015; Kim & Song, 2017; La Porta, Lopez-de-Silanes, & Shleifer, 1999). Unlike the Anglo-American model of free-standing focused versus diversified firms (Amit & Livnat, 1988), BGs subject multiple firms with different, though often overlapping, sets of owners and managers to

common overarching control. BGs are commonplace in emerging economies (e.g., Hearn, Oxelheim, Randøy, 2018; Kedia, Mukherjee, Lahiri, 2006; Khanna & Palepu, 2000), and in much of the developed world (e.g., Colli & Vasta, 2015, 2018; Guillen, 2000; Zhang et al., 2016). Accordingly, understanding BGs is essential to understanding business in general in many parts of the world and in cross-national contexts.

The study of how BGs co-evolve with markets across the globe with divergent and changing institutions, and how they vary across markets, is of particular interest to international business (IB) scholars. Indeed, the academic literature on this topic has grown considerably over the last few decades in IB (e.g., Aggarwal, Jindal, & Seth, 2019; Elia, Munjal, & Scalera, 2020; Hernández-Trasobares & Galve-Górriz, 2020; Lahiri & Dhandapani, 2019; Li & Yayavaram, 2019; Piana, Vecchi, & Jimenez, 2018; Tan & Meyer, 2019) and related fields (e.g., Almeida & Wolfenzon, D. 2006a, b; Buchuk, Larrain, Muñoz, & Urzúa, 2014; Dan & Hui, 2019; Larrain & Urzúa, 2016; Larrain, Sertsios, & Urzúa, 2019) to become more commensurate with the economic importance of BGs.

IB has advanced our understanding of BGs in many ways, and three important challenges merit more attention. First, most IB literature reviews on BGs focus primarily on IB and management studies, and so miss IB-relevant work in other fields. Second, IB insights can clarify questions about BGs in those fields (Buckley, Doh, & Benischke, 2017). The prevalence of BGs across markets, and their pivotal role in the evolution of economies and institutions, attract broad interest in many other disciplines, particularly finance and economics. They are, like IB, fundamentally interested in the interactive and varied relationship between business, market environments, and economic development. Much of this work involves cross-country comparisons, as in IB research. Applying IB insights to BGs presents a promising avenue for IB scholarship to contribute beyond traditional IB research questions, answering the challenge that Buckley et al. (2017: 1045) raise, namely that "IB scholars have addressed important global phenomena, but find that they have had little influence outside of IB… [and would benefit from] a redirection of IB research towards 'grand challenges'."

The third challenge is that the literature often offers insights through multiple perspectives in disconnected ways, leading to disjointed and even *prima facie* contradictory conversations. Several recent high-quality literature reviews on the topic lament this discord and the literature's failure to converge on a unique and empirically supported perspective (e.g., Locorotondo, Dewaelheyns, & Van Hulle, 2012; Colli & Colpan, 2016; Poczter, 2018; Carney, Gedajlovic, Heugens, Van Essen, & Van Oosterhout, 2011, Carney, Van Essen, Estrin, & Shapiro, 2017, 2018; Holmes, Hoskisson, Kim, Wan, & Holcomb, 2018).

This article addresses these challenges by synthesizing work on BGs in IB and multiple relevant fields. We hope to connect and enrich our conversation on BG. This exercise highlights time-honored fundamental principles commonly utilized in IB, and in many other fields, as having renewed relevance in explaining BGs. We hope that this might facilitate cross-disciplinary dialogues in BG research and expand the scope and influence of IB research as Buckley et al. (2017) deem beneficial. This exercise thereby offers a reconciliation of the apparent discord stressed in recent review articles, arguing that many seeming disagreements derive from confounding empirical and theoretical work at different levels of aggregation (micro, meso, and macro), and stages of development (different levels of market- and hierarchy-augmenting institutional strength). Explicitly, recognizing these confounding factors points to a potential synthesis and harmonization of the BG literature that perhaps might lead to a unifying analytical framework to guide future research.

We first propose a workable and uniform definition of BGs to facilitate current and future work. We then summarize stylized historical observations on BGs' economic significance across countries at various stages of development, their relationship with institutional development and industrial policies, and that many BGs were international *ab initio*. This section reveals that there are multiple patterns of relationships between BGs and institutions associated with economies at different stages of development. These patterns beg for a unifying theoretical framework that epitomizes crucial drivers of these variegated patterns.

To pave a road for the reconciliation of differentiated observations and strands of literature, we follow Granovetter (1993) and others in viewing BGs through the lens of the Coasean theory of transaction costs. However, we argue that this approach yields maximal insight only after recognizing that BGs are mesoeconomic phenomena, inhabiting a level of aggregation between the microeconomics of individual firms and the

macroeconomics of full markets. Different levels of aggregation create scope for fallacies of composition and decomposition in drawing inference from our analytical results. That is, what is good for a group need not be good for the economy nor for a specific affiliate. Distinguishing levels of aggregation reconciles much of the seeming inconsistency in prior work and, when combined with a dynamic approach to transaction costs, leads directly to the concept of time inconsistency. As such, implementing optimal decisions can render those very decisions *ex post* suboptimal. These concepts go far towards reconciling otherwise apparently discordant perspectives on BGs.

This reconciliation exposes a unified framework for thinking about BGs across nations in terms of market versus hierarchical transaction costs. As a hierarchical organization of economic activity at a mesoeconomic level, BGs can avoid the array of market failure problems that dramatically elevate market transaction costs at the microeconomic level (Khanna & Yafeh, 2005) by consolidating hierarchical transaction costs at the mesoeconomic level to achieve economies of scale (Morck & Nakamura, 2007). This allows BGs to initiate a Big Push industrialization (Rosenstein-Rodan, 1943) without immediately running foul of hierarchical transaction costs from political rent-seeking that impedes state-directed Big Push industrialization at the macroeconomic level (Easterly, 2006). Economic development can strengthen market institutions, reducing market transaction costs, and strengthen hierarchical institutions, reducing hierarchical transaction costs. Where market transaction costs fall more sharply, as in Canada and the United States (US), BGs decline or are broken up, and freestanding firms take predominance. Where hierarchical transaction costs fall far more sharply, as in Sweden where development arguably increased transparency and reduced corruption more than it encouraged competition or free entry, BGs persisted. However, mesoeconomic BGs that accumulate sufficiently vast economic and political power can affect the dynamic development of institutions at the macroeconomic level.[1] BGs can preserve their dominance by pushing for hierarchy-augmenting institutional development to keep mesoeconomic hierarchic transaction costs low and microeconomic market transaction costs high (Husted 1999). We argue that this can implicate BGs in the so-called "Middle-Income Trap" that characterizes many chronically incompletely-developed economies. All of this is consistent with firms in large BGs being exceptional performers, innovators, or employers and with large BGs not necessarily being beneficial for their national economies. We then apply this framework of "market transaction costs, hierarchy transaction costs, and group dominance" to globalization and the internationalization of BGs, to provide a more direct examination of the implications of this study for the IB literature. Moreover, the framework offers useful angles for the analysis of meaningful questions, e.g., the role BGs play in the relationship between openness and institutional development.

This paper is organized as follows. Section 2 provides a unifying definition of BGs coherent across IB and law. This definition applies to private sector BGs. Section 3 describes BGs across countries and over time to establish stylized facts consistent with the perspective we propose. Section 4 introduces conceptual tools for considering BG governance as a unique phenomenon, distinct from corporate governance, that balances hierarchical transaction costs at the (mesoeconomic) BG level versus market transaction costs at the (microeconomic) firm level. This leads into discussions of economic development affecting and affected by BGs; a unified Coasean theory of BGs based on this transaction costs balance, and possible trajectories of the co-evolution of this balance with institutional development. Finally, we apply this framework to globalization and the internationalization of BGs. The final section links these discussions to IB and future research areas.

DEFINING A BG

Some countries have bodies of formal BG Law that legally define a BG, and researchers studying such countries naturally use these definitions. However, legal definitions vary among legal systems, which in turn blurs researchers' precise definitions. For example, including the words "legally independent firms" seems precise, yet many countries' BG Law makes member firms of a BG jointly liable for each other's obligations. In such a country, the firms in a family-controlled pyramidal BG, each with different sets of shareholders and managers, are *de jure* not legally independent. Indeed, different countries' legal systems impose different degrees of legal dependence on firms in BGs, rendering the criterion of "legal independence" loose at best.

Hopt (2015) surveys BG Law across countries and historically. Differences in BG Law matter. For example, Belenzon et al. (2018) report BGs

expanding faster where BG member firms are more legally independent. Research into how differences in the *de jure* or *de facto* legal independence of BG firms might affect the results of studies using data for different countries or conducting cross country studies is needed.

An important boundary condition of this paper is its focus on private-sector BGs. State-controlled BGs, such as those prevalent in China, are outside the scope of the paper. Private-sector BGs are mesoeconomic structures, but state-controlled BGs are tools of the government and thus do not fit into the synthesis we propose. State-controlled BGs are clearly important, especially in China (Ma & Lu, 2005; Fan, Wong, & Zhang, 2013; Hu, Cui, & Aulakh, 2019; Zhang et al., 2016) and Russia (Guriev, 2010), historically important in Austria (Stiefel, 2000), Canada (Arbour, 1993), Italy (Aganin & Volpin, 2005), Spain (Cuervo-Cazurra, 2018), and elsewhere, and potentially important as sovereign wealth funds that come to direct *de facto* BGs (Megginson & Fotak, 2015). Space constraints preclude encompassing these issues properly.

Germany has perhaps the most comprehensive body of BG Law.[2] This formally defines a BG, assigns liability to group member firms for other member firms' obligations, and formally lays out the duties of officers and directors to their firms' and groups' shareholders and stakeholders. Other countries with formal bodies of BG Law, albeit of varying depths, include Argentina, Belgium, Chile, Czechia, France, Hungary, Italy, Japan, Portugal, Slovenia, Spain, and Sweden.

However, legal systems avoid formal definitions. Many legal systems define BGs indirectly via their Securities Law, Corporations Law, Competition Law, other bodies of legislation, regulations, or precedents. For instance, South Korea's 'Korea Fair Trade Commission', an anti-monopoly regulator, lists major BGs (*chaebol*) annually and various regulations govern their member firms' entry into banking, M&A activity, and insolvency. 'Statistics Canada' lists BG member firms using a 20% threshold for inferring control enshrined in Corporations Law to trace ultimate control.

These indirect definitions can also compromise member firms' legal independence. For example, an *oppression remedy* in Canada's Corporations Law allows a group firms' stakeholders to sue the group's ultimate controlling shareholder, whether a corporation or a natural person, under certain circumstances. Courts can *deem* an ultimate controlling shareholder liable as a director of a BG member firm in Britain (*shadow director*), Canada (*deemed director*), and France (*dirigeant de fai*), and analogous concepts exist in Germany, Italy, the Netherlands, Spain, Switzerland, and New Zealand.

Unlike some other countries, the US treats corporations as independent legal persons.[3] A US corporation is not liable for the debts of another, even if the same person controls both, absent demonstrably fraudulent draining of wealth, e.g., concealing assets in a bankruptcy. In such cases, creditors have to "pierce the corporate veil" by suing the controlling shareholder or recipient firm to recover the fraudulently conveyed assets (Strasser, 2005; Belenzon, Lee, & Patacconi, 2018).

BGs in Research

Research focusing on BGs in one country justifiably uses that country's legal definition. Legislative and administrative efforts to standardize definitions across countries in the European Union (Bermann & Pistor, 2004) are currently unsuccessful because these differences are economically important enough that initiatives to change them evoke intense political lobbying. International studies of BGs must, therefore, contend with inconsistent, incompatible, and absent legal definitions.

Researchers have floated rival definitions. Many are rather broad and difficult to use in empirical work. Strachan (1976) proposes a long-term association of corporations, owners, and managers as defining a BG. Granovetter (1994: 454) suggests "A collection of firms bound together in some formal and/or informal ways," adding "characterized by an 'intermediate' level of binding'" (Granovetter, 1995: 95). However, others are perhaps excessively restrictive, for example, requiring a high level of unrelated diversification (Leff, 1978; Guillen, 2000). This excludes the historically prominent Insull and Van Sweringen pyramidal groups in the interwar US, whose alleged misdeeds motivated US reforms eliminating large BGs (Ramsey, 1975).

Other definitions assume unwarranted institutional homogeneity. Khanna and Rivkin (2001: 47) use "a set of firms which, though legally independent, are bound together by a constellation of formal and informal ties and are accustomed to taking coordinated action." However, as explained above, "legal independence" depends on the country's BG Law. US real estate firms that fully own several buildings generally do not show up in lists of BGs, yet they generally incorporate each building independently so that tenant lawsuits cannot involve the others. In contrast, German family-

controlled pyramidal BGs of listed firms do show up in such lists, despite their member firms' liability for each other's debts under German BG law.

Such problems necessitate that scholars embrace diversity. Different research questions may require different definitions. For example, Leff (1978) and Guillen (2000) define a BG as a set of firms operating in unrelated industries, which is sensible where diversification is a central issue. Kandel et al. (2018), in investigating interwar US pyramidal BGs, define a group as a pyramidal ownership structure, in which listed firms hold control blocks in other listed firms.

A "Roughly Right" Definition

In criticizing superficial rigor in economics, John Maynard Keynes allegedly quipped, "It is better to be roughly right than precisely wrong." In that spirit, we adopt the following definition:

Definition: A business group is a set of private-sector firms under common control but with different (though possibly overlapping) sets of owners.[4]

This captures the essential importance of BGs in history and political economy: they concentrate economic power more narrowly than does wealth alone. It encompasses vast pyramidal groups that give handfuls of elite families control over large fractions of national economies by controlling one or a few firms that, in turn, control many others. The term *firms*, rather than *corporations*, covers corporation-like organizational forms favored under some countries' legal systems (Guinnane, Harris, Lamoreaux, & Rosenthal, 2007).

This definition includes three sorts of BGs, illustrated in Figure 1. In a *horizontal BG* (Figure 1a) the ultimate controlling owner is a natural person (individual or family) controlling several firms, but not fully owning them all. These other partial owners may overlap but are not identical. Horizontal groups exist in the US, where a single person or family may own control blocks in several listed firms (Faccio, Morck, & Yavuz, 2019).

In a *pyramidal BG* (Fig. 1b) the ultimate controlling owner controls and either partially or fully owns one firm, called the apex firm, which controls and partially owns more firms, each of which might control and partially own yet more, and so on *ad valorem*. Successive additional tiers can encompass exponentially increasing numbers of firms. These structures can extend across sizeable fractions of stock markets and economies in Asia, Western Europe, Latin America, and Africa. Very large pyramidal BGs can have political economy implications if they concentrate economic power with whatever elite controls the apex firms of their country's pyramidal BGs (Claessens, Djankov, & Lang, 2000; Faccio & Lang, 2002; Masulis, Pham, & Zein, 2011). A large pyramidal BG can magnify a merely large family fortune into control over a substantial fraction of a country's GDP. Wealth concentration is be magnified into a vastly higher concentration in economic power.

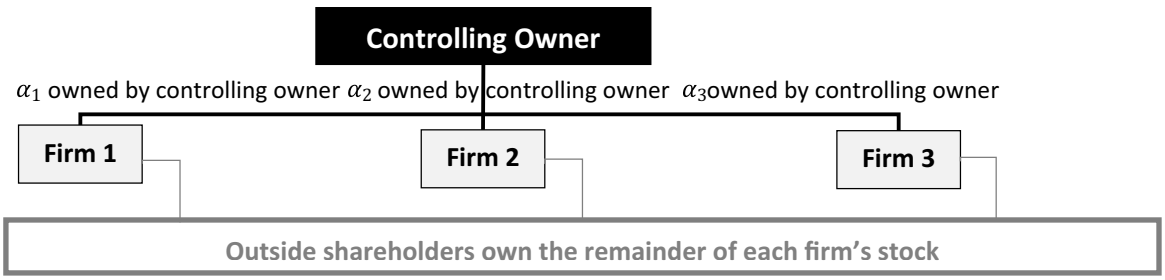
In a *web BG* (Figure 1c) member firms own individually small equity stakes in each other that collectively sum to control blocks in every firm. A family can control a web BG by placing family members and key associates on all member firms' boards, which then reelect each other or successors selected by the family. Several major South Korean family-controlled BGs, or *chaebol*, are web BGs. Japanese *keiretsu* BGs have similar webs of cross-holdings, but no family in control (Belderbos & Heijltjes, 2005). Instead, the CEOs of the group's member firms cooperate loosely, most notably by defending each other against takeovers and propping up troubled member firms with trade credit, loans, or equity investments (Morck & Nakamura, 2005).

This definition excludes some structures elsewhere considered BGs. Conglomerates and multinational enterprises (MNEs) are not BGs here if they are unitary firms, whose owners, therefore, own all their assets in a fixed proportion. This definition also excludes large US institutional investors owning varying nontrivial stakes in multiple firms because, although these resemble horizontal BGs, the criterion of common control fails. The US Investment Company Act of 1940 lets institutional investors influence firms' governance at shareholder meetings, but forbids any interference in investment, human relations, or other internal decisions unless they own majority stakes. Yet other structures count under our definition but are difficult to track. For example, BGs can arise via networks of interlocking boards of directors (Ayyagari, Dau, & Spencer, 2009, 2015; Borgatti & Foster, 2003), customer–supplier relationships (Berglof & Perotti, 1994), or social ties (Yiu, Bruton, & Lu, 2005: 183). Folding such structures into research on BGs is doubtlessly useful in some settings.

However, our definition is practical, in that firm-level ownership data are available historically and across countries. For listed companies in recent decades, mandatory ownership disclosure thresholds vary across countries, from stakes over 3% in

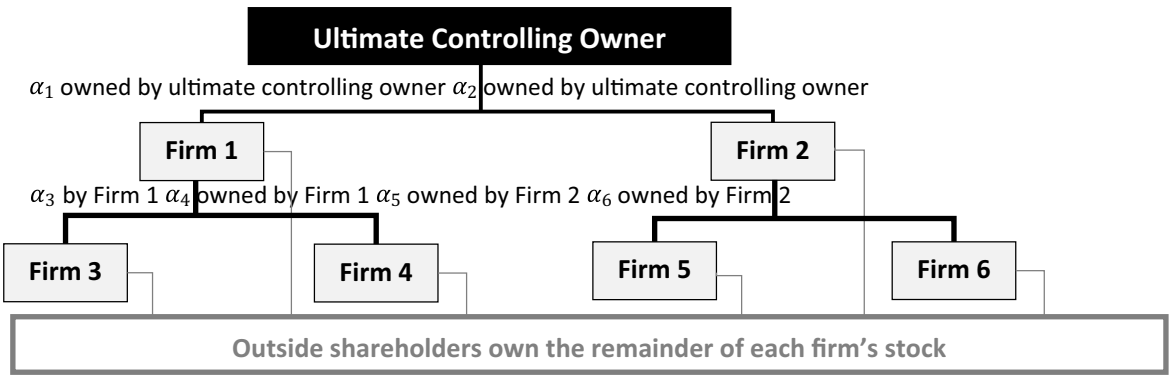
Panel A Horizontal Business Group

A controlling owner controls several businesses, each with different sets of owners



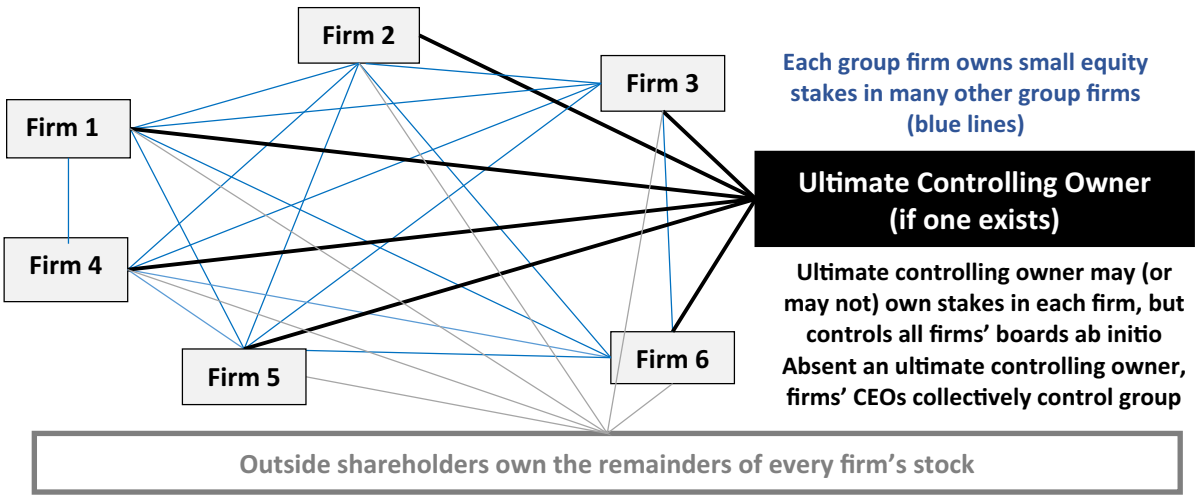
Panel B Pyramidal Business Group

A common ultimate controlling owner directly controls some firms, which then directly control others. The ultimate controlling shareholder, directly or indirectly, controls them all.



Panel C Web Business Group

A web or intercorporate crossholdings leave participating firms collectively controlled by each other. Interlocking boards can leave a family or group of professional managers in charge of the entire group.



◀**Figure 1** Three basic types of business group. **a** *Horizontal Business Group*. A controlling owner controls several businesses, each with different sets of owners. **b** *Pyramidal Business Group*. A common ultimate controlling owner directly controls some firms, which then directly control others. The ultimate controlling shareholder, directly or indirectly, controls them all. **c** *Web Business Group*. A web or intercorporate cross-holding leave participating firms collectively controlled by each other. Interlocking boards can leave a family or group of professional managers in charge of the entire group.

the United Kingdom (UK) to stakes over 5% in the US to 20% in Canada to the top ten shareholders, whatever their stakes, in Japan. Because most small shareholders do not vote their shares, a blockholder voting less than 51% can generally appoint a firm's board and thus its CEO. La Porta et al. (1999) therefore define BGs by inferring control by a firm's largest blockholder voting at least 20%. Lower control thresholds clearly provide effective control in many cases, but the lower the threshold the greater the problems from different countries' different reporting thresholds. Subsequent work tends to use 20% or greater voting blocks to map out BGs because most countries' thresholds match or exceed this.

Another advantage of our definition is that it does not specifically require family control. La Porta et al. (1999) report old-moneyed family control to be a predominant characteristic of BGs. However, some prominent pyramidal BGs have apex firms without controlling shareholders. In these, professional managers of the apex firm effectively run the whole BG. Examples include Sweden's Handelsbanken group (Högfeldt, 2005), mid-twentieth century Canada's CP and Bell groups (Morck, Wolfenzon, & Yeung, 2005), Spain's BBVA group (Cuervo-Cazurra, 2018), prewar Japan's Nissan group (Morck & Nakamura, 2005), many early twentieth century US pyramidal groups (Kandel, Kosenko, Morck, & Yafeh, 2018) and many British merchant groups (Jones & Colpan, 2010). Ambiguity in natural languages leaves obscurity in any formal definition. Thus, Taiwan's *jituan qiye*, controlled by inner circles of core leaders (Hamilton, 1997: 265; Chung, 2001), and Japanese postwar *keiretsu*, web groups whose managers defend each other from shareholder pressure but otherwise act largely independently (Morck & Nakamura, 1999), can qualify by interpreting the word "control" increasingly broadly. We acknowledge that different definitions may be more appropriate for asking different questions. Our definition focuses on BGs and the concentration of economic and political power.

THE IMPORTANCE OF BGS

The Current Importance of BGs

Numerous research papers in IB and other fields document the importance across different economies of BGs, variously defined (e.g., Belderbos & Heijltjes, 2005; Bucheli, Salvaj, & Kim, 2019; Gaur, Pattnaik, Singh, & Lee, 2019; Guillén, 2003; Hu, Cui, & Aulakh, 2019; Kim, Kim, & Hoskisson, 2010; Mukherjee, Makarius, & Stevens, 2018). These consistently show BGs to be exceptionally unimportant in the US and UK. For example, in a very carefully executed study, Masulis et al. (2011) (summarized in Table 1) count only 3% of US listed firms (accounting for about the same percentage of the market value of all listed firms) as member firms of family-controlled BGs. Their comparable figures for the UK are 2% and 2%, respectively. The table shows BGs to be much more important in most other countries and vastly more important in many of them.

The figures in Table 1 are unlikely to be precise. This is unavoidable given their focus and the differences in disclosure rules and practices across countries. For example, their focus on family-controlled BGs omits BGs controlled by an apex firm's professional managers, such as Sweden's Svenska Handelsbanken AB group. Including that BG would bring Sweden's figures close to Colombia's (Högfeldt, 2005). The table also understates the concentration of power behind the figures. Although Sweden has family BGs, two BGs – the Handelsbanken group and the Wallenberg family's group – have accounted for over half of the Swedish stock market for most of the past century, and their definition omits the former (Högfeldt, 2005). Even among family-controlled groups, the data are likely underestimates because chains of control via unlisted firms may be undisclosed in many economies. Thus, the table very likely understates the full importance of BGs, especially in countries whose disclosure standards are weaker or less rigorously enforced.

Nonetheless, the general pattern across countries and the specific conclusion that BGs are exceptionally unimportant in the US and UK are roughly right. The figures in the table align roughly with

Table 1 The importance of business groups across countries; the number of family business groups in each major economy and their importance measured by the percent of listed firms belonging to them and the market capitalizations of their member firms as a fraction of the total market capitalization of the country's stock exchanges. Source: Masulis et al. (2011)

Country	No. of family groups	% in family groups		Country	No. of family groups	% in family groups	
		Listed firms (%)	Market cap (%)			Listed firms (%)	Market cap (%)
Argentina	6	19	11	Malaysia	53	17	39
Australia	34	7	9	Mexico	12	26	49
Austria	2	5	7	Netherlands	5	5	5
Belgium	14	24	29	New Zealand	3	7	11
Brazil	22	21	15	Norway	7	9	4
Canada	21	5	13	Pakistan	19	23	10
Chile	21	46	45	Peru	8	22	43
Colombia	4	48	52	Philippines	31	46	30
Czechia	2	5	2	Poland	8	13	7
Denmark	7	10	20	Portugal	6	23	10
Finland	7	11	3	Singapore	19	11	41
France	32	11	9	South Africa	9	10	9
Germany	32	9	6	Spain	7	12	4
Greece	16	20	19	Sri Lanka	15	67	44
Hong Kong	33	16	26	Sweden	14	20	26
Hungary	3	15	2	Switzerland	5	4	1
India	59	29	23	Taiwan	41	17	41
Indonesia	31	30	53	Thailand	30	22	47
Ireland	3	11	3	Turkey	34	50	46
Israel	20	40	23	UK	19	2	2
Italy	17	19	26	USA	89	3	3
Japan	42	3	4	Venezuela	4	22	26
Korea	85	21	57				

the findings of many prior cross-country studies using different data sources and definitions (e.g., La Porta, Lopez-de-Silanes, & Shleifer, 1999; Faccio & Lang, 2002; Claessens et al., 2000; Fogel, 2006). They also align roughly with findings about BGs in individual countries too numerous to cite here.

This Anglo-American exceptionalism matters for two reasons. First, it biases research. Leading US and UK universities set the agenda for research in many dimensions of business and economics, so researchers' inattention to BGs around the world is perhaps understandable. Poczter (2018) criticizes an Anglo-American focus in corporate governance for viewing BG costs and benefits as accruing to individual BG firms.

Second, this exceptionalism is historically imperfect. Berle and Means (1932) raise governance concerns about the separation of ownership and control, but also criticize US BGs (see esp. pp. 69-70 and pp. 184-5). Kandel et al. (2018) show that US pyramidal BGs accounted for over 55% of the assets of non-financial NYSE firms in 1933, that many were large multi-tiered pyramids, and that a handful of families (sometimes disparaged as "robber barons") wielded vast economic power. An early critic of concentrated economic power in the US, President Woodrow Wilson proclaimed that "no country can afford to have its prosperity originated by a small controlling class" (quoted in Brandeis, 1913: 223).

IB research rises beyond individual nations, but so do these concerns. Many BGs were international *ab initio*, or internationalized over time. Many now mainly domestic BGs in diverse countries were initially organized by London or Paris merchant houses to invest capital overseas (Jones & Khanna 2006; Yaprak & Karademir, 2010; Kumar, Gaur, & Pattnaik, 2012; Chen & Jaw, 2014; Gaur & Delios, 2015; Colpan, & Hikino, 2018b; Mukherjee et al., 2018; Aguilera, Crespf-Gladera, Infantes, & Pascual-Fuster, 2019). For example, analyzing the present without accounting for business history associates common law legal systems (as in the US and UK)

with an absence of BGs. Yet both also had common law legal systems in prior decades when both hosted large BGs.

The Historical Importance of BGs

BGs have waxed and waned in importance across economies and over time. Much historical work on BGs is reported in books, not journals, and so is missed in many surveys – although Colli and Colpan (2016) is a notable exception. We draw on Colli and Colpan (2016), as well as on chapters in Colpan et al. (2010) and Colpan and Hikino (2018b), and especially Colpan and Hikino (2018c), along with other economic and business history research, to highlight a set of historical patterns concerning BGs. Exceptions and qualifications apply to each, so deeming them stylized facts is overzealous. Research into the exceptions and qualifications is unarguably useful, but our focus here is on patterns common to at least some economies in which BGs are prevalent and important.

BGs are historically important where they are now rare

Large BGs once existed in many high-income economies where they are now relatively rare. Large BGs were important in Australia and Canada in the early twentieth century and again in a period loosely matching the 1970s (Ville, 2018; Morck & Tian, 2018), although Australia's early twentieth-century BGs had roots in London (Jones 2018). As mentioned above, large BGs were also important in the UK and the US in the early twentieth century. Large BGs arose in Israel in the late twentieth century but were largely gone by 2020 (Fried, Kamar, & Yafeh, 2020).

Pyramidal BGs often arise amid rapid late industrialization

Large pyramidal BGs arose and expanded during the rapid industrialization or high-growth eras of many late industrializing countries. Japan's *Taisho* high-growth era, from the 1880s to the 1920s, saw its large zaibatsu pyramidal BGs arise and come to dominate its economy (Morck & Nakamura 2005). Canada's high growth period, from the 1890s to the Great War, saw its stock markets dominated by BG firms (Morck & Tian, 2018). Sweden's late nineteenth and early twentieth century industrialization likewise saw the rise of huge BGs. Similar patterns are evident in other late industrializing economies (Henrekson & Jakobsson, 2005; Högfeldt, 2005). BGs also arose in abortive spurts of rapid development that occurred in many Latin American countries in the early twentieth century (Jones, 2018).

Common law proscribed pyramidal and web BGs until the late 19th century

At common law, intercorporate equity ownership was to be avoided until the 1870s and remained legally dicey until the 1880s. Brice (1874, p. 96) writes "till quite recently it was doubted whether one company could be a shareholder in another; indeed, the weight of authority was in the negative." British colonies, including the US, inherited this tradition. British reforms in 1867 permitted intercorporate equity holdings only for corporations whose charters explicitly warned shareholders of this, but uncertainties about parent–subsidiary liability in bankruptcy deterred BGs until 1893, when the Lords ruled that one company did not assume another's debts by holding even virtually all its shares. Common law systems, except the US, accept each other's precedents, so intercorporate equity holdings subsequently became viable in Australia, Canada, and other common law jurisdictions. The US severed its common law from the others at its independence, so intercorporate equity remained proscribed there until 1888, when New Jersey enacted legislation legalizing the practice, with other states following on, perhaps to retain incorporations and head offices (Freedland, 1955; Nelson, 1959; Grandy, 1989).

Horizontal and web groups arise where pyramids are illegal

Britain's late eighteenth and nineteenth-century industrialization and the US's mid- to late nineteenth century industrialization thus predated their legal systems accommodating pyramidal or web BGs. Consequently, the only viable BG structure was horizontal groups. These initially arose nineteenth century Britain as family trusts, legal structures letting wealthy heirs delegate management of their fortunes, accumulated during industrialization, to trustees (Mackie, 2017). Their possible importance while British industrialization was still in progress merits research.

Horizontal BGs also arose during the era of rapid US industrialization, roughly from the end of its civil war in the 1860s to the late nineteenth century. These were organized as voting trusts: legal structures in which investors surrendered their votes to a trustee, usually a tycoon or business

family (Daunton, 1989). This was functionally equivalent to dual-class shares, with the organizers of the trusts having voting shares and outsiders having non-voting participation investments. Voting trusts were used extensively to organize corporate mergers. The resulting increased concentration of control in key industries led to the 1890 Sherman Antitrust Act (US antimonopoly law is still called Antitrust Law). Many large US trusts restructured into pyramidal groups in the early twentieth century, as Antitrust Law (Keller, 1979) was erroneously thought to be relevant only to trusts. By 1929, large pyramidal groups encompassed much of the NYSE (Kandel et al. 2018).

Web groups predominate only in Japan and South Korea, whose laws deter horizontal and pyramidal groups. In the late 1940s, US occupation authorities broke up Japanese pyramidal groups and imposed laws limiting listed firms from holding equity of other listed firms and banning dual-class shares.[5] Web groups arose in the 1950s and 1960s (Yafeh 1995; Morck & Nakamura, 2005). In 1986, South Korea banned holding companies, firms whose assets are mainly shares in other firms (Soo, 2014; Lee, 2017). The apex firm in a very large horizontal group is necessarily a holding company, as are the apex and many intermediate firms in a large enough pyramid. So, Korean pyramidal groups restructured into web groups. Web groups thus arose only in the two countries that effectively blocked the formation of pyramidal and horizontal groups.

Many large BGs began as internationalized structures

Once intercorporate equity ownership was legal in Britain, BGs arose on the London Stock Exchange. Some were domestic, wile many were international *ab initio*. British merchant houses listed corporations in London that raised capital to invest in the industrialization of British colonies (Carney & Gedajlovic, 2002b, 2003; Jones, 2000, 2018; Jones & Khanna, 2006; Jones & Colpan, 2010; Khanna & Palepu, 2005; Tipton, 2008). For example, Matheson and Co. controlled China Coast Steam Navigation, Indo-China Steam Navigation, Shanghai-Woosung Railway, China Railway, Canton Insurance, Ewo Bank of Shanghai, Rio Tinto Mines, Transvaal Exploration, Caucasus Copper and – through Jardine, Matheson & Co. in Hong Kong – China Sugar, Hong Kong Land, and Ewo Spinning (Chapman, 1985: 230–51). Hong Kong's Swire group also has colonial roots. Apex firms appear to have been listed in London, although subsidiaries could be listed in the domestic stock markets of sufficiently developed target economies. Merchant house-run BGs also raised capital in Paris to finance colonial and overseas development.

Variations of this theme appear to have been important in both Australia, whose rapid industrialization was largely financed by BGs of this form (Ville, 2018), and Canada, whose late nineteenth-century high-growth era featured domestically controlled BGs tapping London capital (Morck & Tian, 2018). India's Tata and Birla groups also have colonial ancestry (Khanna & Palepu, 2005), as do BGs in Egypt (Adly, 2014; Vitalis, 1995). London merchant houses also funneled British capital into economies outside the British Empire, notably to BGs that they established in Latin American countries (Jones, 2000, 2018). London merchant houses' BGs came under local elites' control as British power waned. Large pyramidal BGs that contain many countries' national champion firms thus have antecedents, and in many cases direct ancestors, in turn-of-the-twentieth century British merchant house-run internationalized BGs.

Large BGs arose amid incomplete or dysfunctional markets

South Korea, among the poorest countries in the 1960s, is the newest high-income economy, so the role of its BGs in its rise is well documented. In the 1960s, South Korea was described as a "foreign aid sinkhole" (Chapin, 1969) rife with corruption. Its dictator over the subsequent two decades, General Park Chung-hee, nationalized the banks, suppressed official corruption, and launched two industrial policy interventions: a 1960s export promotion drive and a 1970s heavy and chemical industries (HCI) drive. Recipients of subsidies in both interventions likely shifted subsidy income from those targeted by the programs to finance other projects. As the country ascended to middle-income levels, large pyramidal *chaebol* BGs rapidly arose by issuing shares. These expansions appear to be driven by the need to internalize incomplete or uncompetitive product and financial markets. Koo Cha-Kyung (Aguilar & Cho, 1985) explains this succinctly in recounting the history of the Lucky-Goldstar (LG) *chaebol*:

> My father and I started a cosmetic cream factory in the late 1940s. At the time, no company could supply us with plastic caps of adequate quality for cream jars, so we had to start a plastics business. Plastic caps alone were not sufficient to run the plastic molding plant, so we added combs, toothbrushes, and soapboxes. This plastic business also led us to

manufacture electric fan blades and telephone cases, which in turn led us to manufacture electrical and electronic products and telecommunications equipment. The plastics business also took us into oil refining, which needed a tanker shipping company. The oil refining company alone was paying an insurance premium amounting to more than half the total revenue of the largest insurance company in Korea. Thus, an insurance company was started. This natural step-by-step evolution through related businesses resulted in the LG group as we see it today.

Park's industrial policies were major interventions, but narrowly focused on a few firms in a few industries (Amsden, 1989; Woo, 1991; Woo-Cumings, 1999; Lim, 2000; 2009), and left the rest of the economy to itself. Koo mentions no guidance by technocrats. The major *chaebol* expanded as above, to achieve "full set diversification", a subsidiary in every sector needed by other BG firms. Industrial policy subsidies bankrupted the state by 1979, when Park moved to end subsidies and was assassinated (Luedde-Neurath, 1986; Chibber, 1999, 2005a, 2005b). Chun Doohwan, the next dictator, reluctantly ended subsidies and growth accelerated. Democracy arrived in 1987, and living standards rose to first-world levels.

Japan's prewar *zaibatsu* pyramidal BGs arose and likewise expanded to "full set" diversification in its late nineteenth and early twentieth century high-growth era (Morck & Nakamura, 2007). Market institutions also developed rapidly in those decades, but perhaps not fast enough to avoid Koo's incomplete market problems. Large highly diversified BGs may have arisen in other countries' high-growth eras to allocate resources hierarchically to internalize incomplete markets for capital, financial services, or intermediate goods (Morck, 2010).

Bank-centered BGs often arose or expanded in financial crises

In the 1830s, Belgium launched an industrialization drive via subsidizing private-sector banks to lend long term, with property, plant, and equipment as collateral. Financial crises in the 1830s and 1840s left the banks owning defaulting industrial firms (Daems, 1977). Swedish banks lent long term, also with operating assets as collateral. The global financial crisis of the 1920s and the Great Depression bankrupted many firms into Sweden's two largest pyramidal groups, which comprised half of the total market capitalization for much of the next century (Högfeldt, 2005). Bank-centered groups formed in these crises then grew as more firms defaulted in ensuing crises, and as the banks underwrote share issues to expand their existing firms or capitalize new ones. Financial crises may thus have served as BG fertilizer. The continental banking model differed historically from the Anglo-Saxon merchant banking model, in which banks primarily provided trade credit, with inventory or other liquid assets as collateral (Capie & Collins, 1999).[6]

Some countries banned bank-centered BGs

British merchant banks, largely family firms, avoided equity in industrial firms, perhaps for social prestige (Lisle-Williams, 1984; Capie & Collins, 1999). When banks deviated from this norm in some ex-British colonies, governments snapped them back into place. Canada severed banks from their BGs in the early 1920s global financial crisis. America's 1933 Glass-Steagall Act, enacted in the Great Depression, forced the Morgan Bank to dismantle the largest US BG (Kandel et al., 2018).

Other countries likewise found group banks problematic in crises. The 1907 crisis worked to the relative advantage of firms in Belgium's bank-centered groups, and Belgium severed banks from groups after the early 1920s financial crisis (Van Overfelt, Annaert, De Ceuster, & Deloof, 2009). South Korea nationalized banks to cleave them from groups after a late 1950s financial crisis and corruption scandal (Lim & Hahm, 2006). Such policies may be justifiable, in that group banks may socialize private-sector losses on a larger scale than can banks alone. A group's bank can provide underpricing loans to its other group firms (essentially transfer pricing debt), sustaining them through a crisis even as state bailouts of banks sustain the group's bank. The 1997 Asian Financial Crisis appears to have strengthened BGs in those economies (Boubakri, Guedhami, & Mishra, 2010).

Japanese economic history during its early 1920s financial crisis provides something of a controlled experiment testing this hypothesis. Most Japanese BGs contained banks (Hoshi, 1995; Teranishi, 2007). Many of these followed British banking practice, primarily financing trade credit for their fellow group firms' customers, and survived the crisis unscathed. Others, so-called "organ banks", lent to finance their fellow group firms' property, plant, and equipment investment and needed government bailouts. Some got bailouts, others did not, notably the politically unconnected Suzuki group (Kato, 1957; Okazaki, Sawada, & Wang, 2007; Morck & Nakamura, 2005: s. 4). Cross-country

econometric evidence is consistent with group banks often functioning as organ banks (Morck, Yavuz, & Yeung 2011).

Industrial policy and autarky fertilize groups; free markets and openness wilt them

Sweden's Social Democratic Party took power in 1932 and, with brief breaks, ruled for the rest of the twentieth century. Initially, the Social Democrats and BGs were at odds, but each grew to appreciate the other. Social Democratic prime ministers could make industrial policy deals with "big business" via a few phone calls. BGs came to appreciate the barriers to entry in dense regulations, high taxes, and generous subsidies to businesses that supported social democracy (Henrekson & Jakobsson, 2005; Högfeldt, 2005).

Evidence consistent with a symbiotic relationship between state intervention and BGs arises in other countries' economic histories. Australia and Canada, long market-oriented economies, both delved into Swedish-style industrial policy in the 1970s and then reverted to more market-driven resource allocation. BGs in both expanded and contracted in sync with interventionism (Morck & Tian, 2018; Ville, 2018). BGs grew especially prominent in France's *trente glorieuses*, three decades of interventionism after World War II, but lost ground as European Union integration intensified market competition (Cassis, 2018). European integration likewise left Belgian business families controlling only a few choice firms of their former BGs (Becht, 2018).

Industrial policy in Spain, Portugal, and countries across Latin America was historically shaped by Corporatism – a Roman Catholic social doctrine that replaced the materialistic individualism of markets with coordination by industry Associations of business owners, clergy, politicians, and labor representatives (Aganin & Volpin, 2005; Colli & Vasta, 2018; Morck & Yeung, 2010). Families controlling large groups of businesses were powerful voices in Spanish and Portuguese corporatism (Cuervo-Cazurra, 2018; Ferreira Da Silva & Neves, 2018). British merchant houses had organized many of the businesses that initiated industrialization in Latin America (Miller, 1995; Platt, 1985), but, by the mid-twentieth century advent of corporatism, local elites controlled these *grupos económicos* (Leff, 1978; Schneider, 2008). Corporatism effectively allowed them to set wages, prices, entry, and expansion because labor, government, and clerical association members generally lacked appropriate expertise. By vertically integrating government and big business, corporatism created hothouses for BG growth (Morck & Yeung, 2010).

Latin American countries' adoption of import substitution (Prebisch, 1950) in the mid-twentieth century erected high trade barriers around each national economy to promote and protect domestic BGs (Garrido & Peres-Núñez, 1998; Hoshino, 2010). In an open economy, incomplete markets can be completed by importing and exporting (Skott & Ros, 1997; Trindade, 2005); under autarky, the only response may be large diversified BGs. The 1930s trade war, the breakup of colonial empires, and postwar Bretton Woods capital controls, by curtailing international trade and finance, may have favored BGs elsewhere. BGs may thus arise to internalize both markets distorted by state intervention and incomplete markets in developing economies.

Large BGs attract a common set of criticisms

In the Great Depression, US pyramidal BGs drew heavy political fire, and the same criticisms arise today where groups remain important. BGs were accused of tax avoidance (transfer pricing between group firms in sectors or states with different tax rules), and concealing cartels (seeming competitors actually in one BG), predatory pricing (transfer pricing one BG firm's monopoly profits to another to bankrupt the latter's competitors), abusing small shareholders (tunneling), and political rent-seeking (Morck, 2005a, b; Kandel et al., 2018). Similar criticisms arise today in Canada, Italy, Latin America, South Korea, and elsewhere that groups remain important (e.g., George & Kabir, 2012; Hellman, Jones, & Kaufmann, 2000; Cestone & Fumagalli, 2005; Majumdarand & Sen, 2007; Lim, 2012; Park, 2018; Pattnaik, Lu, & Gaur, 2018).

Some countries enacted legislation explicitly to break up BGs

Britain, Israel, Japan, South Korea, and the US enacted legislation explicitly designed to eradicate or greatly diminish the importance of BGs. Domestic BGs arose in early twentieth century Britain (Hadden, 1984) but did not persist. Late 1940s Labour Party reforms made powerful labor-run pension funds large equity investors. These forced through a London Stock Exchange 1968 Takeover Rule mandating that any bid for 30% or more of a firm's stock be for 100%. Britain's active takeover market culled controlled group firms from the

exchange and share issuances to finance takeovers diluted control blocks in acquirers (Franks, Mayer, Rossi, 2005).[7]

The depth of the Great Depression in the US (unemployment hit 25% and industrial production fell 40%) made attacking concentrated economic power politically popular, and successive New Deal reforms (intercorporate dividend taxation, limits on BGs in Public Utilities, and the regulation as mutual funds of firms whose assets are primarily shares in other firms) rapidly eroded US pyramidal groups. By 1950, the current US system of free-standing firms was in place. Small horizontal groups remain (Faccio et al., 2019).

The postwar US occupation government of Japan left economic policy to New Dealers, fresh from breaking up US pyramidal groups. Intent on restoring Japan's economic vitality as the Cold War began, they broke up Japan's pyramidal groups, confiscating family and intercorporate equity blocks, and restructuring ex-group firms into free-standing widely held firms (Bisson, 1954). Before its 1952 withdrawal, the US left Japan an Anti-monopoly Law banning holding companies (firms whose assets are mainly shares in other firms) to prevent pyramidal groups from re-emerging. Rather than preventing BGs, this merely ensured that the new groups that arose in the 1950s and 1960s had web structures instead (Morck & Nakamura, 2005).

A succession of South Korean governments sought to rein in BGs, but none (to date) has done so. For example, a 1986 prohibition of holding companies (firms whose assets are primarily shares in other firms) merely encouraged pyramidal groups to restructure into web groups (Lee, 2017). Calls for reining in Korea's *chaebol* continue to gather force (e.g., Park, 2016, 2017a).

Israel's industrialization after its 1949 independence was largely state-directed, but its later shift to a more mixed economy saw the rise of pyramidal groups. Their controlling families' attempts to shape financial regulations became controversial in the early twenty-first century, and the government reacted with reforms forcing the unification of dual classes of shares (Lauterbach & Yafeh, 2011) and forbidding listed firms from controlling other listed firms that control yet others (Park, 2017b; Hamdani, Kosenko, & Yafeh, 2020). The latter reform limits pyramids to two tiers of listed firms. Israeli pyramidal groups rapidly broke apart after the reforms were enacted.

ONE PERSPECTIVE TO RULE THEM ALL

Surveys of research into BGs tend towards Linnaean taxonomies, sorting research by theoretical perspective. Focusing on BGs in emerging economies, Poczter (2018) partitions research into *institutional voids*, *entrenchment*, and *exploitation* perspectives. The institutional voids perspective posits BGs as end-runs around dysfunctional institutions (e.g., Chang & Hong, 2000; Doh, Rodrigues, Saka-Helmhout & Makhija, 2017; Elango & Pattniak, 2007; Fisman & Khanna, 2004; Khanna & Palepu, 2000, 2010; Khanna & Yafeh, 2007; Langlois, 2009; Makhija, 2004; Castellacci, 2015; Kim & Song, 2017). For example, corruption stunts economic growth in markets across the globe if firms routinely cheat each other (Cuervo-Cazurra, 2006), but BG controlling shareholders can order their firms not to cheat each other. The entrenchment perspective casts large BGs as manifestations of elite capture (Morck & Yeung, 2004). By controlling firms that comprise a substantial fraction of a national economy, a BG's controlling shareholder commands sufficient political influence to shape institutional development in ways that can lock in the very dysfunctional institutions that the BG circumvents and thus the BG's competitive advantage against entrant firms (Rajan & Zingales, 2003; Morck, Wolfenzon, & Yeung 2005). The exploitation perspective (Johnson, La Porta, Lopez-de-Silanes, & Shleifer, 2000; Faccio et al. 2001) views BGs as mechanisms letting controlling shareholders tunnel (snatch) corporate earnings that would otherwise be disbursed as dividends to group firms' public shareholders. This perspective also attracts significant study in IB (e.g., Faccio, Lang, & Young, 2010).

Carney et al. (2018) distinguish the *institutional voids* perspective from a combined *entrenchment/exploitation* perspective. Colli and Colpan (2016) classify research by theoretical framework: *agency theory* (corporate insiders maximize their utility, not firm value), *stewardship theory* (corporate insiders are faithful stewards for certain other stakeholders), *resource dependence theory* (groups accumulate a critical resource – usually information), and *institutional* (voids) *theory*. Holmes et al. (2018) sort studies of BGs into six theoretical perspectives. Granovetter (1993) distinguishes *resource dependence* (BGs let firms access other firms' key resources), *strategic alliances* (alliances to cope with changing supply and demand), *exploitation*

(organizing capital against labor), or *rent extraction* (from the state). All of these studies are well executed and insightful and important to IB, so we rely on them below.

Such taxonomical classifications, while useful in specific tasks, tend not to yield a unified picture. Poczter (2018) concludes that "even a cursory read of the literature immediately reveals inconsistencies that limit future research." Carney et al. (2018) conclude that "there is no set of results that points to a single conclusion regarding the nature of [BGs]." Colli and Colpan (2016) conclude that the field is "still developing." Holmes et al. (2018) avoid contrasting perspectives into their (insightful) conclusions.

These surveys are all high-quality efforts by distinguished scholars, and we accept their conclusions. Therefore, rather than offering alternative taxonomical proposals, we recall Granovetter's (1993) use of Coase's (1937) insights to build a synthesis of the current perspectives on BGs. Although the competing perspectives have changed somewhat, we argue that a Coasean synthesis remains.

Foundations of a Coasean Synthesis of Perspectives

This synthesis is built upon three fundamental concepts. The first is Coase's (1937) theory of the firm and its extensions (Williamson, 1971, 1975). The second is an element of formal logic: the fallacies of composition/decomposition (e.g., Finocchiaro, 2013; Rowe, 1962). The third is time inconsistency, an insight from economic theory (e.g., Adams, Cherchye, De Rock, & Verriest, 2014; Miller & Salmon, 1985), political science (e.g., Beardsley, 2008; Berleman, 2005), and IB research (e.g., Duanmu, 2014; Mirus & Yeung, 1986). A brief elaboration usefully sets the tone for subsequent discussions.

Theory of the Firm

Coase's *Theory of the Firm* argues that organizations, such as firms, arise to minimize transaction costs, which come in two varieties. Market transaction costs impede people from buying and selling in impersonal markets. Examples include value-added taxes, sales taxes, information costs, contracting costs, and so on. Organizational (or hierarchy) transaction costs impede people from getting things done via chains of command in organizations, such as armies, bureaucracies, firms, or BGs. Examples include the costs of getting those in control of the information they need to make efficient decisions, the costs of ensuring those lower in the chain of command obey orders, and the costs of those in control making self-interested, rather than organizationally-optimal, decisions. IB scholars (e.g., Hymer, 1976; Buckley & Casson, 1976; Dunning, 1977; Rugman, 1981; Caves, 1982) and many others have built theories of MNEs based on the Coasean considerations, mostly focusing on reasons to internalize transactions within a firm boundary. Granovetter (1995) drafts Coase (1937) to explain the scale and scope of BGs along similar lines. Elaborating this approach resolves discordance between perspectives identified in recent surveys in IB and other fields.

Fallacies of composition and decomposition

A fallacy of composition[8] is the false notion that what is true for an individual is true for a group containing that individual. The fallacy of decomposition is the false notion that what is true for a group is true for any individual in that group.

Both fallacies surround BGs because BGs are mesoeconomic structures. They exist at a more aggregated level than firms, the focus of microeconomics, and at a less aggregated level than economies, the focus of macroeconomics. Fallacies of composition and decomposition about BGs can, therefore, arise in both directions. What is good for an individual firm may not be good for its BG and what is good for a BG may not be good for its economy. Exploring these fallacies of composition and decomposition requires viewing BGs simultaneously at microeconomic, mesoeconomic, and macroeconomic levels.

Time inconsistency

An economic phenomenon is *time inconsistent* if, by following optimal strategies, economic actors change their constraints or preferences to render what they previously did suboptimal. For example, prior to an inward FDI investment, the optimal government policy promises MNEs huge profits; but, after the investment is made, the optimal government policy appropriates as much of those profits as possible (Schelling, 1960; Vernon, 1971).[9] Analogous time inconsistencies arise in innovation (Nordhaus, 1967), and macroeconomic policy (Calvo, 1978). The solution is limiting governments' future freedom of action by enshrining the rule of law, patent rights, or central bank independence (Kydland & Prescott, 1977).

Time inconsistency arises as large BGs alter the constraints and preferences of a range of decision-makers. For example, when institutions are weak and free-standing firms cannot trust each other, large BGs can internalize transactions between firms by subjecting them all to common control to mitigate hold-up problems (Williamson, 1971; Klein, Crawford, & Alchian, 1978; Hart & Moore, 1990). This facilitates rising prosperity, which boosts both the government's and the private sector's income. This, in turn, can finance stronger institutions, such as more efficient courts, better schools, and better trained professional managers, accountants, and analysts, all of which allow free-standing firms to more easily engage in business with each other. This then erodes large BGs' competitive advantages, leaving their concentrated economic and political power unwarranted in the eyes of better-educated voters. BG controlling owners, initially gaining utility by building BGs that develop their economies' institutions, might later find they gain more utility by advocating measures that protect their BGs from further institutional development. Median voters might likewise initially support measures that encourage large BGs as boosting living standards, but, once living standards are high, might find large BGs less economically invigorating.

The remainder of this section elaborates on how these concepts link seemingly discordant perspectives on BGs into a unified framework. We call this a Coasean synthesis.

Microeconomics, Mesoeconomics, and Macroeconomics of BGs

Economics and finance studies are usually bifurcated into microeconomics, studying utility-maximizing individuals and profit-maximizing firms, and macroeconomics, studying emergent economy-level phenomena such as money and business cycles. Similarly, in IB, this bifurcation corresponds to nation- versus firm-level analysis. In between these lie BGs, structures ranging in size from a few firms under common control to economy-spanning structures containing firms that make up substantial portions of a national economy. Cole (1968) coins the term mesoeconomics to denote economic phenomena too aggregated for microeconomics but insufficiently aggregated for macroeconomics. Mesoeconomics thus includes evolutionary economics at the industry level; the emergence of intra- and inter-industry flows or resources; competitive and oligopolistic market structures in factor, intermediate goods, and final goods markets, as well as their underlying institutional foundations; and public policy (Ng, 1986; Ocampo, 2006; Mann, 2011). Prior work has identified BGs as mesoeconomic phenomena (Nam, 1998; Martucci & Rinaldi, 2012) and others. We argue that treating BGs at the micro-, meso-, and macroeconomic levels resolves seeming inconsistencies across perspectives by clarifying fallacies of composition and decomposition.

BGs: Where Microeconomics Meets Mesoeconomics

Various theoretical perspectives present BGs as mechanisms for avoiding uncooperative Nash equilibriums at the microeconomic (firm) level. Analyzing BGs as mesoeconomic structures connects seemingly discordant perspectives. Thinking about which sort of uncooperative Nash behavior might loom largest in different economic and social situations reveals these connections.

BGs bridge institutional voids that raise market transaction costs

Much research points to BGs being larger, more diversified, and more important where weaker institutions make market transactions more costly (e.g., Khanna & Yafeh, 2007; Kim & Song, 2017).[10] For example, a firm needing high-quality inputs is harmed if its supplier surreptitiously substitutes inferior goods. New buildings crumble if construction companies are sold inferior concrete. Oil spills pollute if oil companies are sold inferior steel pipes, and so on. Incorruptible government quality inspectors would fix this. So would incorruptible courts efficiently enforcing contracts specifying high-quality product standards. Without such market-supporting institutions, users of the good rationally expect low quality and refuse to pay high prices. Low revenues leave producers unable to provide high-quality goods even if they wanted to.

This socially-inferior equilibrium arises when critical institutions are missing or ineffective, lowering trust in the market and increasing market transaction costs. Khanna and Yafeh (2007) dub this an institutional void. A BG containing both a user and producer of an intermediate good bridges this void by internalizing the market vertically. The controlling shareholder can command their producer firm to produce high-quality intermediate goods and command their user firm to pay a high price that covers their producer firm's high costs.

The BG as a whole can then gain benefits the user firm achieves by selling more, expanding internationally, and being internationally competitive. Because many product chains interconnect (firms have multiple inputs and outputs), a BG might need a firm in each of many diverse industries, whose interdependence might be quite indirect. Economies of scale might differ across industries, and group affiliates might be commanded to operate at inefficiently small or large scales for the good of the group as a whole. Similarly, an internationalized BG's affiliates might be commanded to function inefficiently, viewed at the firm-level, as part of a coordinated strategy involving other domestic and international affiliates that is efficient at the BG level.

Paying an intragroup transfer price above the market price for intermediate goods might look like a corporate governance problem in the buyer firm. Subsidizing a group firm to survive operating at inefficient scales might likewise look like a corporate governance problem in the donor firms. However, neither is necessarily a BG governance problem. Under a BG Law mandating running domestic and international group affiliate firms for the good of the group as a whole, shareholder activists could file no complaint. Indeed, diversified shareholders, holding both donor and recipient firms' stocks, could be left wealthier by value-creating tunneling. The activists' confusion arises from another fallacy of composition, this time where mesoeconomics meets microeconomics. What is good for the group need not be good for every individual group member firm viewed in isolation. Microeconomic firms sometimes have to 'take one' for the mesoeconomic team.

Any BG that bridges institutional voids must *tunnel*, which Johnson et al. (2000) define as moving capital or other resources between BG firms at non-market prices. Bridging institutional voids, which impair markets for capital, risk, labor, human capital, intermediate goods, services, innovations, information, or any other resource, means moving resources where markets would not move them and at prices other than those prevailing in dysfunctional markets (Chang et al 2006, Doh et al., 2017). Neither changes in donor firm valuations nor gaps between transfer and market prices can gauge the economic efficiency of intragroup transfers if BG command and control is bridging institutional voids that leave markets dysfunctional.[11]

This generalizes *internalization theory*, a major contribution of IB research (Hymer, 1976; Buckley and Casson, 1976; Dunning, 1977; Rugman, 1981; Verbeke & Kano, 2015; Gaur et al., 2019; Narula, Asmussen, Chi, & Kundu, 2019; Strange & Humphrey, 2019) and a key application of transaction cost economics (Coase, 1937; Williamson, 1971, 1975). Some extended applications in IB include *nonetheless, as shown* (e.g., Brouthers, 2002; Verbeke & Kano, 2013; Kano, Ciravegna, & Rattalino, 2020a). The critical insight of internalization theory is that global markets for buying and selling intangible services and assets function poorly because of an institutional void in intellectual property rights and their enforcement. MNEs expand to allocate innovations by command and control where market transactions are unviable. BGs do the same trick, internalizing markets, and for all manner of resources, including innovations, whenever or wherever markets work poorly.

From this distance, seemingly discordant perspectives on BGs begin lining up. For example, the *resource dependency perspective* views BGs as pooling information, innovations, or other information-based resources. If these were readily tradeable in impersonal markets, BGs would gain no advantage by allocating them internally through command and control. The resource dependency perspective is relevant because those markets often work poorly, so building up reserves of these resources in the group and allocating them across group firms makes economic sense. Resource dependency is a kind of institutional void-bridging to avoid high market transaction costs for these critical resources.

Applying transaction cost economics to BGs more generally suggests BGs would be more important where institutional voids make markets costlier than command and control mechanisms for allocating resources in general. Emerging economies are thought to have more gaping institutional voids of these sorts than do high-income economies. Many emerging economies have laws, regulations, and norms that leave financial, product, labor, human capital, information, and other markets marred by corruption, hidden quality problems, unfulfilled contractual promises, and unenforceable penalties for bad faith. Solitary firms doing business with other solitary firms rationally expect to cheat and be cheated. High-income countries today also had such problems some generations ago.

The thesis that BGs gain a competitive advantage over free-standing firms by internalizing ill-functioning markets accords with the empirical findings that BGs are more prominent in less-developed economies than in developed economies (La Porta et al., 1999; Khanna & Palepu, 2000; Khanna & Yafeh, 2007; Fogel, 2006; Masulis et al., 2011). If internal capital markets work better than formal financial markets, BG firms' investments might poorly correlate with their share valuations (e.g., Rousseau & Kim, 2008). It also accords with BGs being prominent in earlier phases in the histories of many high-income economies. Internalization also accords with the extensive diversification of many large BGs in developing economies (Khanna & Yafeh, 2007), a topic revisited below. BGs internalizing capital, labor, intangibles, and intermediate goods markets accords with "full set diversification" by large BGs that arose in the rapid industrialization of late nineteenth and early twentieth century Japan and late twentieth century South Korea. The large extensively vertically and horizontally diversified BGs that arose in the early industrializations of many other high-income economies, including the US, may well have served similar internalization functions.

BG Governance

BGs can internalize ill-functioning markets by using control enhancement mechanism, usually a pyramidal structure, to subject multiple firms to common hierarchical command and control. To paraphrase Thomas Hobbes (1651), a solitary firm's life amid weak market institutions can be "nasty, brutish and short." Hobbes argues "Where there is no common power, there is no law, where no law, no injustice. Force, and fraud, are in war the cardinal virtues." A common controlling owner serves as the common power that can force group firms to deal honorably with each other. A common controlling shareholder can move capital from one group firm to another to fund the highest value-added projects (Gopalan, Nanda, & Seru, 2014). A common controlling owner can punish managers and employees for shirking or otherwise breaking faith with dismissal or exclusion from the group's internalized labor market (Huneeus, Huneeus, Larrain, Larrain, & Prem, 2019). A common controlling owner with sweeping political influence can enlist the police power of the state to protect private property even if that power is unavailable to ordinary citizens. Similarly, internationalized BGs, like simple MNEs, might compensate for weak market institutions in, as well as between, multiple national economies by internalizing both domestic and international market transactions. The central theme of BG governance is control.

Coase (1937) determines the boundary of the firm by trading off the costs of market transactions, as discussed above, with the costs of command and control. The latter, which are often referred to as *agency costs* (Jensen & Meckling, 1976), include costs associated with subordinates acting with incomplete information, disobeying orders, and distorting information flow to manipulate decision-making higher up in the hierarchy, plus the costs of monitoring and control mechanisms implemented to limit such behavior. Thus, a firm's assistant managers do not bid for auctioned janitorial services in daily auctions if such a market would be costlier than a command and control system that assigns secretaries to managers, despite agency costs such as janitors secretly reading magazines and managers commandeering janitors to wash their limousines. Optimal firm size is a firm big enough that things cheaper to do by command and control are done internally, and small enough that things cheaper to do through market transactions are done externally in impersonal markets. Exploring how this same trade-off works in a BG brings seemingly discordant perspectives into better focus.

BG agency costs

Business groups expand hierarchical control across multiple firms to internalize transactions that would be costlier via markets, generally by using the pyramidal structure described above. Extending Coase's (1937) arguments, a BG's boundary would be the line at which hierarchical command and control transaction costs within the BG exceed market transaction costs. This section therefore explains how the typical BG's pyramidal structure creates and magnifies hierarchical transaction costs.

Command and control resource allocation inefficiencies in a single firm are called *agency problems* (Jensen & Meckling, 1976), and the same term serves for command and control resource allocation inefficiencies in a BG (Lazzarini, Mesquita, Monteiro, & Musacchio, 2020). At least three major sorts of agency problems are accentuated by the pyramidal structure typical of BGs. First, the controlling shareholder can have problems accumulating information from all parts of the group

sufficient to make efficient resource allocation commands. Second, they can have problems keeping agents throughout the BG – firm-level CEOs, top managers, and other lower-level decision-makers – marching to their commands. Finally, they might make command and control resource allocation decisions that advance their narrow private interests rather than more overarching general objectives. Each of these agency problems can be further exacerbated for internationalized BGs, where information asymmetries, control of agents, and resource allocation are all further complicated by the intricacies of dealing with different nations' markets and institutional frameworks. Jensen and Meckling (1976) tie minimizing agency costs to maximizing firm value. Some systems of BG Law expand this to maximizing the value of the group or the welfare of its stakeholders (Hopt, 2015; Belenzon et al., 2018).

BG governance, like corporate governance, must study carrots and sticks that mitigate agency problems, or fail to do so. Corporate governance mechanisms can be cumbersome, bureaucratic, intrusive, and expensive, and never solve agency problems totally. BG governance is likely even costlier and less complete. Minimizing agency costs involves restraining agency problems until the costs of additional restraints outweigh the costs of subordinates' remaining scope for insubordination.

Control enhancing mechanisms internal to BGs

Amid weak institutions, Hobbes (1651) advocates "a common power to keep them all in awe" but concedes downsides: "If the public interest chances to cross the private, [the common power] prefers the private: for the passions of men, are commonly more potent than their reason." However, he deems the "all against all" that otherwise prevails worse. Large BGs should therefore survive and prosper where the social costs of dysfunctional markets exceed those of common powers' private passions. Good BG governance might therefore be defined as control enhancing mechanisms that align those private passions with social welfare.

The pyramidal structure common in BGs across many countries and historical periods, as in Figure 1b, is the main such control enhancement mechanism. A pyramidal BG lets the controlling shareholder exercise hierarchical command and control over a large number of firms with capital assets worth far more than the apex-controlling owner's wealth. Hierarchy transaction costs arise because the controlling shareholder needs only sufficient wealth to control the apex firm but controls all the assets in all the firms in the structure. Other control enhancement mechanisms, such as dual-class shares (two classes of common shares, one with more votes per share than the other) or golden shares (a single share casting 51% of all votes), allow an even broader expansion of common control over still more and larger firms in more extensive pyramidal groups (Nicodano, 1998; La Porta et al., 1999). For example, Sweden's Wallenberg pyramidal group and Canada's Hollinger pyramidal group used tiers of firms with dual-class shares to magnify relatively puny family fortunes into control over domestic and internationalized BGs containing assets worth vastly more.

This leveraging of a merely large family fortune into control over a BG worth vastly more creates a *wedge* between the ultimate controlling shareholder's ownership in and control over BG firms. The controlling shareholder's wealth is their stake in the apex firm, yet they controls all the firms in the BG and might readily direct firms in the pyramid's lower tiers to provide their private benefits with no great loss to their wealth.[12]

Controlling shareholders' extraction or expropriation of small shareholders' wealth to fund private benefits has received extensive attention in economics, finance, and IB (e.g., Johnson et al. 2000; Faccio et al. 2010; Chang, 2003; Khanna & Yafeh, 2007). The term expropriation is problematic because shareholders appear to anticipate these problems and to discount the prices they pay for firms' shares in initial public offering and stock markets (Morck, Stangeland, & Yeung, 2000; La Porta, Lopez-de-Silanes, Shleifer, Vishny, 2002; Morck, Wolfenzon, & Yeung, 2005). Shareholders who pay little for shares that pay low dividends are in no sense exploited, nor is their wealth expropriated. The social problem that does arise is that very low share prices can leave the IPO market unviable as a source of capital for new entrepreneurs (La Porta et al. 1997, 2002; Morck et al., 2000). The private benefits a controlling shareholder extracts can be monetary or non-monetary. Examples of private non-monetary benefits might include uncritical loyalty to the family. For example, the controlling family may expect top managers of member firms throughout the BG to act as faithful stewards for the family. Such a stewardship role may be unrealistic if each firm's managers instead maximize their private interests. Moreover, faithful stewardship service to the family may deviate from

efficient management of the BG as a whole. A solution might be to monitor group firm's managers closely so as to reward them for good stewardship and punish them for disloyalty. Another might be putting a family member in charge of every group firm (Dau, Purkayastha, & Eddleston, 2020). Mechanisms for monitoring and controlling managers are imperfect and costly, and family members, unlikely to be the most talented potential CEOs, may make costly mistakes. The costs to the economy of all such monitoring and control mechanisms, plus the costs of self-serving behavior by underlings throughout the BG that occurs despite all such mechanisms, plus the costs of the controlling family's private benefits, all count towards a BG's overall agency costs.

Research into all such hierarchy transaction costs in a BG would be useful.[13] For example, pyramidal groups are commonplace historically and across countries, whereas horizontal and web groups arise where legal systems force groups into those forms. As discussed above, web groups arose only in South Korea and Japan and only after legal reforms banned holding companies, thereby making large pyramidal and horizontal groups untenable. Large pyramidal groups had previously arisen in both economies. Horizontal groups, in the form of voting trusts, arose amid rapid US industrialization in the late nineteenth century under a legal system that forbade corporations from owning stock in other corporations, and thus proscribed pyramidal and web groups. After US legal reforms allowed intercorporate equity holdings, trusts restructured into pyramidal BGs. Misapprehensions that the country's new Antitrust Law applied only to trusts may have contributed to this, but trusts restructured into pyramidal, not web, BGs (Kandel et al., 2018). Common law elsewhere shed such proscriptions in the late nineteenth century, and other common law economies, industrializing only a few decades later, also featured extensive pyramidal groups, with neither horizontal nor web groups achieving prominence.

Pyramidal groups can arise spontaneously, with existing firms using their retained earnings to acquire or establish new group firms as their subsidiaries (Almeida & Wolfenzon, 2006a). Is there a lock-in effect? If horizontal or web groups had hierarchical transaction costs large enough to overcome such lock-in effects, we might see pyramidal groups occasionally transforming into such structures spontaneously. This is not observed historically. Do horizontal groups have lower hierarchy transaction costs than other group structures? Or are pyramids favored for other reasons, such as better optimizing the welfare of their controlling shareholders? Answering such questions requires factoring in as broad a range of hierarchy transaction costs as possible.

External monitoring mechanisms BGs enlist to augment internal control mechanisms

Why we observe groups consisting of many identifiably distinct firms in practice merits research. This is a unique feature that distinguishes groups from huge conglomerates. One possibility is that BGs disguise highly concentrated economic power. Nineteenth-century US voting trusts put vast arrays of assets under the very obvious control of a handful of wealthy families, and this drew fire from the late nineteenth century Progressive reformers (e.g., Brandeis, 1913). Anti-BG reforms followed US anti-trust reforms by a few decades, so this gambit failed there. Still, US antitrust law has inspired anti-monopoly laws throughout the world; but US anti-BG reforms have only a scattering of imitators.

Research on US conglomerates suggests that very large and highly diversified unitary corporations have high hierarchy transaction costs (Williamson, 1967; Daley, Mehrotra, & Sivakumar, 1997; Rajan, Servaes, & Zingales, 2000; Richter, Schommer, & Karna, 2017). Might BGs consisting of multiple distinct firms incur lower hierarchy transaction costs than unitary conglomerates? Conceivably, requiring disclosure, regulatory compliance, and market tests (even by ill-functioning markets) by many distinct firms might expose malfeasance by subordinates that could remain hidden within a single much larger business. Perhaps there is an advantage in dividing a conglomerate into multiple distinct entities, each with its own supposedly independent audited books, which would pit auditors, financial analysts, securities market authorities, institutional investors, stock market participants, consumers, labor, tax collectors, the media, and the group's controlling shareholder against dishonest insiders in any individual group firm. If all of the above shared a common interest in exposing malfeasance, BGs consisting of multiple separately monitored firms might have a competitive advantage over a large firm with the same assets.

Corporate income taxes, because they are typically increasing functions of corporate earnings, make the tax authorities de facto outside

shareholders. Stronger tax law enforcement can limit corporate insiders' appropriations of cash flows (Desai, Dyck, & Zingales, 2007; Desai & Dharmapala, 2008; Fried et al. 2020; Guedhami et al., 2008; Mironov, 2013; Hanlon, Hoopes, & Shroff, 2014). Where the law charges insiders with acting for the firm, not the BG, this limits tunneling (Freid et al. 2020), and makes BGs both less useful as efficient command and control allocation mechanisms and less helpful to controlling owners extracting private benefits. However, where the law recognizes a duty to the BG as a whole, stronger tax enforcement could reduce hierarchy transaction costs by providing a supplementary information flow in the form of tax audits and oversight, a supplementary mechanism for preventing subordinates from stealing, and a credible commitment from the controlling owner to public investors not to divert resources away.

Organizing a BG of several distinct firms may also allow the controlling owner to use information from outside monitors. Securities Law makes listed firms publicize their accounts, and Corporations Law in some countries requires this of all businesses. This mandatory gathering and organizing of information may assist control in a BG by making all competitors pay these costs, preventing a low-information-gathering Nash equilibrium from emerging as a stable pooling equilibrium.

Credit-rating agencies and securities analyst firms might provide more nuanced information to controlling owners of a BG of multiple listed firms than of a single unitary conglomerate containing the same assets. Obviously, where analysts are members of BGs, as in Korea, this could lead to unduly optimistic ratings and recommendations (Song, Mantecon, & Altintig, 2012).

An active and independent media also generate information about businesses (Dyck, Volchkova, & Zingales, 2008; Liu & McConnell, 2013), and might more informatively cover several focused firms than a single vast firm containing the same assets (Williamson, 1967). However, media firms that are members of family-controlled BGs (Djankov, McLiesh, Nenova, & Shleifer, 2003) may be uncritical and, therefore, perhaps less useful (Bednar, 2012). The extent to which media firms are embedded in BGs in different economies merits studies in IB.

Government regulatory agencies also monitor firms and might draw a controlling owner's attention to inept subordinate managers. Regulations that create scope for private legal actions may elicit compliance more effectively than government enforcement (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000). Industrial policy regulators, charged with disbursing subsidies to state-favored businesses, may be uniquely counterproductive where agency problems proliferate (Aghion, Dewatripont, & Rey, 1997). Expanding the focus of this research from firms to BGs and how they vary across the globe would be of great potential interest for IB and other fields.

Labor regulations make employees participants in corporate governance in many economies (Farah, Beamish, Dau, 2016). Works councils and labor representatives on boards could channel information upward to both firm-level top management and the group's controlling owner. Stronger labor power correlates with less aggressive tax arbitrage by individual firms (Chyz, Leung, Li, & Rui, 2013), perhaps because a stronger labor constituency can appropriate rents, or perhaps because labor monitoring curtails risk-taking (Faleye, Mehrotra, & Morck, 2006). Labor's main concern is guaranteeing sufficient cash flow to cover wages and benefits, not maximizing profits – especially if this entails gambles that put wages and benefits at risk. The thesis that powerful labor gives businesses with powerful controlling owners an advantage (Mueller & Phillipon, 2011) is a promising path.

Partitioning a business empire into multiple distinct firms may also allow a BG's ultimate controlling owner to enlist market forces in order to limit agency costs. For example, financial markets can discipline managers and improve corporate governance (Jensen, 1986). However, creditors' primary concern is that the firms' cash flows be sufficient to cover debt repayment costs. Creditors, like employees, can be expected to oppose profit-maximizing strategies or investments with any risk, no matter how small, of compromising interest and principal repayments (Lin, Schmid, & Xuan, 2018). These considerations may also make high-debt firms especially favored recipients of tunneling in bank-led BGs. Thus, German firms with larger and more concentrated creditors performing better (Köke & Renneboog, 2005) might reflect cash infusions from other group firms rather than superior firm management.

Where banks or other creditors are group member firms, even more perverse outcomes are possible. Governments typically bail out banks in a financial crisis, but leave non-financial firms to fend for themselves. This can lead to group banks bailing out non-financial group member firms,

failing, and being bailed out by governments (La Porta, Lopez-de-Silanes, & Zamarripa, 2003; Morck, Yavuz, & Yeung, 2011; Boubakri et al. 2010). Expectations of these actions might reduce group member firms' perceived bankruptcy risk and borrowing costs. However, a propensity for BG firms to survive financial crises that destroy other firms may contribute to entrenching BGs in the commanding heights of national economies across the world. This is precisely how major BGs came to dominate several European economies, notably Belgium and Sweden. More research into these issues in IB, especially in regions prone to repeated financial crises, might be rewarding.

Stiffer product market competition exposes firms to stronger monitoring by customers. Losing customers to competitors makes inferior firm-level management more obvious to a BG's controlling owners. Efficient BG governance can entail subsidizing unprofitable firms needed by the group as a whole, but a firm's ability to attract extra-group business could signal either superior firm-level efficiency or excess subsidies (Giroud & Mueller., 2011). Product market competition augments firm-level performance measures in EU countries where governance is stronger at the corporate level (Ammann, Oesch, & Schmid, 2013) and in German firms with a stronger blockholder (Januszewski, Köke, & Winter, 2002). Stiffer product market competition in the presence of agency problems may also boost innovation in independent firms (Aghion et al., 1997). How these considerations play out for BGs in different countries is largely unknown, and would lend itself well for IB comparative studies.

Finally, separately listed BG affiliate firms are monitored by shareholders, including institutional investors. These can be expected to gather and process information to price individual stocks, and stock prices can provide feedback to firm managers (Markovitch, Steckel, & Yeung, 2005; Luo, 2005; Bond, Edmans, & Goldstein, 2012) as well as group-controlling shareholders. Obviously, share prices convey less information about individual firms in groups engaging in more active interfirm tunneling because any good or bad news about the firm may be shared out across the rest of the group (Faccio et al., 2019). Still, signals from stock markets about individual BG firms might provide more nuanced feedback to managers than would price changes in the stock of a single unitary conglomerate containing the same assets. Understanding how differences in stock market structures, rules and information processing capability across the globe change these dynamics would also merit study in IB.

Why pyramidal BGs predominate across countries and over time is a fundamental issue. Almeida and Wolfenzon (2006b) model pyramidal BGs arising and growing spontaneously as existing firms' earnings finance the creation and expansion of other group member firms. This argues for a kind of path dependence leading to pyramidal BGs. Sweden's large pyramidal BGs have roots in how that country handled the Great Depression, another kind of path dependence (Smångs, 2008), and the demise of America's reflected its very different response to that crisis (Kandel et al., 2018). German and Italian BGs were shaped by war, dictatorship, and their aftermaths (Fohlin, 2005; Perotti & Volpin, 2005). Russian and Chinese BGs have roots in those countries' different paths away from Stalinism. Institutional path dependence weakens and even breaks if severe economic crises erode the wealth and power of entrenched interests (Olson, 1986), yet similar crises had very different effects on the importance of BGs in different economies. Perhaps more importantly, path dependence and institutional momentum have difficulty explaining why so many countries developed BGs and why they disappeared in some countries without crises, e.g., Britain, Canada, and Australia.

Economy-level institutions constraining BGs

Good BG governance at the economy level entails neither maximizing the value of every firm as if it were freestanding nor giving free rein to controlling owners. Good corporate governance entails laws and regulations to lower command and control costs in single firms while aligning their insiders' private interests with social welfare, which Jensen and Meckling (1976), in a perhaps undue adherence to welfare economics, deem equivalent to firm value maximization. Good BG governance might analogously entail laws and regulations to lower command and control costs within the BG while aligning their common controlling owners' private interests with social welfare. If markets are assumed to be dysfunctional, intense research is warranted to assess what types of institutions do promote good BG governance under different circumstances. Although the IB literature has devoted some attention on how economy-level institutions affect the boundaries of BGs (e.g., Gaur, Kumar, &

Singh, 2014; Purkayastha, Kuman, & Lu, 2017; Yaprak & Karademir, 2010), this area remains as fertile research grounds for IB scholars.

Some countries' legal systems articulate bodies of BG Law. These typically constrain self-interested ultimate controlling shareholders to attend to the interest of the groups as a whole (Holt, 2015). Several under-studied issues arise. Defining "the interests of the group as a whole" is rife with problems. Is this the value of the group as a whole to shareholders (or to shareholders and creditors)? Such a standard might seem most defensible where financial markets are passably efficient, which is where BGs might be least useful. Does the interest of the group as a whole then encompass the interests of all stakeholders in all group firms? This standard could justify almost any self-interested tunneling decision by a group's ultimate controlling owner as advantageous to some stakeholder somewhere. Once the interest of the group as a whole is defined, how are self-serving decisions by a group's controlling owners best identified and deterred? If BGs are most advantageous to a developing economy, should good group governance be maximizing the group's contribution to economy-level development? If so, how should this be measured? And how should standards of good BG governance change as the economy develops? Legal systems without explicitly articulated bodies of BG Law still punish fraud, theft, misreporting, and other transgressions that self-interested controlling owners might undertake to advance their private interests. So do laws punishing contract abrogation, property rights violations, and social welfare-diminishing actions such as pollution, product safety infractions, workplace safety violations, and false advertising. All these are of interest to multiple fields. For IB scholars, explaining commonalities and differences in across countries in how these factors affect and are affected by BGs would lead to enriching insights. Furthermore, for internationalized BG, cross-country operations raise an additional dimension of complexity to these research questions.

BGs: Where Mesoeconomics Meets Macroeconomics

What is good for a BG is not necessarily good for its economy. Nonetheless, as shown in the earlier history section, BGs are observed across a wide range of economies and even more across historic economies. This stylized fact could indicate: (1) that economies containing large BGs have a competitive advantage over economies that do not (at least at some stage of development), and (2) that BG dominance arises from a suboptimal Nash equilibrium in which whole economies become trapped, or possibly both.

The next two sections draft foundational concepts used in IB to explain BGs. The first extends the "transaction cost theory" to explain organizational forms and functions at the micro- (firm), meso- (BG) and macro- (economy) levels of aggregation. This shows how the large BG, a meso-level form with hierarchical transaction costs accentuated by a pyramidal structure, might nonetheless internalize much resource allocation away from markets with even higher transaction costs and thereby increase economy-level growth.

The second of these sections considers how a large BG, in assuming this powerful economic role, attains political power to influence subsequent institutional development. Subsequent institutions development can either mobilize BGs to sustain rapid economic growth regime (a Big Push) or let BGs settle comfortably into a sustained slow economic growth regime (a Middle Income Trap). These questions about BGs neatly parallel long-standing questions in IB about how MNEs can both bring prosperity and exercise undue political influence (Hymer, 1979). They also may help explain why different countries' institutions end up with different relative market and hierarchy transaction costs, a fundamental feature of the IB landscape.

BGs and the outsourcing of big push development

Economies containing very large BGs might have an advantage over other economies under some circumstances. Rosenstein-Rodan (1943) highlights how high market transaction costs give rise to insurmountable first-mover problems in an economy of free-standing undiversified firms. A lone steel mill in an otherwise subsistence agriculture economy cannot be economically viable because it lacks customers, suppliers, complementary goods producers, and so on. Once the steel mill is in place, a railroad could charge freight rates elevated to confiscate any and all positive net present value the steel mill might have. The railroad might have to do this because its sole provider of fuel oil treats it the same way. Every firm in a high-income economy depends on there being a sufficient number of competing firms in every market to keep prices low, so that the firm can retain any positive net present value that it creates through product or process innovations (Stigler, 1951). Thus, Rosenstein-

Rodan (1943) highlights how a firm depends critically on innumerable other firms, many of which it does no actual business with and whose names its owners and managers may not even know. Without sufficient numbers of competing firms in every node of the economy, a potential domestic or international entrant firm rationally expects hold-up problems to raise its expected market transaction costs to prohibitive levels. If no firm dares enter first, none enter, and development is stymied. High market transaction costs thus leave economies in a low-level equilibrium trap which discourages the establishment and development of local firms, as well as entry by MNEs.

Rosenstein-Rodan (1943: 204) blames finance: "Existing institutions of international investment (floating of shares and loans) are inappropriate to the task of industrialization of a whole area." This, he continues, is because "They deal with too small units, and do not take advantage of external economies" so "Capital mostly goes to individual enterprises." He despairs of financial markets surmounting these network externality problems, lamenting that "There has never been a [private sector] scheme of planned industrialization comprising simultaneous planning of several complementary industries."

Rosenstein-Rodan's solution was the *multilateral development bank*, and he largely designed the World Bank (Gavin & Rodrik, 1995). Assuming that private-sector financial systems could not erect the economy-spanning diversified network of firms needed for rapid development, governments across the globe would step up, and the World Bank would provide the foreign aid necessary. State technocrats, advised by World Bank technocrats, would transcend network externality problems to orchestrate the rise and growth of every firm as needed by other firms. Rosenstein-Rodan called this massive coordinated development Big Push industrialization. Writing in 1943, he envisioned that this process would lead to the rapid industrialization of the backward economies of Eastern Europe. Although these ended up behind the iron curtain, the retreat of Western colonialism after WWII left numerous newly independent countries that Big Push development could help. This was the focus of the World Bank's development policy from its inception in 1944 until the 1980s.

The World Bank's track record in financing and directing Big Push development plans is discouraging (Easterly, 2006), and raises important issues about political corruption. Krueger (1974) highlights political corruption as a major cost of command and control asset allocation by governments. Her logic is disturbingly simple: A firm can invest 10 million dollars in either new equipment or favors to a politician. The new equipment would boost productivity sufficiently to provide an internal rate of return of 10% but the politician would boost subsidies sufficiently to provide a 15% internal rate of return on the same 10 million dollar outlay. A profit-maximizing firm invests in the politician, not the new equipment. Krueger argues that the pace of improvement in an economy's overall living standards reflects which of these two sorts of investments has the higher return. Where investing in productivity enhancement has the higher return, productivity rises and standards of living rise. Where investing in government officials – what she calls political rent-seeking – has the higher return, corrupt firms and politicians prosper, but overall living standards stagnate.

Big Push development of the sort Rosenstein-Rodan envisioned, and the World Bank implemented, gives vast resources and discretion to officials in low-income economies. Political corruption is a larger problem in lower-income economies, and, even where it initially was not, Big Push development schemes likely raised the return to corrupting the officials implementing such policies. The more intense the state-implemented aid financed by the Big Push development plan, the greater the return to corruption and the lower the return to investing in productivity.

Krueger's (1974) logic, augmented by economists' growing comprehension of the link between official corruption and sovereign defaults (Eaton, 1990), led the World Bank to change course in the 1980s. A so-called Washington Consensus (Williamson, 1990, 2000, 2004) called for the World Bank and other multilateral institutions to tie bailouts of defaulting governments to reforms that would shift those governments out of the Big Push business and into the business of financing institutions designed to reduce market transaction costs. These reforms thus sought to increase the competitiveness, performance, and internationalization of domestic firms (e.g., Cuervo-Cazurra & Dau, 2009a, b, c).

The Washington Consensus proved to be little more effective than state-financed Big Push programs (Rodrik, 2006). US institutions transplanted into emerging market economies often grew unexpectedly. For example, institutional investors are associated with improved corporate governance in

the UK (Black & Coffee, 1993), the US (McCahery, Sautner, Starks, 2016), and Canada (Doidge, Dyck, Mahmudi, & Virani, 2019). Exporting this idea to economies dominated by large BGs might sound like a good idea. However, when Brazil began creating powerful institutional investors, the country's great BGs offered their services, and many soon voted to have shares of pension funds in their group firms. Perkins et al. (2014) use a series of case studies to argue that these large institutional investor stakes may not have enhanced corporate governance. One example concerns Telesystem International Wireless (TIW), a Canadian telecom firm, bringing a new cell-phone standard to Brazil via a joint venture, Telpart Participaçoes (Telpart). TIW owned 49% of Telpart, its Brazilian joint venture partner, CVC Opportunity, owned 27%, and pension funds owned the remaining 24%. A few weeks later, TIW executives learned that the pension funds had delegated their voting rights to Newtel, a firm in the same BG as CVC Opportunity, that of the Dantas family. Brazilian courts ruled the transfer legal, and the joint venture became a fourth-tier member firm in the Dantos pyramidal group. Indeed the courts quickly nullified a memorandum of understanding outlining TIW's rights of first refusal, tag-along rights, veto rights, and rights to proportional representation on the joint venture's board. The joint venture floundered and TIW eventually abandoned the Brazilian market.

Even where genuine market reforms were implemented in low-income economies, results were often disappointing. Rosenstein-Rodan's (1943) reasoning is valid and survives being recast in modern mathematic formulations (Murphy, Shleifer, & Vishny, 1989). The first mover and coordination problems he highlights are real and important, but state-led Big Push development seems an ineffective solution to them.

BGs may provide a workable solution. Morck and Nakamura (2007) argue that Japan's large pyramidal BGs, or *zaibatsu*, internalized a successful private-sector-led Big Push industrialization in the late nineteenth and early twentieth century, an era of Victorian laissez-faire. The history section above quotes L.G. patriarch Koo Cha-Kyung describing his *chaebol* BGs expanding similarly during South Korean industrialization. The largest *zaibatsu* and *chaebol* achieved full-set diversification (a group firm in each key sector), so hat each BG became an industrially complete command and control economy within a national market economy. Korean *chaebol* reallocated capital from cash cow firms receiving state subsidies to other group firms; Japanese *zaibatsu* used natural resource cash cow firms (Japan was then mineral-rich) to do this (Morck & Nakamura, 2018). Japan's industrialization appears to be precisely the private sector "scheme of planned industrialization comprising simultaneous planning of several complementary industries" that Rosenstein-Rodan (1943) deems impossible.

Why have BGs not brought about successful Big Push development throughout the world? To an extent, they arguably have. The history section of this paper shows large BGs to have arisen amid rapid industrialization in the histories of most high-income economies. Late-industrializing Western countries, such as Australia and Canada, and late-blooming European countries, underwent rapid growth phases in the late nineteenth to early twentieth century and featured large BGs in these same years. Like Japanese *zaibatsu*, BGs in these countries may have formed and expanded in this era to internalize Big Push development.

These catch-up industrializations succeeded in the era of worldwide Victorian laissez-faire economics, with low taxes and minimal state intervention. The era certainly had corruption scandals, but the largesse with which officials could reward rent-seeking businesses was curbed by the limited scale and scope of the state. Might a dearth of state intervention be conducive to successful BG-led Big Push efforts? New research in IB casting light on these issues include Wei et al. (2020), Jackson, & Deeg (2019).

We posit that the answer may be yes, but with many qualifications. Japan established and heavily subsidized legions of state-owned enterprises in the 1860s and 1870s to import and apply foreign technology. This strategy failed to deliver rapid economic growth, the SOEs all lost money heavily, and the subsidies brought on an 1880 financial crisis that justified Japan's shift to Victorian laissez-faire. Japan's SOE-led developmental strategy was not far off Rosenstein-Rodan's state-led Big Push prescription.

Also, later, from the 1950s on, IPOs capitalized new high-tech entrepreneurial firms (e.g., Honda, Sony, Sanyo, and Sharp), rejuvenated pre-war firms (e.g., Toyota), and made Japan a global leader in product and process innovation. Some of these, notably Toyota, are a *vertical keiretsu*, comparatively small pyramidal groups of specialized subsidiaries organized along supply chains in which new inventory practices were pioneered (Choi, Hiraki,

& Landi, 2014). A set of large, highly industrially diversified *horizontal keiretsu*, structures similar to web groups but lacking controlling shareholders, had developed in the 1960s as former member firms of each *zaibatsu*. The horizontal *keiretsu* showed little evidence of group-level coordination, except that their member firms had cross-shareholding relationships.

Many Japan experts, especially in the 1980s, linked Japan's final ascent to high-income levels to its *keiretsu* BGs acting in concert with a new generation of technocratic planners. This characterization of the Japanese economy attracted sustained criticism (Beason & Patterson, 2012). Many chagrined Japan experts found other lines of work. Indeed, in challenging times, like from 1992 to now, Japan's *horizontal keiretsu* placed small blocks of shares with each other that summed to effective takeover defenses. They appear to have unnaturally preserved uncompetitive '*zombie firms*' (Hoshi & Kashyap, 2004; Peek & Rosengren, 2005; Caballero, Hoshi, & Kashyap, 2008). Genuinely unique aspects of Japanese institutions relevant to the economic importance of BGs in the rise and sustainability of the first high-income but now quickly aging economy outside the West likely deserve renewed study in IB now that the dust has settled (e.g., Belderbos & Heijltjes, 2005; Lai, 1999).

Similarly, the history section above describes Korean *chaebol* picking up from General Park's ultimately ruinous 1970s HCI drive. The major *chaebol* tapped into the capital markets, expanded to partner with or outright acquire existing firms in many industries, and achieved "full set diversification", subsidiary in every sector needed by other firms in the group. The largest *chaebol* became centrally planned economies within South Korea's rapidly industrializing national economy (Lim & Morck, 2020). Unlike BGs in slow growing regions such as Latin America, whose structures suggest diversification to reduce risk, BGs in South Korea appear to have diversified to internalize product and capital market transactions (Khanna and Yafeh 2007).[14]

Korean *chaebol*, after the phenomenal growth in the 1980s, became over-leveraged, and the 1997 Asian financial crisis revealed epidemic corporate governance problems and mal-investments. While reforms are called for, *chaebols* have passed on to heirs who maintain major economic and political influence, and whose behavior increasingly attracts high profile criticism (Park, 2012). Further IB and management research on *chaebols* to better understand these dynamics would thus be warranted (e.g., Chang, 2003; Chang & Hong, 2000, 2002; Joe & Oh, 2018; Jungyun, Shipilov, & Greve, 2017; Kim, Hoskisson, & Tihanyi, 2004, Kim, Hoskisson, & Wan, 2004; Maman, 2002).

The central issue was the role of BGs in emerging economies where the government often plays a significant role. The comparative advantage of BGs depends on a trade-off, market transactions being more costly than command and control allocation. Consequently, where command and control transactions are extremely efficient, BGs might have a competitive advantage despite market transactions being less costly than elsewhere. For other countries, Larsson and Petersson (2018) advance this logic to explain the persistence of large BGs in Sweden, generally rated as among the least corrupt countries in the world. Högfeldt (2005) accepts the argument that Nordic institutions, especially low general corruption, render tripartite industrial policies (formulated by panels of big business owners, labor leaders, and government officials) less problematic than in Krueger (1974), but argues that these policies have rising social costs from ignoring the interests of parties not represented. Potential entrepreneurs have a tough time in Sweden, where no major new corporation has arisen since the 1960s (Högfeldt, 2005), and iron-clad job security deters hiring, leaving the youth unemployment rate almost fourfold higher than the general rate (Caliendo & Schmidl, 2016). When firing unsatisfactory workers is more difficult, firms refrain from hiring new workers, especially those without track records. Thus, even in such countries, policies that make BG member firms star performers from the viewpoints of their shareholders, their employees, or other stakeholders such as environmentalists, may not be advantageous in terms of overall social welfare.

BGs, elite entrenchment, and the middle income trap

This section, therefore, considers how large BGs might become burdens for the economies that contain them. First, consider large BGs, each truly run in the interests of the group as a whole. Suppose each BG unerringly allocates capital, risk, labor, human capital, intermediate goods, innovations, information, and everything else to whichever of its member firms can use those resources to create the most value. Chilean BGs appear to reallocate capital and labor in this manner (Buchuk, Larrain, Muñoz, & Urzúa, 2014; Huneeus, Avendaño, Bargsted, Cuevas, & Martínez, 2018)

and have persisted as the country's institutions developed (Larrain & Urzúa, 2016). However, this could constitute inefficient economy-level resource allocation if the same resources could have created even more value used outside the groups. Almeida and Wolfenzon (2006b) develop this formally using capital allocation. If BGs prosper through command and control capital allocation where impersonal financial markets work poorly, they might finance the best investment opportunities available to their member firms, leaving even more valuable investment opportunities elsewhere unfinanced.

Similar logic applies to the allocation of other resources via BGs. For example, where information is the critical resource BGs collect and allocate to their member firms, economy-level efficiency decreases if the information would have been more valuable to others. Consider a disruptive innovation that would boost overall economy-level productivity but renders many existing firms' assets obsolete. A BG containing important firms at risk might suppress the innovation in the interest of the group as a whole. Not doing so would be tantamount to financing creative self-destruction (Morck & Yeung, 2003). Instead, BGs might promote innovation to augment, or at least not erode, the values of their existing assets, even if this boosts economy-level productivity less. The effect of innovation on existing asset values may be difficult to predict. This may explain why Belenzon and Berkovitz (2010) find that European BGs finance innovation, but primarily innovation with no adverse effects on their existing businesses. In a country dominated by large BGs, a disruptive innovator's best financing option might begin with emigration. Similarly, consider policies geared toward attracting foreign direct investment that could provide employment and enhance overall productivity at the economy level, but that would increase competition for local BGs. BGs might be more powerful lobbyists than free-swimming domestic corporations. Indeed, BG lobbying against the development of market-supporting institutions quite likely also serves to deepen domestic BGs' home court advantages to deter MNE entry.[15] What is good for the domestic BG is then not obviously good for the economy as a whole.

Khanna and Palepu (2005) highlight the unique importance of the Tata pyramidal group in financing Indian information technology firms. Where financial market institutions are weak, BGs might be the sole source of capital for local innovators. Accessing a large BG's internal markets for capital might be a local innovator's only option. Proposals to finance innovations beneficial to existing group firms might receive consideration, subject to ceding control, but innovations unrelated to, or detrimental to, existing firms might be filed away, even were they more socially valuable (Mahmood & Mitchell, 2004). Moreover, where BGs are essentially monopsony providers of venture capital to innovators, BGs could hold up domestic innovators by charging costs of capital high enough to capture much of the innovator's net present value.

An absence of disruptive innovation does not mean an absence of any innovation. Indian BG firms do more R&D than stand-alone firms (Ashwin, Krishnan, & George, 2015; Chen, Chittoor, & Vissa, 2015; Komera, Jijo Lukose, & Sasidharan, 2018; Purkayastha, Manolova, & Edelman, 2018), although not in manufacturing (Sasidharan, Lukose, & Komera, 2015), and so do BG firms in Latin America (Castellacci, 2015), South Korea (Mahmood & Lee, 2004; Mahmood & Mitchell, 2004; Kim & Lui, 2015; Lee, Lee, & Gaur, 2017), Taiwan (Hsieh, Yeh, & Chen, 2010), and elsewhere (Crespi et al., 2008). IPOs in the US are often high-tech startups, and most IPOs in most countries may be new BG affiliate listings (Larrain, Sertsios, & Urzúa, 2019). However, mesoeconomically efficient resource allocation (firms in every BG acting in the interests of their group as a whole) need not lead to economy-level allocative efficiency. Empirical studies showing that BG member firms do more R&D (like those showing BG firms having higher earnings or market valuations) than otherwise similar independent firms do not imply that BGs are, therefore, good for the economy.

This gap between mesoeconomic and macroeconomic deepens when the endogeneity of institutions (Krueger, 1974) is considered[16] Politicians and civil servants – who have the same sorts of private objectives as other human beings – reshape, improve, and erode institutions. Financing private sector elements of a country's institutional structure also shape those institutions. Thus, Korean financial analyst firms may be compromised because they are *chaebol* member firms (Song et al., 2012). Group media firms can let controlling owners shape political debate and outcomes (Djankov et al., 2003). Deep pockets to pay bribes, provide valuable favors, or offer lucrative future employment opportunities can influence civil servants as well as politicians (Mauro, 1995). (By the

same token, BGs and MNEs operating in foreign markets might also lobby the host government and policy-makers for favorable institutional changes.)

Morck and Yeung (2004) argue that large BGs' controlling shareholders have uniquely profitable political rent-seeking advantages. These are:

1. *Capital (Deep pockets)* Controlling owners of large BGs command vast economic power, while entrants and upstarts that might challenge BG firms have only potential wealth. Risk-averse government officials might understandably prefer dealing with the former.
2. *Credibility* BGs have multiple points of contact with government officials throughout the economy and over time. This lets BG controlling owners accumulate reputational capital, for both delivering on promises and punishing defection. A corrupt official might accept a bribe from a potential entrant and then fail to deliver promised subsidies with limited consequence. However, reneging on promises to the controlling shareholders of a large BG with vast economic power could be more costly.
3. *Concealability* Deep pockets and credibility let a BG controlling owner conceal rewards or punishments to an official by affecting them in advance, with a delay, or through group firms not under that official's purview or whose connection to the BG is unclear. Favors to freestanding upstarts, however, are more readily observable. Furthermore, BGs often contain firms capable of providing non-financial benefits, such as biased media coverage, that are less obvious than quid-pro-quo exchanges of cash for influence.
4. *Connections* The ultimate controlling shareholders of many very large BGs are dynastic families. Heirs to great business dynasties may be born politically connected. Potential entrants rising out of the lower classes are not. This may greatly reduce dynastic families' costs of establishing and maintaining connections with important officials, which would magnify their BGs' political influence.[17]

These factors could make the controlling shareholders of great BGs politically influential in promoting, retarding, or biasing their countries' institutional development (Acemoglu, Aghion, & Zilibotti, 2006). Institutional development appears to reduce the value of BGs' public firms (Choi, Park, & Too, 2007). Della Porta and Vannucci (1997) discuss BGs and corruption in Italy. (See, also, Yadav 2011.) However, Klitgaard (2000) argues that BGs' controlling shareholders, realizing that corruption harms the national economy and that their groups are large parts of the national economy, might lobby to reduce corruption. On the other hand, corruption might promote economy-level growth in countries run by politicians with, for example, Marxist ideologies (Leff, 2002). More research into relative costs and returns to BGs versus free-standing firms of political rent-seeking and their externalities would be useful.[18]

World economic history contains many examples of countries that grew rapidly and then stalled. Mexico industrialized rapidly under President Porfirio Diaz around the turn of the twentieth century (Haber, 1995), but its rapid "catch-up" growth faltered, and the country fell behind again (Kehoe & Meza, 2011). In the 1890s, Argentina seemed among the world's most promising rising economies (Pineda, 2009). In the early twentieth century, Egypt's 15 million people seemed set for rapid industrialization. Many economies seem to develop only so far and then stall in a Middle Income Trap.[19] Although definitions and lists of trapped economies vary (Gill & Kharas, 2015), studies of the phenomenon have proliferated (e.g., Eichengreen, Park, & Shin, 2013; Aiyar, Duval, Puy, Wu, & Zhang, 2013; Glawe & Wagner, 2016; and others).

One influential thesis closely related to Middle Income Traps is Rajan and Zingales (2003) *Great Reversals* in financial development. They note that many economies had much larger and more dynamic financial systems in the early twentieth century than in subsequent decades, and posit that this reflects the first generation of entrepreneurial tycoons building up huge business empires as their countries rapidly industrialize using catch-up off-the-shelf technology. The tycoons' heirs then lobby for barriers to entry to protect their empires, which include regulations constricting financial markets to deprive potential entrants of capital. They call for reforms to "save capitalism from the capitalists" (Rajan & Zingales, 2004).

Economies' ascents to middle-income levels typically involve catch-up growth, in which firms use off-the-shelf technologies to approach the global technological frontier. Rising to high-income levels involves innovating to expand that frontier (Acemoglu et al., 2006; Aghion, Meghir, & Vandenbussche, 2006). The Middle Income Trap may reflect failures to make this switch (Lee & Gaur, 2013; Pruchnik & Toborowicz, 2014; and others).

Political economy linkages between BGs and government officials biasing institutional development to entrap economies at middle-income levels merits study in IB. Much work links BG controlling shareholders to political elites (e.g., Wei et al., 2019). Doner and Schneider (2016: 622) argue that middle-income trap countries' BGs are "huge, conglomerated, family-owned BGs concentrated in commodities (natural resources, basic metals, and other semi-processed goods), regulated sectors (especially banking and utilities), natural oligopolies (such as cement and beer), and, occasionally, low-tech manufacturing (having been boxed out of high-tech manufacturing by MNCs)." "In contrast to BGs in countries that escaped the MI [middle income] trap," they note, "these concentrated BGs have had little to gain from pushing for policies that would help their economies break out of the trap. They are entrenched in their own traditional business strategies and in politics and wield power to maintain institutions favorable to their existing businesses."

The political economy of great reversals in institutional development merits study. Entrants can disrupt established firms (Braun & Larrain, 2009). Do BGs lobby against market-supporting institutional development, helpful to independent entrants, but disruptive to established BGs (Peng, 2003)? To what extent do BGs' deep pockets allow them to control who enters and who does not (Boutin, Cestone, Fumagalli, Pica, & Serrano-Velarde, 2013)? Do BG controlling owners lobby government officials for trade or capital barriers to entry (Pattnaik et al., 2018) or other institutional deficiencies? More IB cross-country and country-level studies of the political economy of BGs with different sources of income and with different political lobbying interests might be highly informative.

Towards a Coasean Synthesis

Coase (1937) explains why market economies contain firms, each a miniature command and control economy. Markets serve as artificial intelligence, whose prices coordinate resource allocation and exchange. Recognizing that individuals have different degrees of talent and foresight, Coase (1937: 390) posits individuals opt to obey a boss who, directing actions within a firm, increases the value of their time and effort. The ensuing Theory of the Firm (e.g., Williamson, 1971, 1975, 1979, 1985; Klein et al., 1978; Grossman & Hart, 1986; Hart & Moore, 1990; Holmstrom & Roberts, 1998) explains not just transaction costs but business organization boundaries, property rights, contract rights, and entrepreneurship, and is basic to organizational economics, finance, strategy, and IB. Coase's insight is that markets and hierarchies, such as firms, are alternative ways of coordinating the behavior of large numbers of individuals. Firms are micro-level centrally-planned economies that live within macro-level market economies. Firms interact via market transactions, but coordinate transactions within themselves via a command and control hierarchy of tiers of management.

Fitting BGs, mesoeconomic structures, into a Coasean framework requires stepping back, and this provides multiple perspectives. Markets are an emergent artificial intelligence that organizes the behavior of large numbers of humans via price signals. Markets have boundaries because market resource allocation transactions can be costly. Market transaction costs include participants' costs of finding each other, ascertaining the true value of the goods or services on offer, and limiting externalities such as pollution. Hierarchies, and command and control mechanisms such as armies, corporations, and governments, organize the behavior of large numbers of humans by subjecting them all to an ultimate controlling power. Hierarchical resource allocation can also be costly because the information necessary to make efficient decisions may not reach the controlling power, and because humans throughout the structure may pursue their self-interest rather than obey orders. Comparing the cost of effecting any given transaction within the mesoeconomic centrally planned economy that is a group, with the cost of effecting the same transaction through contracts with other firms, determines whether any given transaction is done via central planning, internally within a microeconomic firm, or via market transactions between firms. Figure 2 illustrates how this applies to BGs. The vertical axis gauges aggregate transaction costs, market or hierarchical, and the horizontal axis measures the scale, scope, and complexity of BGs, denoted g.[20] A larger g means more transactions are internalized within BGs and fewer occur through markets. Consequently, the aggregate costs of all market transactions declines as g rises.[21] More extensive BGs must contend with higher hierarchical transaction costs. More links in chains of command, more potentially self-interested middle managers, and more noise in the transmission of information within the hierarchy all count towards such transaction costs.[22]

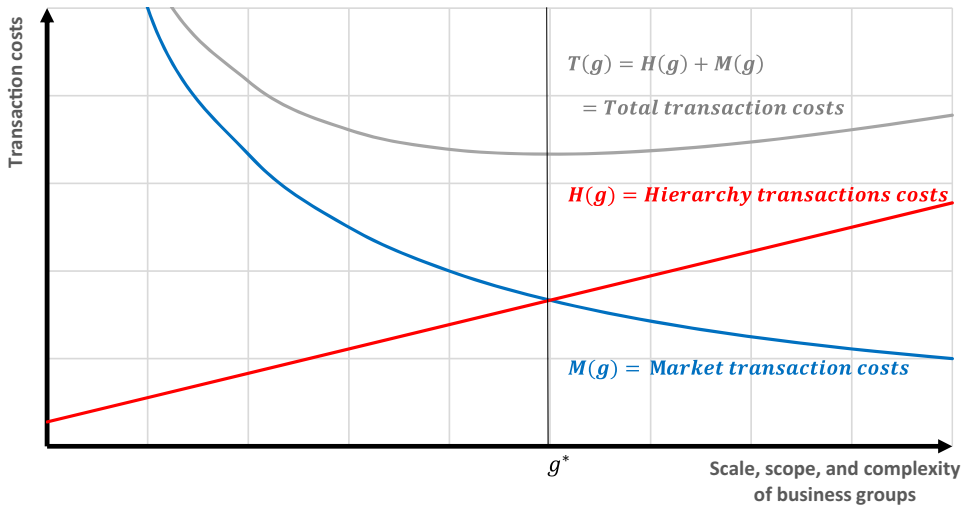


Figure 2 Transaction costs and the extent of business groups. Market transaction costs, $M(g)$, fall as business groups expand, reducing their member firms' reliance on markets. Hierarchical transaction costs, $H(g)$, rise as business groups are larger and more complicated. The optimal extent of business groups is g^*, where $M(g)$ and $H(g)$ cross and where total transaction costs, $T(g) = M(g) + H(g)$, are minimal.

The figure shows an optimal expansion of BGs to g_0, where market transaction costs, $M(g)$, equal hierarchical transaction costs, $H(g)$, so that neither expanding nor shrinking BGs can lower overall transaction costs, $T(g) = M(g) + H(g)$ so that the marginal total transaction costs $dT(g)/dg = 0$. This assumes freedom of association. (see, e.g., Telser, 1994; Brandenburger & Stuart, 2007).

In this diagram, BGs with $g < g^*$ reduce overall transaction costs to $H(g) < M(g)$. In this range, BGs bridge institutional voids by internalizing transactions that would otherwise occur via more costly market interactions between separate firms. The institutional voids perspective and related perspectives, such as the resource dependency perspective, grant BGs greater allocative efficiency than markets apply.

In the upper range of BG scale, scope, and complexity, where $g > g^*$ and $H(g) > M(g)$, BGs incur higher transaction costs than would markets and become uncompetitive. Competition should favor BGs below g^* and drive those above g^* to either shrink or go bankrupt.

Institutional development

Institutional development, broadly interpreted, changes the constraints and preferences shaping economic decisions in ways that reduce transaction costs. New laws, regulations, business practices, judicial procedures, schools, public infrastructure investments, or ethical standards that reduce market transaction costs, hierarchy transaction costs, or both constitute institutional development.

Economic development and institutional development

Institutional development, by reducing transaction costs, increases overall economic activity and economic growth. This can create a virtuous circle of feedback. A larger and more prosperous economy can invest more in institutional development.

This virtuous circle tends toward lowering market transaction costs relative to hierarchy transaction costs. Hayek (1945) argues that markets scale up better than hierarchies. Expanded hierarchies have longer chains of command with more impediments to information flow and agency problems; but expanded markets deepen, becoming more competitive, efficient, and able to develop the expanding alternatives and freedom of choice associated with economic development (Hayek, 1945; Stigler, 1951; Sen, 1999). As evidence, Hayek offers the increasingly numerous and costly ranks of decreasingly efficient informers and enforcers needed in the Soviet Union and other command economies.

Hayek's reasoning suggests institutional development lowers market transaction costs more than command and control costs within a BG, eroding BGs' cost advantage (Kim, 2010; Lee, Park, & Shin, 2009). However, if institutional development lowered command and control costs within a BG faster,

BGs might survive or even expand as institutions develop. Economic history in high-income economies supports Hayek's view.

Figure 3 illustrates institutional development working against large, complicated BGs. Market transaction costs fall more across the board than do hierarchical transaction costs if strong institutions (S) replace weak institutions (W). This explains the stylized fact in Figure 1: Economies with stronger institutions, in general, have smaller, simpler BGs – or perhaps free-standing firms and few or no BGs. Figure 3 also captures the general tendency in the economic histories of many countries for BGs to be large and important in early stage of development, but to become less so once the economy reaches high-income levels. The range where BGs effectively bridge institutional voids shrinks to $g \leq g_S^* < g_W^*$.

Many high-income European economies retain more extensive BGs than do the UK and its high-income former colonies – Australia, Canada, and the US (La Porta et al., 1999). Institutional development in the latter group may have been biased towards supporting markets in the former group and towards improving the efficiency and social alignment of bureaucracies and other hierarchical allocation mechanisms (Larsson & Petersson, 2018). This may explain the survival of small French BGs (Hamelin, 2011) and large Swedish BGs (Högfeldt, 2005). That is, g^* drops less on the continent than in high-income common law countries.

This accords with La Porta et al. (1999) and Figure 1, as well as the historical development of BGs in Australia and Canada. Both adopted interventionist industrial policies in the 1970s, institutional changes that arguably raised market transaction costs. BGs expanded in scale and scope in both the 1970s and 1980s, and then declined in the 1990s as both reverted to more market-driven resource allocation.

Politics and institutional development

BGs are command and control structures, whose ultimate controlling owners allocate resources, including capital and labor. The controlling owners are humans, with private interests; but their allocation decisions obviously affect others, for example, workers. BGs' controlling owners, either mesoeconomic consciously or not, can be expected to favor public policies that expand their power, influence, and importance, and to oppose public policies that do the opposites.

Political lobbying by big business insiders is recognized as a first-order determinant of public policy (Krueger, 1974), possibly with dynamic increasing returns to scale (Murphy et al., 1989; Morck et al., 2001). It is also an important factor in

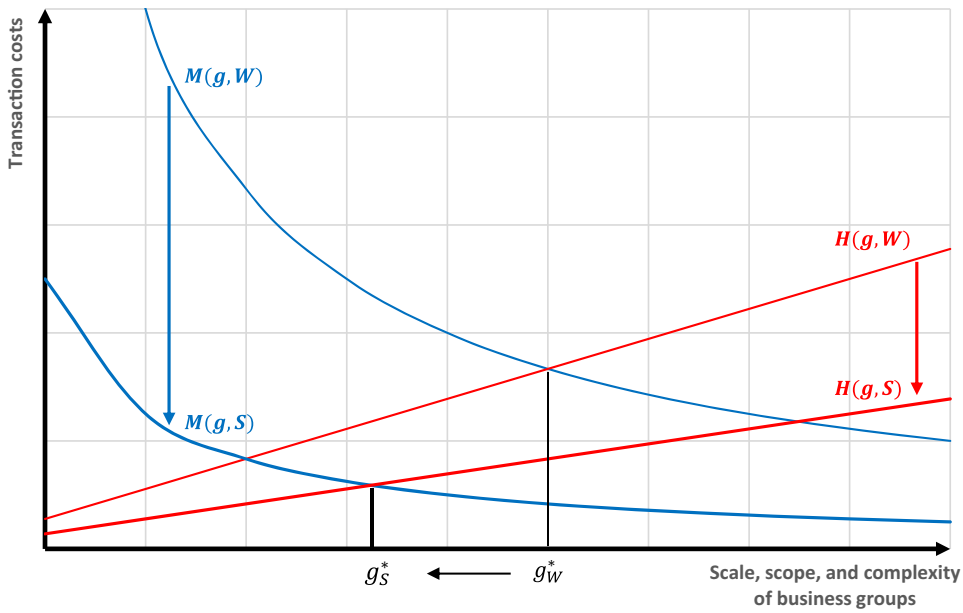


Figure 3 Transaction costs and the extent of business groups as institutions develop. As institutions develop from weak (W) to strong (S), the decline in market transaction costs from $M(g,W)$ to $M(g,S)$ is larger than the decline in hierarchy transaction costs from $H(g,W)$ to $H(g,S)$. This shift favors smaller business groups and larger ones either shrink or are culled by market forces.

IB studies (e.g., Chen et al., 2010; Dau, 2010, 2018). Buying political influence is, like buying new property plant and equipment, an investment. Both have an initial cost and an internal rate of return, and political influence is apt to be a more commonplace investment where its return is higher (Murphy et al., 1989). The controlling owners of very large BGs appear to be especially adept at influencing government policies (Krueger, 2000; Krueger & Yoo, 2001; Fogel, 2006) and may have lower costs and higher returns to political lobbying than do unitary firms for reasons outlined above (Morck & Yeung, 2003).

BGs' controlling owners can be expected to favor public policies that augment the comparative advantage of large BGs relative to other organizational forms (e.g., Rajan & Zingales, 2003, 2004). And a controlling owner whose BG is larger, broader in scope, and more complex has more lobbying capacity to influence institutional development (e.g., Morck & Yeung, 2004). Figure 4 therefore makes institutional development, $I(g^*)$, a function of g^* because g determines the lobbying power of groups' controlling owners to skew institutional changes to favor a higher g^*.

BGs might increase g^* by supporting policies that increase market transaction costs, and thus shift the $M(g, I(g^*))$ curve up, or reduce hierarchical transaction costs, and thus shift the $H(g, W)$ curve down. Market transaction costs are costs of doing business impersonally via markets. Policies that increase regulatory and bureaucratic compliance costs, costs of external capital, or the costs of hiring and shedding employees might shift the $M(g, I(g^*))$ curve up. A BG's hierarchy transaction costs include the costs of collecting information and getting it to the controlling owner, monitoring subordinates throughout complicated chains of command to ensure they obey orders, and restraining controlling owners from pursuing their private interests rather than maximizing economic growth or social welfare. BGs' controlling owners might favor reforms that lower the first two, such as institutions encouraging respect for authority, acceptance of hierarchies, and deontological (duty-based) ethical codes, but remain cool to reforms limiting their power to run their groups as they like. Thus, family business empires are larger in countries whose institutions better promote obedience to authority, conformity to established norms, and the subordination of individual to collective interests (Mehrotra, , Shim, & Wiwattanakantang, 2011). How BGs affect, and are affected by, institutional development paths favoring market versus hierarchical transaction costs reduction merits deeper study.

For simplicity, Figure 4 shows BG controlling owners' lobbying as pushing $M(g, I(g^*)$ up to $M(g, W)$ and $H(g, I(g^*)$ down to $H(g, S)$. This raises the minimum transaction costs organizational form to $g^*(I(g^*)) > g^*(W) > g^*(S)$, higher than under either weak or strong institutions.

The extended BGs in Figure 4 are still bridging institutional voids in a sense, but their doing so no longer serves their overall economy. This is because the BGs created institutional voids to bridge by stalling the development of market institutions. This need not involve BG controlling shareholders scheming to undermine institutional development. Rather, this pattern of events might play out naturally as BGs' controlling owners lobby governments for specific small reforms that they view as good for their BGs. Government officials could respond to this lobbying either in return for favors or because they misapprehend the fallacy of composition separating what's good for large BGs from what's good for the economy or social welfare. Elites that impede general economic development by reshaping institutions in these ways are considered entrenched.

BGs up to $g^*(S)$, might still be defensible as bridging institutional voids, for these could have existed in any case. But more extensive BGs up to $g_0(I(g_0))$ are best described as entrenched. These BGs' firms can be star performers in the institutional environment they shaped, but inferring that they benefit their economies would be a fallacy of composition. A performance premium arises from entrenchment that can be characterized as exploitation if their prosperity arises by stunting institutional development and damaging the economy and society. Thus, Figure 4 extends the Coasean synthesis to encompass entrenchment and exploitation.

As before, rational shareholders' wealth is not expropriated if they buy BG firms' shares at prices that factor the above in. Still, a distorted institutional development that retards general economic growth, as in Figure 4, is another kind of expropriation. Broad prosperity, not minority shareholder wealth, is expropriated.

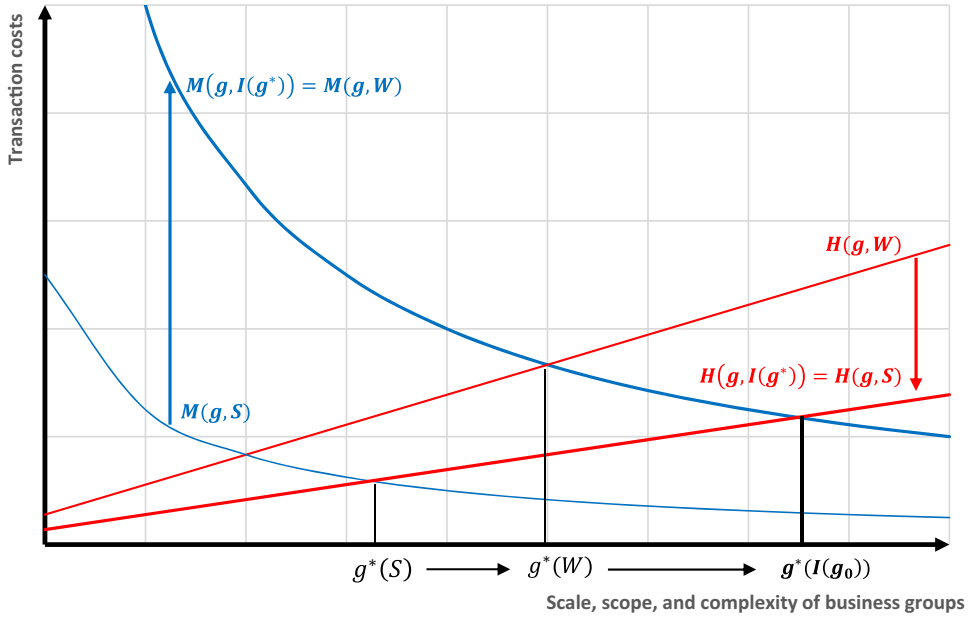


Figure 4 The extent of business groups affecting institutional development. More extensive business groups deploy their political lobbying power to stall the development of market transaction costs reducing institutions or even to skew institutional development in ways that increase market transaction costs. The more influential business groups are in shaping public policy, the more their lobbying shifts the entire market transaction costs schedule upwards. If the controlling owners of business groups favor institutional developments that reduce command and control transaction costs, the hierarchy-related transaction costs schedule would correspond to that under strong institutions in Figure 3. This leaves business groups up to $g^*(I(g^*))$ viable.

Dynamic inconsistency in a dynamic Coasean synthesis

The transition from weak to strong institutions – the shift from Figure 2 to Figure 3 – typically accompanies broad-based economic growth and increased state spending. During a BG-led Big Push, maximizing economic growth leads to public policies that lower hierarchy transaction costs in BGs because market institutions, even strong ones, cannot deal with the network externality problems Rosenstein-Rodan (1943) identifies as barriers to rapid catch-up growth. Public policy aligns with the interests of BG controlling owners in prioritizing low hierarchy transaction costs.

This means economies starting from Figure 2 that undergo a BG-led Big Push may tend towards Figure 4, not Figure 3. However, a Big Push that achieves early-stage industrialization can let the government fund institutions needed to move on to the mature high-income economy in Figure 3. A brief phase in Figure 4 is thus a natural, if ungainly, economic adolescence; loitering there for generations can be arrested development.

Mature high-income economies have institutions that reduce market transaction costs. Economic growth in such economies arises from creative destruction, creative innovators founding new firms that disrupt old established ones. Low transaction costs in markets for capital, labor, and intermediate goods support creative destruction by reducing costs of financing and growing new firms. The owners of old firms, such as those in BGs left over from a Big Push, understandably favor public policies that preserve established firms.

This leads to dynamic inconsistency in optimal public policy towards BGs. A low-income economy adopts institutions favoring BGs that, if successful, make themselves suboptimal in the resulting middle-income economy. Some countries adopt new institutions; others do not and linger in a Middle Income Trap, sometimes for generations. Middle Income Trap economies are thus graying economies dressed in the institutions of adolescence.

A related concept, time inconsistent preferences, also arises after economic growth finances higher general levels of education. Talent runs imperfectly in families, but in an economy with few and poor public schools and universities, the best business education may be at the dinner tables of powerful business families. People may then prefer to subordinate themselves to elite business families. Once education improves, the best business leaders

almost surely come from the general population (Smith & Amoako-Adu, 1999; Perez Gonzales, 2006; Bennedsen, Meisner Nielsen, Pérez-González, & Wolfenzon, 2007) and people increasingly prefer making decisions themselves. Changing preferences can leave once venerable hierarchical institutions both enfeebled and unwanted.

Frozen institutions can be costly. For example, preserving top business positions for family can discourage effort in both family and outsiders (Dau et al., 2020). Andrew Carnegie (1901: 54), explaining why he was giving his fortune away rather than leaving it to his children, wrote "the parent who leaves his son enormous wealth generally deadens the talents and energies of the son, and tempts him to lead a less useful and less worthy life than he otherwise would." Family expect top positions without effort; outsiders know effort will never reward them with top positions. Empirical evidence supports both conjectures (Holtz-Eakin et al., 1993; Mehrotra, Shim, & Wiwattanakantang, 2013; Gallego & Larrain, 2012).

Internationalization of BGs and Globalization

After discussing work on internationalization of BGs, this section extends our framework to encompass BGs' interactions with globalization and institutional development.

Groups and internationalization

Aguilera et al. (2019) provide an excellent survey of research on BG internationalization, but conclude that, "Research on internationalization of BGs is a topic that has received less attention than their economic relevance in the world." Research touching on the internationalization of BGs to varying degrees (Bucheli et al., 2019; Castaldi, Gubbi, Kunst, & Beugelsdijk, 2019; Chari 2013, Chen & Jaw, 2014; Chung & Dahms, 2018, 2019; Fuad & Sinha, 2018; Garg & Delios, 2007, 2015; Gubbi, Aulakh, & Ray, 2015; Guillén, 2003; Holmes et al., 2018; Iona, Leonida, & Navarra, 2013; Kumar et al., 2012; Mukherjee et al., 2018; Purkayastha et al., 2018) reveals a few stylized facts.

First, IB insights about internationalization of single firms could apply to BGs. Like MNEs, BGs might internationalize to expand the scales or scopes of application of the BG's firms' capabilities and resources into foreign markets or to acquire abroad new capabilities and resources synergistic with the BG's firms' domestic capabilities and resources. Key capabilities and resources might include critical inputs, capital, skilled labor, managerial capability, technology, or risk absorption capacity. BGs might be better positioned than free-swimming domestic firms to benefit from internationalizing, as the resource-based view suggests (see Kim, Kim, & Hoskisson, 2010; Lamin, 2013; Gaur, Kumar, & Singh, 2014). Colpan & Cuervo-Cazurra (2018) report that BGs play a dominant role in the globalization of emerging markets. However, IB insights about the transportability of capabilities also matter to BGs. BGs from emerging markets favor international expansion into host countries with institutions similar to those of their home countries (Purkayastha, Kumar, & Lu, 2017; Garg & Delios, 2007). Firm-level tests are obviously useful, but BGs also require meso-level tests to sidestep fallacy of composition biases. For example, if a BG tunneled income into an internationalizing affiliate to insure a successful internationalization, that affiliate's superior performance might come at the expense of reduced overall BG-level performance. Alternatively, if the BG tunneled advantages of internationalization away from the internationalized BG firm, firm-level tests might miss real benefits. Firm-level tests might be less informative in countries whose institutions allow freer intrafirm income-shifting in BGs.

Second, MNEs often seek local joint venture (JV) partners or acquisition targets to deal with institutional and informational gaps between their home- and host-country business environments. MNEs liabilities of foreignness (Zaheer, 1995) can include costs to overcome host economy entry barriers, access to local business networks, mitigate political risks, and so on (De Beule & Sels, 2016; Gubbi & Elango, 2016). Foreign MNEs entering JV agreements with host-country BG firms can be blindsided by the income shifting and other BG tactics not expected of free-swimming firms (Perkins, Morck, & Yeung, 2014).

Third, the usual concerns about agency incentives at the group level and difficulties in monitoring, coordination, and controlling of affiliates' activities apply to BGs' internationalization. These complex issues are also present in the MNE setting. For example, the presence of dominant family ownership affects the performance of international expansion of groups: the dominant family may make sharp and correct decisions as well as costly wrong decisions. Purkayastha, Kumar, and Lu (2017) report family-controlled BG firm performance rising with low-levels of

internationalization, but falling at higher levels. Khanna & Palepu (2000) report higher performance for BG firms as India opened to foreign investors.

Fourth, sourcing capital internationally is another important form of internationalization. In most countries, larger firms obtain more foreign financing (see *BIS Annual Report* April 1, 2016–March 31, 2017). In emerging economies with limited national savings, these large firms are often in BGs. This may reflect BG firms' size, inter-firm income shifting (Faccio et al. 2019), or political connections reducing their credit risk.

BG firms might likewise may have an advantage over free-swimming firms in developing and sourcing innovations internationally. The section "BG Governance" discussed how BG firms might invest more in innovation than do free-swimming firms by obtaining financing via their BGs' internal capital market. However, the efficiency and efficacy of their investment in innovations is an open question. Indeed, BGs might lobby to block or meter access to disruptive foreign innovations that would lower the value of existing BG firms (Morck & Yeung 2004). Entry by innovative foreign MNEs appears to boost innovation by BG firms more than by free-swimming firms in the host economy (Mahmood & Singh, 2003). Furthermore, BG firms often engage in intermediate technology transfer from MNEs (Kock & Guillen, 2011; Hofmann, 2013). Such arrangements can let a group's controlling shareholder meter the disruptive technology by controlling, filtering or even blocking its use. Here again, a fallacy of composition problem arises. Such tactics might increase the earnings of the protected BG firms, and even enhance the value of the BG at the meso-level, all the while impeding economy-level prosperity. Measuring negative and positive spillovers from BGs across their economies would be a "grand challenge "of the sort Buckley et al., (2017) call upon IB to undertake.

Fifth, as the section "Historical Importance of BGs" shows, BG as an organizational form developed in Britain to facilitate FDI. Merchant houses listed and raised capital in London at the turn of the twentieth century to finance their BGs in British dominions and colonies and elsewhere. As the empire broke up, local elites took control of these BGs (Carney & Gedajlovic, 2003; Jones, 2000, 2018; Jones & Khanna, 2006; Jones & Colpan, 2010; Khanna & Palepu, 2005; Tipton, 2008). Similar BGs arose on the Paris Bourse to fund companies in French colonies and elsewhere. The implications of these FDI origins of BGs merit more research.

In general, more research might usefully further explore the importance of BGs to national economies' historical FDI, capital flows, human capital flows, knowledge, innovation, and economic development in general. These issues attract notice in emerging economies, but developed economies were once emerging. Studying BGs roles in developed economies' growth and institutional development arcs might be useful.

Openness, institutional development, and groups

BGs might play a more prominent role than free-swimming firms in FDI, and perhaps also cross-border flows in financial and human capital as well as technology. This might be especially so in emerging economies. If so, interactions between BGs and institutional development associated with openness to global product, capital, human capital, and technology would be important to understand.

IB builds on an intellectual tension about how openness affects institutional development. For example, the WTO was premised on multilateral free trade pressing governments to improve market-supporting institutions beyond merely committing to WTO rules. Success along these lines is qualified by the US and China disregarding the international framework in favor of mercantilist policies. If the global economy shifts more generally and permanently to mercantilist strategies with import barriers, foreign ownership bars, and heavily subsidized national champions, large BGs are likely to flourish relative to free-swimming firms. The political heft of large BGs makes them star candidates for national champion status. However, such a shift is far from certain. Mercantilist trade policies are a perennial weed. The current Sino-US trade disputes echo 1980s US criticisms of Japan for industrial policy subsidies to firms in its horizontal *keiretsu* (web) and vertical *keiretsu* (pyramidal) BGs. The relationship between economic openness and institutional development is a key IB research topic, and how BGs affect and are affected by that relationship merits further IB research.

The transaction costs framework of the previous section might help illuminate this complex issue. Opening up to international competition can mitigate the market power of dominant domestic businesses and their owners' interests and thus promote institutional development. (Rajan & Zingales, 2003).Financial market liberalization makes

financial markets more informative (Durnev et al. 2004) and stimulates investment (Bekaert et al 2003, 2005), and may intensify creative destruction (Durnev et al. 2004). Becht (2018) reports that EU integration allows foreigners to acquire key Belgian BGs.

The conjecture is that openness improves market-supporting institutions; that is, shifts the $M(g, W)$ curve downward towards the $M(g, S)$ curve in Figure 3. Increasing economic openness erodes domestic BGs' economic and political power, and cause BG firms' performance to fall, but the economy would perform better. However, the EU, WTO, and multilateral and bilateral trade treaties can contain trip-wires that plausibly actually raise market transaction costs. Obtuse regulations, employment standards, intellectual property rights protections, and the like can have high compliance costs, which large BGs can absorb more readily than can small free-swimming firms. The Canada–US Free Trade Agreement, the predecessor to NAFTA, reduced the share prices and capital intensity of Canadian family (including BG) firms relative to free-swimming professionally managed firms (Morck et al., 2000).[23]

How openness might shift the hierarchy transaction costs curve, $H(g, W)$, also merits research. If openness improved corporate governance, falling agency costs might shift $H(g, S)$ downward. However, if undermined hierarchic-supporting (power-distance) institutions, hierarchy transaction costs might rise and shift $H(g, W)$ up. Ties of ethnicity, which might also reduce hierarchy transaction costs (Dau et al., 2020), appear to affect the location of Taiwanese BGs FDI into China (Jean, Tan, and Sinkovics, 2011).

Powerful BGs might react to openness with intensified lobbying to push their domestic $M(g, I(g))$, in Figure 4, upward. BGs might lobby for non-market entry barriers, industrial policies to subsidize national champion firms (in BGs), "strategic industry" designations and the like. BGs containing media companies might stir up nationalist sentiments to encourage politicians along. Lu and Ma (2008) report nationalist policies banning 100% foreign-owned businesses inducing MNEs to enter JVs with host economy BG firms. Such policies, implemented at various times by most countries, are pro-business, rather than pro-market, in the sense of Rajan and Zingales (2004). Quantitate research into the role of BGs in effecting such policies and the impact of such policies on BG firms, on BGs, and via BGs on national economies would be highly useful. If globalization goes into reverse, this sort of research could be very useful.

To recap, our framework shows a direction to investigate the varied impacts of openness on development and on the roles groups play. The key question is: What institutional changes does openness bring about? Openness could entice a country to make holistic institutional improvements so that the market transaction costs decline. In this case, the dominance of groups shrinks and economic efficiency goes up as the economy's total transaction costs come down. A second possibility is that institutional development reduces the transaction costs of using either freestanding firms or groups. In this case, the economy's efficiency goes up in the sense that total transaction costs decline. However, the economic significance of groups may or may not shrink. The final case is that on top of the just described changes, groups' lobbying imposes new barriers to using freestanding firms. In this scenario, group dominance increases but the economy's total transaction costs may increase perversely. These graphical analytics in Figures 3 and 4 show-case the usefulness of the assimilation framework. However, rigorous and refined analyses are called for.

DISCUSSION AND CONCLUSION

BGs attract research interest in multiple fields: economics, finance, IB, management strategy, organization, sociology, etc. This article organizes and builds upon the literature. After proposing a definition for BGs, it provides stylized historical observations of BGs around the world. These observations suggest that the development of BGs affects and is affected by the development of market- and hierarchy-augmenting intuitions. Thinking about BGs in the sort of dynamic Coasean framework familiar to IB could resolve seemingly discordant perspectives and result in the extant literature on BGs in IB and other fields.

This discussion coalesces into a theory of large BGs across the globe as mesoeconomic structures, suspended between microeconomic firms and macroeconomic economies. Very large BGs can encompass substantial fractions of national economies, and so approach macroeconomic importance, but even the largest are still business organizations run by, and possibly also for, private individuals or families. We suggest a broad framework viewing BGs as hierarchical command and control resource

allocation mechanisms that straddle, but do not eliminate, markets in different parts of the world (Coase, 1937; Granovetter, 1977), and we argue that this provides a path towards reconciling the various seemingly inconsistent perspectives on BGs that leave recent and more detailed surveys without clean conclusion (Locorotondo et al., 2012; Colli & Colpan, 2016; Poczter, 2018; Carney et al., 2011, 2017, 2018; Holmes et al., 2018). Thus, BGs enlist external monitoring mechanisms, such as tax authorities, regulators, and financial markets, to broaden the scale and scope of their hierarchical resource allocation or their controlling owners might simply wield power and influence approaching that of a national government, relegating external monitoring mechanisms to the background.

Seemingly discordant hypotheses, pitched as alternative perspectives to be tested against each other, can miss the possibility that each perspective might be valid within its level of analysis, settings, or balance of countervailing forces within a given setting. Going beyond accepting or rejecting alternative perspectives on BGs, future research might consider which characteristics of BGs come to the fore at which level(s) of analysis and in which institutional setting(s). Causality almost certainly runs both bidirectionally and between levels of analysis, especially where BGs are large relative to national economies. Consequently, research on how BGs mold government policies differently, and how such policies affect microeconomic business organizations given different institutional starting points, might be fruitful. This suggests several potential avenues for research into BGs, particularly for IB scholars.

First, IB traditionally takes institutions as constraints on the evolution of firms, especially in emerging markets (e.g., Peng, Wang, & Jiang, 2008; Cuervo-Cazurra & Dau, 2009a, 2009b; Dau, 2012, 2013, 2016;). The IB literature on the effects of institutions on BGs and their affiliates has received increased attention (e.g., Ayyagari et al., 2009, 2015; Chung, 2001; Chung & Luo, 2008; Hearn, Oxelheim, & Randøy, 2018; Kim et al., 2010; Yiu et al., 2014). However, research on BGs influencing and co-evolving with institutions has promise (e.g., Carney & Gedajlovic, 2002a), but is essential for a better understanding of "mesoeconomic structures" in different national economies and in the global economy. Ultimately, the survival of BGs around the world suggests that they possess enduring competitive advantages (e.g., Rajan & Zingales, 2003). However, what is good for General Motors need not be good for America, and what is good for a country's great BGs, or for their controlling owners, need not be good for social welfare in their host economies. The extent to which advancing the interests of a BG, or of its controlling owners, advances social welfare is perhaps the most fundamental question in BG governance (e.g., Khanna & Palepu, 2000). Explicitly recognizing time-inconsistencies about BGs could allow IB scholars to elevate their research to address such critical issues.

Second, BG-level research requires attention in IB. What constitutes good BG governance remains very much an open question in both the finance and IB literatures. What should efficient BG laws do? How should a BG's apex firm direct group member firms? How should the officers and directors of subordinate firms – listed or unlisted, domestic or international – conceive of their duty to the shareholders and stakeholders of their own firms and of their BGs? How should CEO compensation and career paths develop where CEOs are subservient to higher authorities in a BG? How are capital, labor, intellectual property, and other resources best allocated across BGs? How should a BG decide how much of each firm's earnings to retain, disburse as dividends, or reallocate to other group firms via tunneling? How should debt be distributed across BG firms? How should BGs make decisions about capital investment, especially in innovations and development of future capabilities? How should BGs decide on diversification, overseas expansion, and other key strategic moves? How should BGs manage cash holdings, inventories, or other policies that business school textbooks consider only in the context of freestanding firms? How do divergent BG structures – such as horizontal (Li, Ramaswamy, & Petitt, 2006), pyramidal (e.g., Perkins et al., 2014), and web (Lai, 1999) – differ across countries in terms of what constitutes good governance and control mechanisms? These questions invite international as well as interdisciplinary crowdsourcing of research efforts. IB scholars have home-field advantage in international crowd-sourcing.

We lack a theory of BG governance. Insights from how MNEs are governed (e.g., Verbeke & Greidanus, 2012) might be useful in developing this. Some analogies jump out, such as the three stylized types of BGs in Figure 1 roughly resembling the multinational coordination structures in Bartlett and Ghoshal (1990). Moreover, IB scholars'

extensive research on the complex control and coordination structures of MNEs (e.g., Cray, 1984; Doz & Prahalad, 1984; Epstein & Roy, 2007) might help clarify micro-level consequences for "subsidiaries" of meso-level BG objectives. Extensive research on political rent-seeking (e.g., Chen, Li, Su, & Sun, 2011; Morck & Yeung, 2004) might likewise clarify macro-level consequences of meso-level BG objectives. IB might help clarify what constitutes good BG governance.

The very extensive literature on MNEs, an IB favorite subject, has an extensive toolkit for studying transfer pricing or income shifting and related governance issues. Tunneling within BGs is much the same, but hides income from outside shareholders rather than tax authorities (Johnson et al. 2000; Faccio et al. 2010). IB is well-positioned to explore income shifting and has built a considerable literature.[24] For example, BGs might tunnel to shift income to affiliates in less highly taxed industries like MNEs might shift income out of high tax areas. The focus here is *governance*. Tensions surrounding income shifting in BGs might have echoes in MNEs and vice versa. BGs may incorporate and list affiliate firms separately to outsource costs of monitoring subsidiaries to tax authorities, regulators, financial analysts, and stock markets. However, more extensive income shifting renders outsourced monitoring less informative. This tension may favor outsourced monitoring where domestic institutions are better developed. A similar tension might operate internationally, perhaps mediated by host-country institutional quality and dimensions of institutional distance. Research into BG income shifting with alternative or multiple objectives and outcomes at the firm, BG and economy levels have great promise. Toolkits utilized in research for studying MNE resource shifting and institutional voids might be complements in illuminating these BG issues.[25]

Historically, BG income shifting is implicated in monopoly extension in the 1930s USA. A BG with an affiliate having monopoly power can shift monopoly rents to subsidize another affiliate's predatory pricing to create a second monopoly, and then repeat the exercise in a chain reaction of monopolization (Kandel et al. 2018). IB has a long tradition of research on MNE monopoly power and economic development.[26] Revisiting this while also considering monopoly power wielded by host-country BGs versus MNEs might be fruitful.

Third, as British novelist Leslie Poles Hartley wrote, "The past is a foreign country." IB research can benefit from historical comparisons as well as from cross-country comparisons at a point in time (Jones & Khanna, 2006; and others). IB scholars are well placed to exploit comparisons in both dimensions.

Fourth, IB might further study BGs' globalization trajectories. Useful IB work includes Aguilera et al., 2019; Yaprak & Karademir, 2010, and others. Most economics and finance research assigns BGs to countries. IB is well situated to explore internationalization at the BG level, as well as the firm level. Historical comparisons of internationalization trajectories of BGs and of unitary firms might deepen our understanding. Should BGs internationalize by internationalizing a member firm or by establishing or acquiring member firms in other countries (e.g., Mahmood, Zhu, & Zajac, 2011)? What markets should they internalize (e.g., Gaur et al., 2019)? Is the scope for internalization by BGs broader than for unitary MNEs? For example, should a group's success in internalizing dysfunctional product or capital markets at home allow it to do likewise in foreign economies at similar or earlier stages of institutional development (e.g., Cuervo-Cazurra & Genc, 2008)?

Fifth, more research is needed about how BGs affect and are affected by MNEs (e.g., Bucheli et al., 2019). Should MNEs compete or partner with host-country BGs? How should host-country BGs having captured control mechanisms that would otherwise constrain them (e.g., by including media firms, banks, or credit rating firms or by accumulating political influence) affect MNEs' strategies? How should host-country BGs respond to MNE entry? How might MNE entry affect BGs strategies (e.g., Perkins et al., 2014). How should these interactions change at different stages of home-country and host-country economic development?

These questions are all theoretical, but each has an empirical parallel, substituting "do" for "should." Neither set of questions are likely to have simple uniform answers. Corporate governance, corporate finance, and corporate strategy are all highly context-dependent, and BG governance, BG finance, and BG strategy are likely to be more, not less, complicated. IB is thus well poised to address these concerns.

At the economy-wide concern, BGs appear to be a predominant big business organizational form in many current developing economies and in the histories of developed economies when they were developing. Yet we know little about how BGs shape and are shaped by economic development.

As Robert E. Lucas (1988: 5) observed, "The consequences for human welfare involved in questions like these are simply staggering: once one starts to think about them, it is hard to think about anything else."

The seemingly inconsistent findings of the research efficiently sorted and categorized by recent surveys (Locorotondo et al., 2012; Colli & Colpan, 2016; Poczter, 2018; Carney et al., 2011, 2017, 2018; Holmes et al., 2018) suggest that context matters. Under what circumstances do large BGs promote economic development (Khanna & Yafeh, 2007) or rapid Big Push industrialization (Morck & Nakamura, 2007)? Under what circumstances do large BGs entrench hereditary elites and lock developing economies into Middle Income Traps (Morck et al., 2005)? Under what circumstances do large BGs fall away as market-supporting institutional development intensifies competition from freestanding firms? Under what circumstances are public policy interventions to break up large BGs social welfare enhancing? Under what circumstances can BGs stay on past their "best by" dates, and how does this alter their national economies' development paths?

Finally, BGs as mesoeconomic structures cause economic and societal changes and respond to institutional changes. Given interdependence in the evolution paths of BGs, development, and institutions, pertinent research questions and findings likely change over time. Changes external to BGs likely matter too. Institutional investors are gaining influence over policy and new technologies such as big data, smart contracts, and cloud computing are changing business and social behavior. Time-honored principles and frameworks can ground our understanding of these dynamics. We propose and illustrate how the familiar Coasean Theory of the Firm, with its market and hierarchical transaction costs and determinants, might help clarify the organizational boundaries and economic significance of BGs, and if the new wine is in new or old bottles.

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NOTES

[1]Changes in Swedish tax law may have been a major factor in lowering hierarchy transaction costs (Henrekson, 2017; Henrekson et al., 2020).

[2] These bodies of law are called Enterprise Law (e.g., Miguens, 2002) to distinguish them from Corporation Law.

[3] The Public Utilities Holding Companies Act, repealed in 2006, explicitly defined and regulated US business groups only in public utilities: electric power, natural gas, water, etc.

[4] This definition does not classify a collection of firms in diverse industries, all 100% owned by the same family, as a BG. Fully 100% ownership of multiple significant firms is likely to be beyond the private means of even the super-rich in all but the smallest and poorest economies. To become large, firms need external financing. So, a major common feature of BGs in diverse countries is control-enhancing mechanisms, primarily organizing firms into pyramidal groups, to let the controlling family mobilize household savings on a large scale without losing the control necessary to effectively internalize ill-functioning arm's-length markets. Furthermore, the existence of other owners essentially refers to that one controlling owner is dealing with multiple other equity owners and creditors whose interests are not necessarily aligned with the group. This is understood in most governance studies about groups. If all sub-firms are owned 100%, the left governance conflict is between the creditor in sub-company m versus the creditor in sub-company m. This consideration is subsumed in the more general definition we propose.

[5] Japan allowed a first dual-class listing in 2014 (Toshima, 2014).

[6] Since the National Socialist era, German banks have had proxy voting rights for small shareholders, so their role in corporate governance is unique (Fohlin, 2005).

[7] Other countries adopted analogous Mandatory Takeover Laws, but, without Britain's high level of merger activity, these were of little economic importance.

[8] The terms fallacies of composition and decomposition first appear in Aristotle's *Sophistical Refutations* (fourth century BCE), a volume in Aristotle's *Logic*.

[9] IB scholars often refer to time inconsistency as *obsolescing bargaining* (Vernon, 1971), a concept important in dynamic bargaining between MNEs and states (Ramamurti, 2001; Eden, Lenway & Schuler, 2004).

[10]IB has a research toolkit for studying parallel questions regarding MNEs bridging institutional voids. Much has been done. Recent work includes Kingsley & Graham (2017), Kim and Song (2017) and Pinkham and Peng (2017).

[11]See, e.g., Bertrand et al., (2008), Bae et al. (2002), Claessens et al. (2002), Ferris et al. (2003), Joh (2003), Baek, Kang, & Park (2004), Morck et al. (2005), Baek, Kang, & Lee (2006), Cheung et al. (2006), Kali & Sarker (2011), Perotti & Gelfer (2001), Larrain et al. (2019), and Siegel & Choudhury (2012).

[12]For example, Canada's Bronfman family controlled a pyramidal group by owning Broncorp Inc., which owned 19.6% of HIL which owned 97% of Edper Resources, which owned 60% of Brascan Holdings, which owned 5.1% of Brascan, which owned 49.9% of Braspower Holdings, which owned 49.3% of Great Lakes Power, which owned 100% of First Toronto Investments, which owned 25% of Trilon Holdings, which owned 64.5% of Trilon Financial, which owned 41.4% of Gentra, which owned 31.9% of Imperial Windsor Group (Morck, Stangeland & Yeung, 2000). Spending $10 million of Imperial Windsor's money on a jet for the family's use would reduce that firm's value by $10 million, Gentra's by $3.19 million (31.9% of $10 million), and the family's wealth by $304 (19.6% of 97% of 60% of 5.1% of 49.9% of 49.3% of 100% of 25% of 64.5% of 41.4% of 31.9% of $10 million).

[13]Quantifying hierarchy-supporting institutional development arguably originated in IB (Hofstede 1983). IB has developed considerable expertise using Hofsteder's power-distance and other hierarchical institutional strength variables (Hofstede 2006). Recent work includes Mahajan and Toh (2017), Cao et al. (2018), Maseland, Dow and Steel (2018), Tung and Stahl (2018), Kostova et al. (2019), and Dastmalchian (2020)

[14]A parallel discussion in IB pits internalization against diversification in MNE expansion, e.g., Rugman (1976), Agmon and Lessard, (1977), Caves (1982), Morck and Yeung, (1991, 1992), Kwok and Reeb (2000).

[15]IB posits that MNEs have a liability of foreignness because host-country institutions give domestic incumbents a home court advantage. Research into an analogous disadvantage of being outside an institutionally entrenched elite might likewise discourage domestic entrants unaffiliated with existing BGs. The reference is very long; some examples include: Caves (1982), Zaheer (1995) Luo and Tung. (2007), Johanson and Vahlne (2009), Bell et al. (2012), Baik et al. (2013), Lamin and Livanis (2013), Qian et al. (2013), Nachum (2015), Edman (2016), Coviello, Kano, & Liesch (2017), Håkanson and Kappen (2017), Mithani (2017), Vahlne and Johanson. (2017), Wu and Salomon (2017), Sojli and Tham. (2017), Sartor and Beamish (2018): Chen et al. (2019), and Vahlne and Johanson (2020).

[16]This view is discussed in many fields, economics, finance, political science, sociology. IB has long viewed institutions as shaped by lobbying power. See, e.g., Jackson and Deeg (2019)

[17]Research in IB has posited family connections and political influence as an unappreciated factor in firms' or BGs' decisions to undertake FDI (e.g. Miller et al. 2009; Arregle et al. 2019).

[18]Recent IB research into political rent-seeking regarding international expansions includes Sojli and Tham (2017), Hung, Kim, & Li (2018), Sartor and Beamish (2018), and Jackson and Deeg (2019).

[19]Recent IB work related to the phenomena includes Witt (2019), Lewin et al 2016, and Setyaningsih and Jayaprawira (2020).

[20] We leave g vague in the absence of theoretical work formalizing these concepts in business groups. This framework is similar whether the focus is on average market and hierarchy transaction costs in the aggregate or in a typical group. To save space, we focus on the aggregate.

[21] The average per market transaction costs conceptually could be a constant or even downward sloping in g. Yet, the less prevalent are business groups, the more freestanding firms do business with one another via markets, and thus aggregate market transaction costs are higher. Theoretically, a larger population of free-standing firms means more market alternatives; so average market transaction costs will decline in g. Without changing the theoretical outcome of our graphical model, we assume that the decline in average

market transaction costs is outweighed by the frequency of market transactions so that the aggregate market transaction costs is upward sloping in g. Our graphical model's prediction in optimal g only depends on that the hierarchical transaction costs rise faster than the market transaction costs in g.

[22]The Coasean comparison is between the cost of making a transacting on the market or within a hierarchy. We derive our graphical comparison of the total transaction costs of market exchanges versus exchange within groups from this format. The analytics in the following graphs is similar whether we focus on average market transaction costs and the transaction costs in a typical group hierarchy or their corresponding aggregate.

[23]See also Luo & Chung (2005) and Mahmood et al. (2017).

[24] See, e.g., Lessard (1976), Fowler (1978), Harris, et al., (1993), Desai et al. (2004), Curtis, (2008). Recent advances include Akamah et al. (2018), Foss et al. (2019), Gan and Qiu (2019), Hope (2017) and Kohlhase and Pierk (2019)

[25]See, e.g., Desai et al., 2004, Baker et al., 2008, and Antras et al., 2009.

[26]There are related to the general issue of economic development, which is arguably a "big" question motivating IB research (Buckley et al. 2017, Cuervo-Cazurra, Mudambi, Pederson, 2019; Dau et al., 2020; Hu et al., 2019; and Petricevic & Teece, 2019). Also, monopolization has a long history in IB stemming from the Dependency Theory (Prebisch 1950; Singer 1989), which has waxed and waned as IB developed. Recent studies include Berry et al. (2014); Cuervo-Cazurra et al. (2019); and Kano et al. (2020b).

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