The London School of Economics and Political Science

Varieties of Capitalism and Firm Performance in Emerging Markets: An Examination of the Typological Trajectories of India and Brazil

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Declaration

I certify that the thesis I have presented for examination for the MPhil/PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

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Abstract

The thesis extends VoC theory to both emerging markets (EMs) and firm-level corporate governance by explaining how market structures direct firm level competitiveness. The most competitive firms are those that follow the contours of capitalism in the domestic political economy. The thesis uses a Varieties of Capitalism (VoC) framework, though institutional differences between developed and developing economies require adaptation of VoC theory in an EM context. The thesis identifies a VoC pattern of complement formation based on the typological trajectory of the EM. A typological trajectory is defined as the complement structure negotiated by economic stakeholders as developmental state controls are withdrawn. The thesis will argue that countries follow different paths of capitalist development, which may not converge to a liberal market economy.

Empirically, the thesis uses a multi-level comparative case study of India and Brazil to test hypotheses about capitalist formation and firm competitiveness. India and Brazil share many similarities in their econoimic structures and liberalisation patterns yet have different leading seactors. In the first level of the case study, complement structures and stakeholder bargaining preferences are analysed within a comparative framework. In the second level, within country case studies of firm level corporate governance patterns test the link between market structuring and firm level incentives. The firms selected for the case study are from leading sectors in India (IT) and Brazil (banking). The firm level focus on a single sector makes it possible to control for a wide range of variables while analysing comparative differences in corporate governance across three case firms that exhibit varying levels competitiveness.

The thesis finds that EMs espouse typological trajectories, or developmental paths, that conform to either a Liberal Market Economy (LME), Mixed Market Economy (MME), or Coordinated Market Economy (CME) equilibrium. Indian complement structures exhibit a LME typological trajectory. In the Indian IT sector, firms converged to liberal corporate governance norms. And amongst the software firms, those with the most liberal corporate governance models performed best. Brazilian complements, in contrast, moved towards a MME structure after liberalisation. The strong influence of banking and its role as a leading sector are tied to the privileged and powerful position of capital in the domestic market. The differentiation between India and Brazil demonstrate the importance of market structures in understanding development trajectories as well as drivers of firm competitiveness.

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For those I have omitted, I apologise, but know your contributions are much appreciated. Thanks again to all those who helped make this endeavour possible.

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List of Abbreviations

ADR	American Depositary Receipt
AICTE	All India Council for Technical Education
AmBev	Americas' Beverage Company
ANBIMA	Associação Brasileira das Entidades dos Mercadores Financeiro e de Capitais
Banespa	Banco do Estado de São Paulo SA
BASF	Badische Anilin and Soda Fabrik
BMW	Bayerische Motoren Werke AG
BNDES	Banco Nacional do Desenvolvimento Econômico e Social
BNDESPar	BNDES Participações SA
BOVESPA	Bolsa de Valores, Mercadorias & Futuros de São Paulo
BPO	Business Process Outsourcing
BRF	Brasil Foods SA
BRL	Brazilian Real
BRIC	Brazil, Russia, India, China
BSE	Bombay Stock Exchange
BV	Banco Votorantim
CADE	Conselho Administrativo de Defensa Econômico
CAGR	Compound Annual Growth Rate
CEO	Chief Executive Officer
CIESP	Centro das Indústrias do Estado de São Paulo
CII	Confederation of Indian Industry
CLT	Consolidação as Leis do Trabalho
CMC	Computer Maintenance Corporation Ltd.
CME	Coordinated Market Economy
CNI	Confederação Nacional da Indústria
CPFL	Companhia Paulista de Força e Luz
CUT	Central Única do Trabalhadores
CVM	Commisão de Valores Mobiliários
CVRM	Companhia Vale do Rio Doce
DoE	Department of Electronics
DPE	Developmental Political Economy
EAESP	Escola de Administração de Empresas de São Paulo
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
ECIL	Electronics Corporation of India Ltd.
EM	Emerging Market
EOI	Export-oriented Industrialisation
EOU	Export-oriented Unit
FAT	Fundo de Amparo ao Trabalhador
FIESP	Federação das Indústrias do Estado de São Paulo
FDI	Foreign Direct Investment
FEBRABAN	Federação Brasileira de Bancos
FERA	Foreign Exchange Regulation Act
FGV	Fundação Getulio Vargas
FICCI	Federation of Indian Chambers of Commerce and Industry
FIESP	Federação das Indústrias do Estado do São Paulo
FS	Força Sindical

GDP	Gross Domestic Product
HCL	Hindustan Computers Ltd.
HME	Hierarchical Market Economy
HTC	High Tech Computer Corporation
IB	International Business
IBM	International Business Machines
ICL	International Computers Ltd.
IEG	Institute of Economic Growth
ILO	International Labour Organisation
IPE	International Political Economy
IPO	Initial Public Offering
ISID	Institute for Studies in Industrial Development
IT	Information Technology
JBS	José Batista Sobrino
JV	Joint Venture
LG	Lucky-Goldstar
LME	Liberal Market Economy
M&A	Mergers and Acquisitions
MME	Mixed Market Economy
MNC	Multinational Corporation
NASSCOM	National Association of Software and Services Companies
NSE	National Stock Exchange of India
OECD	Organisation for Economic Co-operation and Development
PCS	Patni Computer Systems
Petrobras	Petróleo Brasileiro
POSCO	Pohang Iron and Steel Company
PROER	Programa Estímulo à Reestruturação e ao Fortalecimento do Sistema Financeiro Nacional
PROES	Programa de Incentive à Redução do Setor Público Estadual na Atividade Bancária
RAET	Regime de Administração Especial Temporária
RBI	Reserve Bank of India
ROA	Return on Assets
ROC	Return on Capital
S&P	Standard & Poors
SCL	Semiconductors Complex Ltd.
SEBI	Securities and Exchange Board of India
SENAI	Serviço Nacional de Aprendizagem Industrial
SK	Sunkyoung Group
SME	Small and Medium Sized Enterprises
SOE	State-owned Enterprise
STPI	State Technology Park Initiative
TCS	Tata Consultancy Services
VoC	Varieties of Capitalism
VPar	Votorantim Participacões

Chapter 1 Introduction

1.1 Emerging Market Firms and the Domestic Economy

Large, competitive firms are pillars for sustained economic development because they coordinate factors of production. EM firms account for an ever greater proportion of the largest global firms (see table 1.1). The thesis explores the rise of EM firms to determine the factors that drive their competitiveness and/or market leadership. Competitiveness is defined along traditional firm-level metrics of revenues, market capitalisation, balance sheet size, creditworthiness, and/or profitability[1] (a highly profitable firm is competitive but a competitive firm is not always profitable because it may be subsidised, usually by the state). The sources of EM firm competitiveness are widely debated in the literature of economics, management, and international political economy. EM firms face institutional challenges that are different from those faced by firms from advanced economies: labour markets tend to be structurally flawed or informal, capital markets are notoriously short of capital, state interference adds a layer of bureaucracy and distorts demand, institutional change is rapid, and, even when those challenges are overcome, corruption can undermine corporate governance. The core research questions follow from this dichotomy of successful firms and itinerant institutions: *how do emerging market firms become competitive despite weak domestic institutions? What role do domestic institutions play in the formation of comparative advantage in EMs?* The answers to the research questions direct our understanding of the sustainability and future growth of not only EM firms but also of EM economic development.

Table 1.1: BRIC and EM Firms in the Fortune 500 and Forbes 2000 (2005 - 2014)

	2005 BRIC	2005 EM	2010 BRIC	2010 EM	2014 BRIC	2014 EM
Fortune 500	27	46	67	93	118	154
%	5%	9%	13%	19%	24%	31%
Forbes 2000	83	291	210	536	307	616
%	4%	15%	11%	27%	15%	31%

Sources: Fortune 500 (2006, 2011, 2014); Forbes 2000 (2006; 2011; 2014)

[1] Such metrics are commonly used to determine the relative size and competitiveness of firms. See for example Rugman 2009; UNCTAD 2006; Rugman 2005; Sklair and Robbins 2002).

According to economic theory, firms are profit-maximising entities that drive efficiencies to serve markets to which they have access. Economic theory dictates that firms can adjust operations to respond to perceived demands in the market (Hansen and Wernerfelt 1989). Consequently, in an EM context, the argument is made that firms become successful by "circumventing" domestic institutions (Luo and Tung 2007; Durban and Ng 2005; Peter and Grandes 2005). Such a monolithic view of the firm suggests that international market access, more than domestic macroeconomic stability, is the key enabling factor of EM firm competitiveness. Additionally, there is an embedded assumption in the economic literature that EM firms become globally competitive and develop export-oriented businesses after liberalisation (Chen and Tang 1987; Kreuger 1990; van Agtmael 2007). Empirically, however, EM firms often do not conform to theoretical expectations. Some EM firms were already industry leaders before liberalisation (e.g. Brazilian mining giant Vale, Indian IT firm Tata Consultancy Services, Korean electronics manufacturer Samsung, etc.), some exhibit unexpected state links (e.g. a wide range of Chinese MNCs, PetroBras, Vale), and almost all have operational links to the domestic economy. Furthermore, qualitative and quantitative evidence links domestic-level factors to firm competitiveness (Borenzenstein et al 2007; Peter & Grandes 2005; Hall and Soskice 2001). Such empirical inconsistencies challenge the notion that market access is a sufficient condition for firm competitiveness. Instead of relying on a monolithic view of the firm, the thesis will explore the connections between firms and the domestic political economy to discover how firms develop competitiveness in the context of inefficient institutions and translate domestic comparative advantage to global markets.

Inconsistencies that arise from relying on firm-level explanations of competitiveness can be overcome by also considering country-level explanations of comparative advantage.[2] The interaction between the micro and macroeconomy is at the centre of understanding firm and economic development. Varieties of Capitalism (VoC) literature explains why country-level factors are important and how country-level factors flow to firm-level competitiveness and vice-versa. VoC uses complement structures to explain the interaction between the microeconomy and macroeconomy.

[2] For a broader discussion of firm-level versus country-level advantages, see Rugman 2009 and Ramamurti 2009.

Complements are the negotiated outcomes of microeconomic actors that align firm inputs in capital and labour markets. The empirical outcome of complement structures is a sector-based pattern of firm competitiveness. Firms become more competitive in certain sectors because domestic market equilibria create comparative advantages and incentivise certain kinds of competitiveness.

VoC theory applied in an advanced country framework (Hall & Gingerich 2009; Hall & Soskice 2001) does not easily translate in an EM framework because of institutional deficits and rapid change (Schneider 2013; Hancké et al 2007). The thesis reconsiders VoC theory in an EM framework to determine causal factors of EM firm competitiveness. Contemplating patterns of EM firm success within a VoC framework produces a number of interesting questions that follow from the primary research questions. What role do domestic institutions play in the formation of comparative advantage in EMs? More specifically, in what ways and to what extent does coordination, or collective action, in the form of tri-partite agreements in labour markets and bank-based relationships in capital markets direct complement formation? As institutions develop, do these labour and capital market relationships break down? And finally, do the leading sectors and firms follow the capitalist typology of the market (or have they successfully circumvented domestic institutions)? By answering these questions, the thesis will discuss how VoC theory can be used in an EM framework and, consequently, how VoC can explain variation of firm competitiveness. The role of institutional change will be especially important to understand the dynamics of EM structures.

To answer the research questions I conduct a comparative case study on the two largest democratic EMs,[3] India and Brazil. The case study explores market structures at a macroeconomic level to answer the first three research questions. A second level, within country case study at the firm-level answers the fourth research question.

[3] The thesis takes the approach that democracy is an important pre-requisite for considering VoC typologies. Complement structures are either less likely to be directed by the state in a democracy, or, if they are, the mechanisms of control will be more transparent. In a non-democratic regime, the interaction of stakeholders will be more difficult to interpret and comprehend. While the original Hall & Soskice volume does not directly address VoC in non-democratic regimes, the implicit understanding is that the framework is developed in a democratic political system because of the implications for complement formation and the need to understand state-imposed coordination. Thelen's Chapter, Varieties of Labour Politics in Developed Democracies, in Hall & Soskice's volume is an example of the implicit democratic framework of VoC theory (2001).

A case study approach permits the researcher to work with a range of intervening variables in a defined context to more clearly link causality (George and Bennett 2005). Country-level case studies draw typological conclusions through comparative analysis of systems of capitalism (Hall and Soskice 2001; Hancké et al 2007). The firm-level cases add an element of process tracing to understand micro-function (see discussion Bennett 2010). The firm cases analyse the development of corporate governance standards across firms from leading domestic sectors to see how firms do and do not differentiate themselves. The mixed methods approach balances the more established methodological approaches provided by VoC theory/comparative political economy and firm-specific analysis anchored in process tracing (Brady et al 2010).

India and Brazil are interesting from a theoretical standpoint because of the similarities they exhibit: both economies were heavily state-controlled until the early 1990s; both economies were subject to transformative change after shock liberalisations in the 1990s after balance of payments crises; these are the largest democratic EMs[4]; and both economies have produced numerous competitive firms. Despite these similarities, the composition and sector-based patterns of competitive firms from each country is considerably different. Additionally, a comparison of India and Brazil is not without precedent in the literature (Kohli 2006; Sridharan 1996; Evans 1995). Although, the comparison is usually focused on the pre-liberalisation era, and the thesis considers both pre and post liberalisation dimensions of these economies.

The cases seek to expand VoC in two directions. First, as VoC theory moves towards a global application in EMs, I argue that, methodologically, it is necessary to conduct cross regional comparisons to differentiate between paths of capitalism and explain leading sector non-convergence. Oftentimes, the EM VoC literature focuses primarily on features of EMs in a specific regional context (see for example Schneider 2013; Nolke and Vliegenthart 2009; Carney 2007; Hancké et al; Amable 2003). Economies from the same region may share similarities which help define a coherent style of capitalism common to the region. For example, the commonalities of some post-Communist Eastern European countries create incentive to cluster those markets

[4] That both countries are democracies enables greater clarity on stakeholder preferences and complement formation.

(Nolke and Vliegenthart 2009) or, in the context of the current case, Brazil is oftentimes compared with other Latin American countries. The Brazil - Mexico comparison is common since those are the two largest Latin economies, though there are important differences between the two economies that should not be overlooked.[5] A cross-regional comparison of market typologies enables us to better decipher how emerging institutions may differ across regions and, consequently, how VoC theory can be contemplated in a more global context.

The second VoC related development of the thesis is to more clearly link VoC with economic development literature that explores political economy and the state. The role of developmental states and how state influence filters into industrial development is critical for both theories. Literature focused on the political economy of development (for which I use the acronym DPE - developmental political economy) seeks to explain how state institutions and developmental paradigms affect domestic market incentives (Chibber 2003; Johnson 1999; Aoki 1996; Wade 1990). Fundamentally, a key emphasis in the development literature not applied in VoC attempts to portray developmental states (see for example Nolke 2012) is that not all developmental states are created equal (Kohli 2006; Chibber 2003; Evans 1995). With a more comprehensive consideration of the political influence that developmental states have on complement structures, VoC can better define complement structures, especially in EMs.

The inclusion of South Korea in the VoC literature is a prime example of the importance of the aforementioned theoretical considerations. South Korea was not included in the original VoC measurements and framework (Hall & Soskice 2001) but was subsequently included in empirical investigations nearly a decade later (Hall & Gingerich 2009). Hall & Gingerich classify South Korea as a CME because of the coordinated characteristics of South Korea's capital and labour markets (ibid).[6] The

[5] For example, corporate governance and capital market structures, it can be argued, are different in Brazil and Mexico. In Brazil, public (including the outsized influence of BNDES) and domestic banks dominate whereas in Mexico, foreign banks have taken more market share (Stallings and Studart 2006). Such differences are an important factor in determining corporate governance incentives in the domestic economy. Broadly, ease of firm level access to capital markets differ in Brazil and Mexico (and Chile) (Zervos 2004), which affects firm level decision making and, in the long run, influences corporate governance (depending, for example, on the frequency of domestic versus international market issuance and the kind of investors that provide capital).

[6] See also discussion in Schneider 2008.

inclusion of South Korea suggests, at minimum, an institutional maturation process as the economy developed. South Korea is an archetypical example of an export-oriented "East Asian" miracle economy (Balassa 1988; World Bank 1993; Stiglitz and Yusuf 2001). Following the logic of VoC theory, cooperatively coordinated market structures provide comparative advantages in incremental innovation and consequently support South Korean manufacturing export-orientation. South Korea's leading sectors are manufacturing based (WTO 2012) and the most competitive firms globally are from those sectors (Fortune 2013; Forbes 2013).

What is interesting about South Korea is the role of the state in engendering complement coordination (Kohli 2006; Chibber 2003; Sridharan 1996; Moreira 1995). South Korea (and to a lesser extent Japan, as it was the first economy to assume an East Asian export-oriented model) demonstrates the overlap between traditional VoC approaches and developmental states in EMs (Hall & Gingerich 2009; Hall & Soskice 2001; Aoki 2001; Aoki 1996; Wade 1990). The contrast between South Korea and Brazil and India produces interesting questions because of the inability to easily classify Brazil and India in a VoC framework. And from a developmental context, South Korea's export success contrasts that of India and Brazil, despite the fact that all three countries had developmental state policies oriented towards manufacturing. Put simply, why India and Brazil failed to achieve the same level of development / manufacturing success and developed different leading sectors is empirically and theoretically interesting.

Just as a VoC approach in South Korea explains the manufacturing orientation of South Korea's leading firms, I, conversely, hypothesise that the lack of successful CME complement structures in India and Brazil explain why these countries were unable to achieve the same level of manufacturing competitiveness. The failure of India and Brazil to achieve export orientation despite having a relative labour endowment and having allocated considerable state resources to the manufacturing sector (Baer 2008; Amann et al 2006; Frankel 2005) would explain the failure of cooperative institutional coordination in these markets. Yet because of under-developed institutions, VoC categorisation of Brazil and India are challenging (see for example Schneider 2014; Schneider 2009a) - a challenge I believe the thesis helps to overcome.

To track the process of prospects for institutional change in EMs, I develop the concept of a typological trajectory. An inability to properly account for processes of institutional change is a common criticism of VoC theory (Crouch 2005; Blyth 2003). The static nature of the foundational VoC analysis, I argue, is partially a result of the nature of the complement equilibria achieved in advanced economies (i.e. why advanced economies have comparative advantages that make their firms globally competitive). The importance of institutional change is increasingly critical in the VoC literature that focuses on "non-conforming" economies. Non-conforming, or mixed market economies, are sometimes "advanced" (e.g. France and Italy) but are sometimes "emerging" (e.g. Central and Eastern Europe) (Hancké et al 2006). Differentiation between emerging and advanced economies relies on an interpretation of institutional change. Since economies exhibit trajectories of change when institutions are contemplated over time (Thelen 2014), a temporal approach in VoC can provide new insights about the relative "emergence" of non-conforming economies. The thesis, following on the heightened focus of institutional change in VoC literature, emphasises the importance of institutional maturity in EM VoC analysis.

After determining the typological trajectories of India and Brazil, I test the conclusions at the firm level to better understand the interaction between country-level factors and the firm-level factors. VoC literature is heavily focused on the firm but does not frequently conduct in depth case studies at a firm level. The politics of stakeholder bargaining and corporate governance will provide evidence of the influence of country-level factors. In India and Brazil, I select three firms from leading sectors with different corporate governance structures (that reflect different varieties of capitalism or varieties of corporate governance)[7] to understand drivers of firm competitiveness. I hypothesise that the leading sectors and firms of each market conform to the incentives defined by the structure of complements in the domestic economy.

[7] For a discussion of firm variation within a VoC framework see Hall & Soskice 2001. For a discussion of firm variation within a "varieties of corporate governance" framework see Gourevitch and Shinn 2005.

The failure of Indian and Brazilian firms to adhere to the export-oriented expectations of firm-specific theoretical approaches to firm competitiveness means that country-specific factors should also be considered. To contemplate the role of country-specific factors I take a VoC approach. Through a comparative case study of India and Brazil and, consequently, firm level analysis from leading sectors within those countries, I argue that firms follow the incentives set by the contours of domestic capitalism. The empirical evidence suggests that India's typological trajectory is that of a LME while Brazil's typological trajectory is that of a MME. And within the leading sectors of each market, we see that firm-level corporate governance patterns converge to the incentives dictated by the VoC patterns in the domestic economy. This is not to say that firms do not influence institution building as a bargaining stakeholder but that firms must also balance competitiveness with the constraints of the market. The finding emphasises the importance of institutions and how, by understanding typological trajectories, we can better understand processes of economic development. The implications are three-fold: institutional structures in EMs do not necessarily converge despite pressures of globalisation; VoC in an EM context should account for relative stages of development; and firms react to incentive sets defined by the domestic economy.

The remainder of the introduction is organised as follows: section 1.2 introduces the case selection of India and Brazil; section 1.3 considers the selection of leading sectors and firm-level cases; section 1.4 considers key questions that emerge from the comparative framework; and section 1.5 concludes.

1.2 Country Level Case Selection

India and Brazil form the basis of an interesting case study because they are the largest democratic EMs in the world and because there is precedence for comparative studies of these two nations (see for example Armijo 2013; Chibber 2004; Kohli 2004; Sridharan 1996; Evans 1995). [8] The similarities between these two markets provide the foundation for a most similar case design (Hancké 2009; George and Bennet 2005; Mill 1843). Both countries have legacies of state centred economic planning including state directed complement structures; both liberalised at approximately the same time after balance of payments/external debt crises; both are large, emerging democracies; both are regional powers with a strong population base; and both have developed sophisticated businesses (many of which compete globally). Most important, from a VoC perspective, the developmental states of each country sought to create tri-partite bargaining systems as a foundation for political economic interaction (Frankel 2005; French 2004). The centralised coordination in both countries led to political decisions that allocated fiscal resources to domestic industries in an effort to stimulate domestic manufacturing (Panagariya 2009; Baer 2008; Sridharan 1996). Despite these similarities, each country reflects differentiation in leading sectors which, as will be discussed, suggests divergence of country-level factors. India's leading sectors are Information Technology (IT), pharmaceuticals, and sectors traditionally associated with Liberal Market Economies (LMEs). Brazil, on the other hand, outperforms in natural resources and financial services.

Prior to liberalisation, both India and Brazil had state-centred capitalist regimes that directed the allocation of resources in the economy and directed complement formation. Both espoused a philosophy of import substitution industrialisation in an attempt to protect domestic industry and stimulate the manufacturing sector. Lavish subsidies were paid to key sectors and businesses learned to take advantage of the inefficient capital allocation. The system worked for a long period of time when the demands of growth were large, straightforward, and the costs of inefficiency

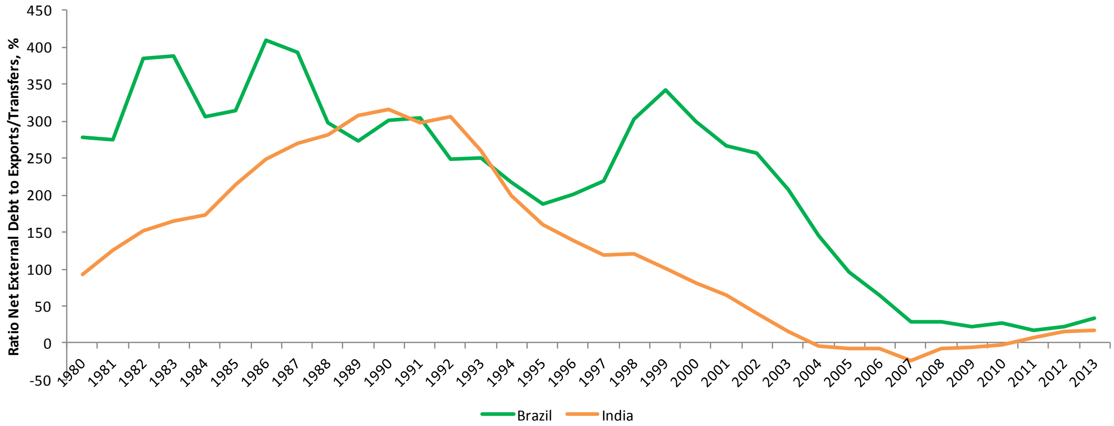
[8] Sometimes Korea is a third comparison. The thesis does not develop the Korean argument in a direct case study (with the exception of a high level review in Appendix B) for two principle reasons: the Korean development story is already discussed in considerable depth in the developmental political economy literature (see for example Wade 1990 and Amsden 1989 and more recently the edited volume by Walter and Zhang 2012); and Korea is already classified as a CME in VoC literature (Hall and Gingerich 2009).

relatively low. Sizable domestic demand helped these states indigenise industries, often through state-owned enterprises, thus providing a foundation for the development of large corporations.

Over time, however, the ability to direct funds became increasingly problematic as political divisions mounted. By the late 1980s, both economies faced considerable external debt / balance of payments challenges, exacerbated by fiscal imbalances as subsidies overwhelmed budget discipline. Investments no longer produced the returns necessary and much needed foreign capital became scarce because of capital flight, contagion, enforcement of capital restrictions, or, more simply, challenges stemming from debt sustainability. Figure 1.1 shows the net external debt position of India and Brazil relative to their net trade position. The ratio demonstrates the burden that accumulated in the domestic economy as external debt grew faster than the exports necessary for financing those debts. In the early 1990s both countries experienced a balance of payments crisis (see Baer 2004 and Panagariya 2009) and had to enter IMF programmes.[9] Subsequently, the state in both countries had to relinquish control (i.e. liberalise) because it could no longer afford to direct complements through capital allocation (Kohli 1991; Baer 2008).

[9] Balance of payment crises are distinct from bank based financial crises. The purity of the balance of payments crisis as being domestically driven is unique in the Brazilian and Indian cases because of their closed capital accounts. The bank based financial crises of East Asia in the late 1990s are different.

Figure 1.1: India & Brazil External Debt less Reserves to Exports and Foreign Transfers



Chronology of Key economic events

Brazil
1985: First of a series of economic reforms implemented
1988: Brazil adopts a new Constitution
1994: Real Plan successfully contains Inflation
1997: Asian Financial Crisis / Emerging Markets Crisis

India
1980: Indira Gandhi adopts business friendly economic policy
1984: Rajiv Gandhi extends Industrial Policies of 1980
1991: India enacts market oriented economic policies after crisis

*See discussions in Chapters 4 and 6

Figure 1.1 shows the external debt position of India and Brazil since 1980. The Key economic events highlight key political and economic events. Source: Banco Central do Brasil, Reserve Bank of India, World Bank.

After liberalisation, the state in both economies had considerably less influence directing domestic level complements. A lack of subsidies and political pressure to reform enabled economic stakeholders to more freely negotiate equilibria. The transition of the economies is visible in figures 1.2, 1.3, and 1.4 below. Institutional changes in capital and labour markets re-directed complement structures. Firms had to adapt accordingly. The thesis defines the movement from a centralised, state-directed coordinated economy to a new VoC as a typological trajectory.

Figures 1.2, 1.3, and 1.4 demonstrate the variance of national systems of capitalism over time. These figures replicate the efforts of Hall and Soskice's original typological analysis (2001) except the data is analysed in an EM context (for further discussion on data selection see Chapter 2). In addition to the point in time analysis conducted by Hall and Soskice, I add data points for individual markets, namely Brazil, India, and South Korea, at historical time periods (1990 and 2000) to test if processes of institutional change are apparent. VoC analysis of Brazil and India (and Korea) before liberalisation indicates a heavily coordinated system of capitalism. The heavy coordination is a function of the development state and centrally coordinated complements. The interesting outcome is the typological transitions of India and Brazil in subsequent time periods after complements gained increased freedom of coordination. India in 1990 (before liberalisation) had a level of coordination comparable to that of Japan and Thailand in 2010. Twenty years after liberalisation, the level of "cooperation" has declined precipitously, and the India of 2010 is most comparable to Mexico and Chile.

Figure 1.2: Indian Institutions across Sub-Spheres of the Political Economy over Time

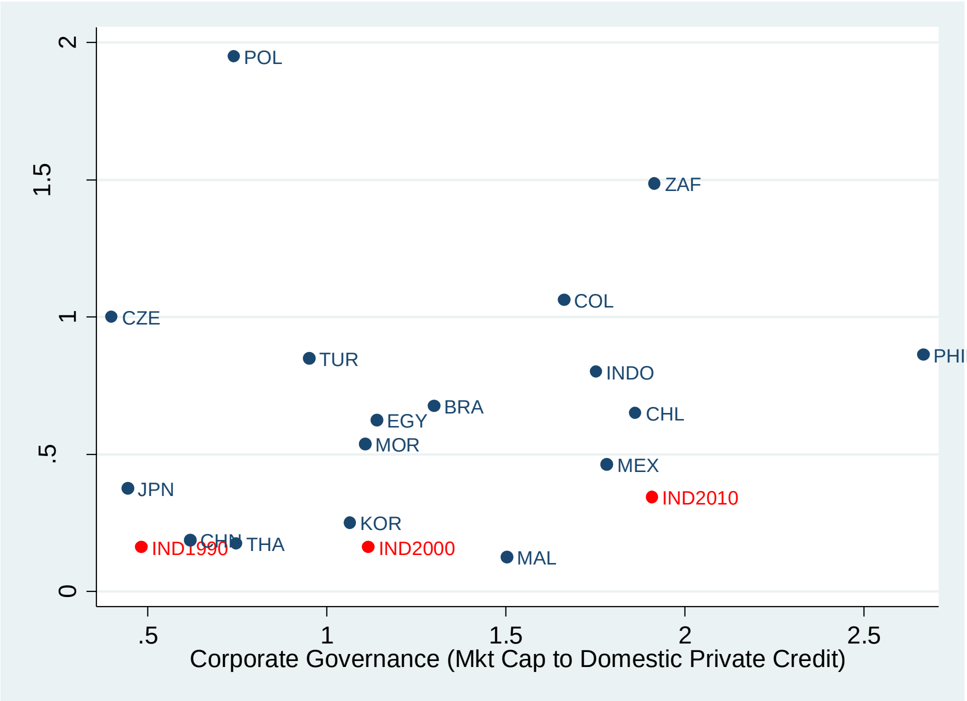


Figure 1.2 maps Corporate Governance Coordination (x-axis) against Labour Coordination (y-axis). Origin is heavily coordinated. Countries other than India are 2010. Sources: See Table 2.1

Similarly, Brazil in 1990 (before liberalisation) would be most comparable to the Czech Republic of 2010 in terms of labour and capital market "cooperation" (see figure 1.3). The Czech Republic is a post-communist economy that is considered to be a CME (Myant 2007; Vleigenthart and Horn 2005). The Czech leading sector, automobiles, is closely linked to the German auto supply chain, and exhibits characteristics of incrementally innovative technologies (Myant and Drahokoupil 2012; Myant 2007). Brazil twenty years later is more similar to Egypt, Morocco, and Turkey and is far removed from the Czech Republic.

Figure 1.3: Brazilian Institutions across Sub-spheres of the Political Economy over Time

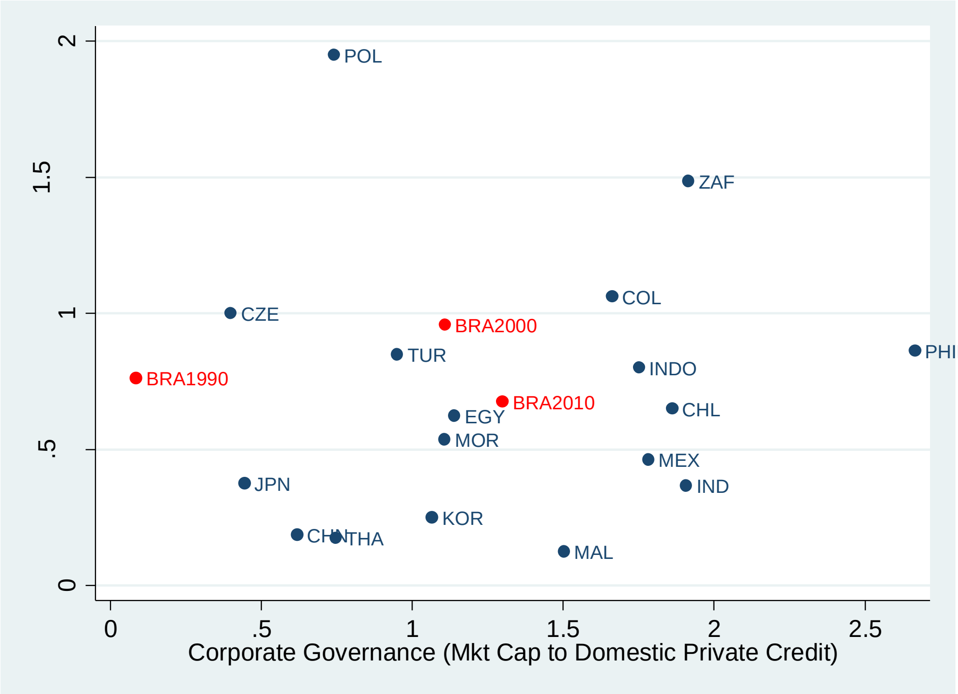


Figure 1.3 maps Corporate Governance Coordination (x-axis) against Labour Coordination (y-axis). Origin is heavily coordinated. Countries other than Brazil are 2010. Sources: See Table 2.1

In contrast to the movements of India and Brazil, Korea, a highly collectivised system with a CME categorisation (Hall and Gingerich 2009), remains anchored after twenty years (see figure 1.4). At a high level, the dramatic shifts of India and Brazil relative to the steadiness of Korea would suggest the relative success of developmental state policies in Korea (discussion in Appendix B). All three countries pursued various forms of manufacturing-oriented domestic policies pre-liberalisation (Evans 1995; Sridharan 1996; Chibber 2003), yet only Korea managed to develop competitive manufacturing firms. By contrast, Brazil and India suffered balance of payments crises and were forced to re-organise centrally coordinated markets, partially because of the unsustainable nature of fiscal transfers meant to support pre-selected domestic industries.

Figure 1.4: South Korean Institutions across Sub-spheres of the Political Economy over Time

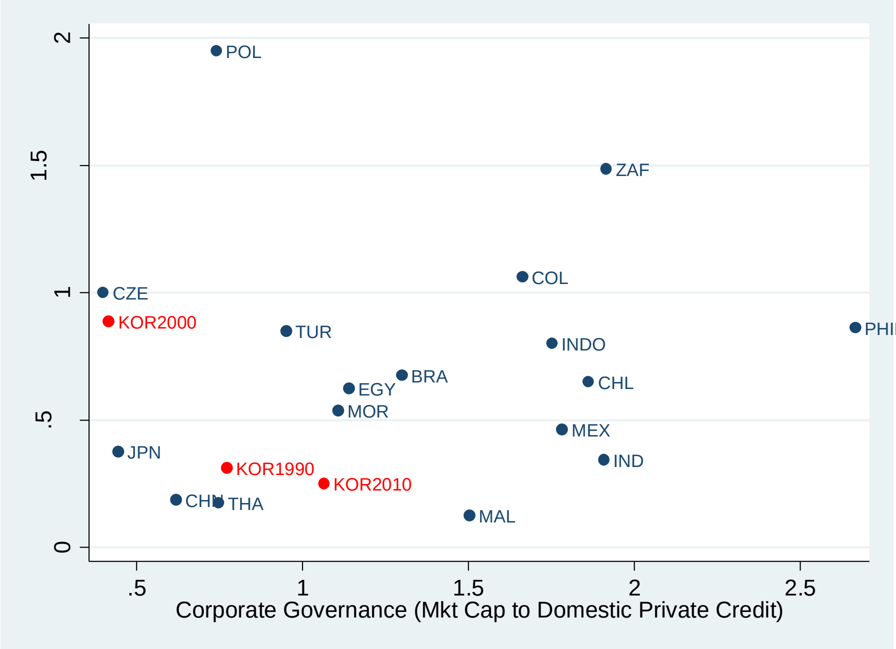


Figure 1.4 maps Corporate Governance Coordination (x-axis) against Labour Coordination (y-axis). Origin is heavily coordinated. Sources: See Table 2.1

The economic shifts in Figures 1.2, 1.3, and 1.4, I argue, is visible in EMs because of the rapid pace of institutional change.[10] Given the state-centric models of capitalism of India and Brazil, the transition of economic tendencies of stakeholders since liberalisation requires an analysis of institutional change in these markets. Liberalisation in a democratic polity enables an increased freedom in the economic expression of interests and, consequently, more efficient complements. The most competitive elements of the Indian economy, released from the shadow of the state, organised according to liberal market norms. In contrast, while Brazil pushed forward with private sector development, the implicit guarantee of the state became a more permanent fixture (i.e. Brazil became a mixed market economy).

The thesis argues that national systems of capitalism follow a "typological trajectory" as economies shift away from state-based coordination towards market-based coordination. The typological trajectory of markets may not necessarily all converge

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[10] Developed markets also evolve and change but usually because equilibria have been set, rapid change is less frequent. Economic crisis, however, can push for change - as we are seeing currently in many peripheral European Union markets in the aftermath of the Eurozone Crisis. For example, liberal reforms implemented in Spain include provisions for labour market flexibility and capital market function through banking regulation and insolvency laws (IMF 2014; OECD 2013). For more on the Eurozone debate and VoC see Hancké 2012 or Hassel 2014.

to a LME, as there are multiple equilibrium points. Advanced economies are much closer to equilibrium than EMs and therefore institutional change becomes a secondary analytical concern (which is arguably part of the reason why VoC is often criticised for being too static). Institutional change is critical to understanding EMs. The theoretical sections of the thesis further explore VoC in an EM context and define a framework to analyse typological trajectories.

1.3 Leading Sectors and Firm Cases

VoC literature primarily focuses on comparative elements of political economic structures at a macro level, but a firm level case study will more clearly explicate the role of VoC in microeconomic interaction.[11] The development literature uses multi-level case studies to link macroeconomic structures with the creation of industries or sectors (Levi-Faur 2004; Vogel 1996; Evans 1995). I similarly provide sector-based context but extend the analysis to investigate variance at the firm level. The case study focuses on firms from a leading sector in each economy. Observations at the firm level can uncover how corporate governance patterns evolve over time and what kinds of decisions firms take to remain competitive. I argue that patterns of corporate governance are linked to the domestic VoC and that this connection drives incentive sets, competitiveness, and performance at the firm level.

The literature defines a leading sector as one that drives innovation domestically, attracts capital investment, provides employment, and enhances growth (Reuveny and Thompson 2010; Chandra 2006; Kurth 1979; Rostow 1978; Currie 1974). Leading sectors create multiplier effects for the domestic economy by facilitating a dynamic feedback loop. In some cases the leading sector can be export-oriented but in other cases it can be domestically oriented. States can stimulate leading sectors by simply removing constraints and providing basic incentives (Currie 1974). Consequently leading sectors can thrive once state-based institutional constraints are removed (Chandra 2006). In a VoC context, leading sectors arise when complements are able to align efficiently.

The thesis uses leading sectors in the firm level case studies because of their empirical importance in domestic economies, their theoretical relevance in a VoC context (because of the sector-based patterns of competitiveness dictated by VoC theory), and to use an approach common to the development literature. The importance of leading sectors in the development process (Kurth 1979) has ramifications for complement structuring. Leading sectors have an influential role in complement structuring and state-firm relations because they are at the forefront of engagement with both the domestic and global market. Benefits accrue to leading sectors as investment

[11] This is not to say that VoC based authors have not published firm-level analysis (c.f. Hancké 2002) but that an exclusively VoC framework has not been used to analyse incentive sets at the firm level.

becomes more heavily concentrated and drives further innovation. From a case selection perspective, leading sectors provide a focal point of analysis. Case studies that focus on firms from a single leading sector are better able to control for unknown variables and therefore more directly test how different forms of corporate governance affect competitiveness.

A leading sector approach is preferred to a comparison of the same sector across countries. When the dependent variable is at the firm level, a number of methodological problems arise if you begin to try to analyse uncompetitive sectors, as would frequently be the case in a cross country - same sector approach. While it is important to analyse less competitive firms, there are limits in the ability to analyse uncompetitive firms. Firms and sectors that are not competitive, unless supported by the government, eventually cease to exist and this is a common problem when trying to conduct firm level comparative case studies. For example, consider the IT sector in Brazil and the banking sector in India, which are the reciprocal leading sectors. To consider IT in Brazil is problematic because of the lack of Brazilian IT firms that have developed competitiveness. IT in Brazil is one of the sector's with the fewest firms, no Brazilian IT firms factor into the top firms from a credit standpoint, and historical attempts to support the sector proved to be a failure (Valor Economico 2011; S&P 2011; Evans 1979). Alternatively, banking in India is biased by the fact that 75% of the sector is state-owned, the sector is highly regulated, and that none of the top Indian banks match the level of creditworthiness of Indian IT firms[12] (Adhikari 2011; S&P 2011). In fact, the lack of competitiveness of Indian banking is the focus of new reform efforts (Rajan 2013). The relative weakness of unsuccessful sectors is discussed in the analysis but not part of the case studies because of the limited information that can be derived from unsuccessful sectors about competitiveness and comparative advantages.

The case studies will provide more information if the comparison of firms is from within sectors rather than across countries. By selecting firms from leading sectors, it is more likely that an uncompetitive firm will continue to exist through a joint

[12] Note that Brazilian banks have the highest level of creditworthiness in the market and the relationship between public sector banks and private sector banks is distinct to that in India, which will be explained in greater depth in Chapter six.

venture, acquisition, or subsidy which therefore enables a cleaner comparison of corporate governance. Importantly, in an EM context, comparing corporate governance styles from firms within leading sectors usually also enables a comparison of publicly and privately influenced corporate governances so as to better determine the role and function of the state in the sector. As Porter notes, clustering is a common characteristic of successful sectors and helps the development of industry (1990). Porter's insight has relevancy for VoC analysis because it highlights the benefits accrued to leading sectors.[13]

As indicated in the introduction, the firm level analysis will rely on a combination of empirical metrics, corporate governance analysis, and process tracing. The aim is to understand not only the current tendencies of corporate governance but also the evolution of corporate governance. As firms from leading sectors are actively bargaining to defend their interests and complement preferences, they must also adapt to the macroeconomic environment to remain competitive. To the extent that firms conform to certain corporate governance standards and complement structures despite preferences for alternatives, it will be a clear indication of the dynamic VoC factors that drive competitiveness.

Leading Sectors & the Macroeconomy

Differentiation of leading sectors across economies and frequency of successful firms from a leading sector within individual economies are key insights that empirically demonstrate capitalist variation across markets. The following section will consider empirical approaches to identify the leading sectors of India and Brazil.

From a macroeconomic perspective, the most straightforward way to identify a leading sector is to understand the contribution to economic growth by the different sectors. In India, a sector-wise breakdown of GDP demonstrates that the Services Sector and, particularly, Financial/Business Services have had the fastest rate of

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[13] Porter's observation is a key point that IB literature often overlooks when analysing successful firms. For example, IB efforts to identify drivers of firm competitiveness are inconsistent because within country case firms operate in different sectors. Furthermore, IB theory continues to be challenged by the division between firm-specific and country-specific factors (Rugman 2009; Dunning 2001; Dunning 1980).

growth since liberalisation. The strength of business services and trade as opposed to industry and manufacturing is surprising because of India's apparent labour endowment and the considerable resources allocated by the state to industry. Likewise, a similar analysis indicates that financial and business services had the fastest rate of growth in Brazil, with Financial Services, specifically, growing at over 4%. The strength of financial services is surprising given Brazil's considerable natural resources. Table 1.2 shows the Compound Annual Growth Rates (CAGRs) of key sectors in each economy. The first approach of leading sector selection indicates business services in India and financial services in Brazil.

Table 1.2: CAGRs of Sectors in India and Brazil since Liberalisation[14]

	Agri-culture	Industry (incl. Mftg)	Constr-uction	Trade & Transport	Finance & Business Services	Other Services	GDP
India 1991-2013	2.81%	5.93%	6.78%	8.44%	8.58%	6.18%	6.31%
Brazil 1996 - 2013	3.63%	1.89%	2.55%	2.91%	3.73%	2.63%	3.08%

Table 1.2 is the CAGR of economic sectors of India and Brazil. Presentation of sectors is determined by data presentation of national sources. Both GDP are in constant prices in local currency unit terms. In the case of Brazil, 1996 is the earliest available date in the data source. Sources: Fundaçâo Instituto Brasileiro de Geografia e Estatística, IMF, Reserve Bank of India, Central Statistics Office

A second approach to identify a leading sector is through analysis of exports. To the extent that a sector exports globally, contributes disproportionately to economic growth, and, most importantly, is a source of innovation, then the sector can be considered a leading sector (Kurth 1979; Vernon 1971). Table 1.3 compares the exports of India and Brazil. Indian exports are concentrated in manufactures and commercial/business services. The level of commercial/business services exports in India (primarily comprised of IT) is an outlier. Further analysis within commercial services clearly identifies the IT sector as the primary driver of the export success (Reserve Bank of India 2013; Nasscom 2012a; Nasscom 2012b). Though Indian manufacturing exports are large (for India but not for a CME as we will later see in a comparison with South Korea), they do not demonstrate innovative capacities and the sector is too heavily fragmented to drive domestic innovation. Indian manufacturing exports are primarily comprised of low value products and jewellery (Ministry of Commerce 2012).

[14] Liberalising reforms in Brazil began in 1991 but substantive progress was not made until 1995 after the Real Plan had stabilised the currency and privatisation legislation as well as trade agreements were agreed (Baer 2008).

Brazil's exports are distributed across natural resources and manufactures. In the Brazilian case, a leading export sector is not easily apparent because of the lack of innovative drivers. Most Brazilian manufactured exports are from products that are built by foreign MNCs (automobiles for example) and shipped to neighbouring Latin American countries, as Brazil is a hub for regional production (Análise 2011; Schneider 2009c). Natural resource exports do require technological sophistication and levels of innovation but analysis of the sector is complicated given the dollar-based revenues of firms in the sector and their ability to source international technology, which contributes little to domestic development processes.

Table 1.3: Exports by Sector of Brazil and India

	Brazil	India
Agriculture	*29.6%*	7.8%
Fuels and Mining Products	*26.6%*	16.3%
Manufactures	*28.7%*	*42.5%*
Other Merchandise	2.6%	2.3%
Transportation Services	2.0%	4.0%
Travel Services	2.2%	4.0%
Other Business Services	*8.2%*	**23.2%**

Source: World Trade Organisation Data (2012)

The trade profiles of India and Brazil are particularly interesting in that sophisticated manufacturing is relatively weak, despite considerable state resources allocated to the sector (Kohli 2006; Chibber 2003; Sridharan 1996). Table 1.4 compares the export orientation of Brazil and India with that of South Korea. South Korea specialises in the export of higher value manufactures (Athukorala 2009) and has maintained corporate governance structures that exhibit the incremental innovation characteristics of CMEs (see discussion in Appendix B). The distribution of exports in Brazil and India demonstrates patterns that are distinct from other EMs; neither India nor Brazil has been able to duplicate the export success of CMEs like South Korea.

Table 1.4: Exports by Sector of Brazil, India, and South Korea

	Brazil	India	S. Korea
Agriculture	*29.6%*	7.8%	2.0%
Fuels and Mining Products	*26.6%*	16.3%	10.1%
Manufactures	*28.7%*	*42.5%*	**73.0%**
Other Merchandise	2.6%	2.3%	0.5%
Transportation Services	2.0%	4.0%	5.7%
Travel Services	2.2%	4.0%	1.9%
Other Business Services	*8.2%*	**23.2%**	6.9%

Source: World Trade Organisation Data (2012)

The macroeconomic, trade data identify Business Services in India and Financial Institutions in Brazil as potential leading sectors.

Leading Sectors & the Microeconomy

A third approach to determining a leading sector is by determining which sectors outperform based on the performance of domestic firms (i.e. in the context of the microeconomy). The same characteristics of a leading sector must be maintained: the sector must drive innovation, enhance growth, and play a disproportionate role in the domestic economy. Empirically, the best way to canvas a wide range of domestic firms is to cross-reference rankings and indices of domestic businesses. A variety of measures can identify successful firms. The most common metrics include market capitalisation, creditworthiness, liquidity, profitability, size of balance sheet, brand value, share of market, etc. [15] The indicator that provides the most insight is perhaps creditworthiness because it is a market-based metric that measures a firm's solvency across the widest range of metrics (Moody's 2008; S&P 2008a; Moody's 2007; S&P 2006). Combined, these metrics identify the most competitive firms in a market as well as those most likely to remain solvent in the event of a shock. The use of such metrics is common not only in the literature (see for example Rugman 2009; UNCTAD 2006; Rugman 2005; Sklair and Robbins 2002).

In India, the IT sector is again identified as a leading sector. IT firms are differentiated by their competitiveness (and consequently their innovative capacities), leading market capitalisations, contribution to employment, and influence in the domestic economy. The importance of the IT sector is empirically founded in an analysis of leading firms and sectors in India. First and foremost, indicators of creditworthiness clearly separate the IT sector, as of the four most highly rated firms in India, three of them are from the IT sector (S&P 2010; S&P 2009; S&P 2008). Looking more broadly at the corporate landscape, the IT sector differentiates itself

[15] Companies with the largest revenues provide services or goods that are in high demand and have dominant market shares. Revenues do not always equate to profitability, but to be one of the highest revenue firms in a market, some kind of operational longevity is required. Where profitability and firm size are inconsistent, state support is often the reason why. Balance sheet size is a measure of a company's assets, including property, inventory, and intellectual property. Market capitalisation is the value of the equity of a firm on the stock market. Revenue, profitability, and market capitalisation metrics are heavily correlated. Metrics tied to the balance sheet, such as assets and liabilities, can vary according to the sector in which the firm operates.

according to rankings of domestic firms. Indices from the Economic Times, Business Today, and Business World[16] show IT is a leading sector. Table 1.5 is a breakdown of the firms in the Economic Times 500, which is a representative index. Of the roughly 15 sectors represented, 50% of firms come from six sectors: natural resources, banks, infrastructure/development, IT, and pharmaceuticals. IT and pharmaceuticals are surprising outliers. IT, in particular, differentiates itself because of its unexpected leadership globally in technology, its innovative capacities, reliance on high skill labour, privately sourced capital, and private ownership.

Table 1.5: Top Sectors in the Indian Economy Based on Firm Performance

Sector	# in top 500	Foreign	Public	Private
Commodities/Diversified	73	-	18	55
Banks/Finance	62	2	30	32
Infrastructure/Engineering	31	4	3	28
Construction/Real Estate	29	-	2	27
IT	29	4	0	29
Pharmaceuticals	25	6	0	25

*Top 6 sectors represent 50% of firms

Source: Economic Times 2012

I briefly review the lack of innovative capacities and problems linking other sectors as "leading" in an Indian context (Appendix A provides additional detail on each sector, below is a summary). The commodity space is problematic because it is highly regulated, dominated by State Owned Enterprises (SOEs), and is heavily subsidised (Srivastava et al. 2003). The banking and financial sector, similarly, is state-centric with 75% of banks being state-owned (Adhikari 2011). Infrastructure/development is, by definition, a highly state-reliant sector in an industrialising economy. And, finally, real estate is part of the domestic development process and does not reflect technological or innovative sophistication. The prevalence of state ownership in most top sectors inhibits the free formation of complements (in fact, these sectors are targets of liberalisation reforms because the costs of continued state influence are becoming too great). IT and pharmaceuticals are distinct,[17] as their rise is distinct, unexpected in a labour-endowed market, and indicates progress in sectors that rely more heavily on disruptive innovation.

[16] All three are leading domestic periodicals that focus on economics and business, similar to Forbes and Fortune globally.

[17] Between IT and Pharmaceuticals, the IT sector is a better leading sector because of larger contribution to GDP (see earlier in the section), stronger innovative profile, and domestic level policy influence. The pharmaceutical sector in India is still highly focused on generics and is only beginning to move into drug creation.

In Brazil, the banking sector is the leading sector. Banking differentiates itself from other sectors because of its outsized influence in the domestic economy, leading market capitalisations, and efficient use of technology domestically. The importance of banking and financial services is empirically founded in an analysis of leading firms and sectors in Brazil. First and foremost, indicators of creditworthiness clearly separate the Banking sector, as banking and financial institutions have the strongest representation (S&P 2010; S&P 2009; S&P 2008). Looking more broadly at the corporate landscape, the banking sector again differentiates itself. Indices from Valor 1000, Exame Melhores and Maiores, and Melhores do Dinheiro[18] consistently rank the same sectors on top with banking/financial institutions near the top. Of the roughly 15 sectors, broadly defined, the top seven sectors account for 80% of the top 1000+ firms. The greatest proportion of highly ranked firms come from commodity-linked businesses (natural resources and agriculture), construction, consumer goods (including wholesale and distribution), and the financial sector (see Table 1.6).[19,20] Unlike other top sectors, the Brazilian banking sector is the only one not dominated by firms with foreign ownership, state ownership, or U.S. Dollar (USD) revenues. The Brazilian banking/financial sector has a highly influential role in the domestic economy and generates strong returns on capital (Cepeda et al 2011; DiMiceli 2010b; DiMiceli 2010c; Lazzarini 2011; Lazzarini and Mussacchio 2011). Additionally, the banking sector is a key driver of technology domestically (see discussion Botelho et al 2006; Botelho 2006; Botelho 1998; Evans 1995).

[18] All three are leading domestic periodicals that focus on economics and business, similar to Forbes and Fortune globally. For precedent literature on use of firm ranking indices, see discussion in Schneider 2009c.

[19] Service based firms are prevalent because of how they are classified in Exame. Many leading service firms are tied to other sectors (e.g. credit card companies) and do not reflect high value added innovation (e.g. postal service).

[20] The rankings only consider non-financial entities, but Exame does provide a comprehensive ranking of the top banks and insurers. Through financial statement analysis I am able to determine which banks and insurers would fall above the 1000th firm on each list. Bank and Insurance data were cross checked and verified with data from the Banco Central do Brasil as well as publications America Economica and Valor. Numerous annual reports were also reviewed to verify inclusion.

Table 1.6: Top Sectors in the Brazilian Economy Based on Firm Performance

VALOR 1000 Maiores Empresas (ed. 2011)		EXAME Melhores and Maiores (ed. 2011)	
Sector	Count	Sector	
Consumer	138	Oil/Gas/Petrochem/Energy	174
Oil/Gas/Petrochem/Energy	126	Consumer	172
Construction	116	Services	122
Finance	113	Wholesale/Transport	109
Wholesale/Transport	109	Banks and Finance	97
Agribusiness	106	Commodities/Steel	84
Commodities/Steel	106	Construction	77

Source: Exame (2011); Valor (2011)

I briefly review other sectors of the Brazilian economy (Appendix A provides more detail on each sector, below is a summary). Fundamentally, other sectors are discounted as leading sectors because of their reliance on commoditised markets or a lack of disruptively or incrementally innovative capacities that enable them to compete globally. Natural resources and commodity linked sectors are complicated because of dollar based revenues, natural oligopolies (or monopolies), tendency to create Dutch Disease, and because they suffer from state interference. In Brazil, for example, the state holds veto power over corporate governance decisions in key natural resource firms. [21,22] The consumer sector, while it is also highly ranked, is dominated by foreign-owned firms excludes the sector (Análise 2011; Schneider 2009c). Similar obstacles exist in the wholesale/transport and services sectors that exclude them as leading sector candidates. The strength of the consumer and services sectors in Brazil reflects macroeconomic imbalances in the Brazilian economy (namely the over contribution of consumption expenditure as a share of GDP, see Baer 2008). And importantly, consumer goods firms are also heavily dominated by foreign MNCs. As these sectors do not have strong domestic foundations, there is limited insight on complement structures that can be achieved.

In conclusion, through both macroeconomic and microeconomic approaches, there were consistent indications that IT in India and Banking in Brazil are leading sectors. As noted at the beginning of the section, four areas of influence distinguish

[21] Though it is worth noting that commodity linked firms exhibit patterns consistent with the typological trajectory of each market (Mohan 2005; Lazarini and Musacchio 2011; Ministry of Finance of India 2007).

[22] Additionally, history has repeatedly demonstrated that the benefits of capital inflows from commodity sales must still be channelled efficiently in a domestic economy to foster complement formation and avoid the natural resource curse, or Dutch disease (Frankel 2010).

characteristics of leading sectors: drives innovation domestically, attracts capital investment, provides employment, and enhances growth. Table 1.7 briefly summarises the local context of leading sector criteria. Greater detail on these sectors is provided in Chapters five and seven on Indian IT and Brazilian banking, respectively. The remainder of the section will review the empirical evidence for the outperformance of each leading sector based on macroeconomic and microeconomic perspectives.

Table 1.7: Indian IT and Brazilian Banking as Leading Sectors

	Innovation[23]	Capital[24]	Labour/Employment	Growth Influence
India IT	The IT sector is disruptively innovative because of the technologies used and products developed. The sector has led an information revolution in India and helped spawn a surprisingly advanced service based economy domestically.	The expansion of the IT sector was heavily driven by equity flows in the private sector. Indian IT firms have the highest market capitalisations outside of state owned enterprises. The IT sector attracts investment because of the high return on capital and strong profitability of the sector.	The IT sector has had the most rapid employment increase in India (Papola and Sahu 2012). The IT sector has also had wider employment impacts in related sectors through the creation of new industry and the service economy.	The IT and business services sectors have had the fastest rate of growth in India since liberalisation (RBI 2014). The benefits of the sectors growth have a multiplier effect on other domestic industries.
Brazil Banking	The Banking sector is one of the few that has tangibly provided technological advancement domestically (i.e without investing dollar based revenues). The impetus for the technology sources from domestic economic conditions and labour disruptions (e.g. Itaútec[25]).	Brazilian banking is heavily dominated by family capital. Brazilian banks, even public entities, have large market capitalisations. In Brazil there are not any leading sectors independent of state influence so the role of private capital is more difficult to differentiate. The performance of Brazilian banks in terms of capital return and profitability explain the outperformance of the sector.	The benefits accrued to labour are not entirely clear from a sector perspective. Key sectors of employment are tied to commodity linked sectors (ILO 2012).	Of the major industrial sectors in Brazil, the financial services sector has had the fastest rate of growth in Brazil since liberalisation (IBGE 2014).

IT in India and Banking in Brazil - Firm Selection

As noted previously, in each leading sector three firms are selected for the focus of the second level of the case study. The three firms are selected because of their market leadership and strong market position. The three firms will have distinct corporate governance styles, each representative of the three core typologies of VoC: fragmented ownership (LME); cross shareholder/ conglomerate corporate governance

[23] See discussions in Evans 1995 and Arora and Gambardella 2005.
[24] See discussion in the section Leading sectors and Market Share for empirical details on corporate performance.
[25] Itaútec is a subsidiary of Itaú created in the late 1970s to provide technology to the banking system. The focus of the firm is in retail oriented technologies that are at the core of domestic Brazilian bank businesses.

(CME); and state linked firms which are common in developmental and mixed market economies. Comparing the performance of the three firms with differentiated corporate governance styles will highlight the interaction between the emerging VoC and firm competitiveness.

Within the Indian IT sector, the three firms are Infosys, Tata Consultancy Services (TCS), and Computer Maintenance Corporation (CMC). Infosys and TCS are the two largest IT firms in India and are highly rated from a creditworthiness standpoint (Economic Times 2012; S&P 2010; S&P 2009; S&P 2008). Infosys is the publicly listed, fragmented shareholder firm. Infosys was the first IT firm to do an Initial Public Offer (IPO) and is a clear industry leader based on firm performance, revenues, profits, and creditworthiness. TCS is the cross shareholder/conglomerate firm as it is linked to the Tata Family Group of companies. The Tata group is arguably the most successful conglomerate in India and one of the few that thrived after Indian liberalisation. Both TCS and Infosys carry the highest credit rating across the entire Indian corporate landscape.

The challenge in the Indian IT sector is the selection of a firm with state ownership because no state-owned IT firms remain, which, as noted previously, is a major obstacle in firm-level analysis. CMC Ltd, while currently owned by TCS, is a prime candidate for the state-owned enterprise. CMC was the leading SOE IT firm in pre-liberalisation India and held dominant market share even after liberalisation. CMC made a name for itself by making the first overseas acquisition by an Indian firm when it acquired a U.S. firm based in Louisiana. CMC, however, was gradually sold to the private sector. The thesis will demonstrate how these three firms, with differentiated corporate governance origins, converged to liberal market norms to sustain competitiveness. The departure from conglomerate-owned and state-owned corporate governance structures towards liberal market structures would reinforce the finding at the macroeconomic level that India is on a LME typological trajectory. The success of Infosys and convergence of TCS towards a transparent, fragmented shareholder model relative to the failure of CMC (which used to be the industry leader) would also clearly signal the importance of conformance to national systems of capitalism. Perhaps more important is the conformance of other sectors, most notably the manufacturing sector, to the corporate governance precedents set by the IT sector (Sibal 2012b).

Within the Brazilian banking sector, as noted in the previous section, firms with distinct corporate governance structures are selected to compare performance. The Brazilian banking sector is highly concentrated. The top 6 banks (only five of which have traditional retail operations, with BNDES as the outlier[26]) account for approximately 80% of assets, deposits, and profits (Banco Central do Brasil 2012).[27] Banco do Brasil, as the largest state-owned retail bank, is the first case firm. Banco Votorantim is the largest privately owned bank, and its ties to the Votorantim Group of companies make it a compelling case firm. Finally, for the publicly listed firm, there are two possibilities, Itaú and Banco Bradesco. While both are, in effect, pyramidal ownership structures with controlling stakes held by families, Itaú is slightly more fragmented because it is split across two families as a result of the merger with Unibanco. Additionally, Itaú has demonstrated stronger proclivity for liberal market activities: its transformative merger with Unibanco, stronger market share in investment banking (see discussion in Chapter seven), and more active pursuit of foreign operations like the recent acquisition of a bank in Chile (Sreeharsha 2014). Interestingly, in a paradoxical conclusion to theoretical expectations, of the top banks, which include both state-owned and private enterprises, it is the private enterprises that have stronger credit ratings, and, yet, the corporate governance strategies of the three firms converged to a MME equilibrium. The importance of the state-firm relationship is critical in the Brazilian context. And like in India, the corporate governance patterns of the Brazilian banking sector are espoused in other sectors, which emphasises the leading sector role of banking in Brazil.

[26] BNDES will be discussed in greater depth in the empirical chapters on Brazil. BNDES is not a traditional bank but rather a state owned development bank.

[27] The concentration in Brazil contrasts markets like the US and Germany where banking is much more fragmented. In the US, a LME, regulators cap banks at 10% of assets. In Germany, a CME, then banking system is heavily fragmented and no single bank accounts for even 5% of credit distributed. In contrast the largest Brazilian bank accounts for a quarter of the deposits and the state development bank accounts for nearly all credit distribution in the domestic economy.

1.4 The Cases, Firm Competitiveness and Theory

Section 1.4 reviews alternative arguments that might explain differentiation of leading sectors in India and Brazil. The alternative theoretical approaches / explanations are determined to be insufficient. The second part of the section returns to VoC theory but emphasises the need to consider the role of the state in complement formation and institutional structuring because of the developmental context of the cases.

Alternative Explanations of Difference in a Comparative Context

Initially, differentiation between Brazil and India might lead to hypotheses predicated on a range of alternative explanations. Natural resource endowments and legal systems (including the influence of post-colonial legacies) are amongst the most commonly referenced variables used to explain differentiation across countries. The problem with these arguments is that they are not robust in a micro political economic context. The natural resource curse does provide a basis to explain why countries with natural resource endowments tend to grow more slowly and find it more difficult to move up the value chain (Sachs and Warner 2001), but the theory fails to fully explain firm competitiveness. For example, how do countries without natural resources compete in commodity-linked sectors? That India refines more oil than Brazil (even though India has to import oil), Korea exports more steel than Brazil (even though Korea imports iron ore while Brazil exports iron ore), and that Brazil developed sophisticated businesses in agri-business but India did not (Brazil has endowments in coffee, soya, and sugar cane while India does in cotton and jute)[28] are all unexpected outcomes which require a deeper understanding of the incentives that drive competitiveness. The composition of natural resource endowments is important (Isham et al 2005) but does little to explain firm level incentives.

A legal systems argument holds that post-colonial institutional structures and the construction of shareholder protections, based on either common law or civil codes, direct economic incentives (Beck et al 2002; La Porta et al 2000). A legal system on its own does not generate economic activity and competitiveness. Legal systems need to be considered in the context of the construction and implementation of the legal system because that is how it will translate into complement development and

[28] Data from MIT 2013, Observatory of Economic Complexity.

microeconomic behaviour. VoC theory emphasises that the structuring of legal norms is also part of the negotiation process inherent to complement structuring (Hall & Soskice 2001; Casper 2001; Teubner 2001). As Casper highlights:

> "...the relationship between the character of laws and patterns of industry co-ordination within a society is *co-determined* (emphasis mine). While laws strongly shape the strategic decisions of firms, in Germany the decision by firms to engage in non-market forms of coordination is also influenced by the existence of economic institutions that dramatically lower the cost of non-market coordination. As a liberal market economy, the United States lacks similar economic institutions, making non-market forms of coordination costly to firms...German courts effectively employ regulatory contract law doctrines based on social market economy norms that are routinely dismissed by US legal experts as untenable" (p388, Casper 2001).

In the context of EMs the importance of institutional change and the formation of legal norms are especially important. Rajan and Zingales clearly demonstrate that legal systems lose their explanatory value over time because institutional frameworks evolve as stakeholder negotiation redirects norms in the domestic political economy (2003). Whilst legal systems do affect the formation of complement equilibria, one cannot rely on a static interpretation of laws in a dynamic institutional environment. For example, Rajan and Zingales point out that common law systems were not necessarily inclined to be more financially developed historically (ibid). A specific example in the context of the thesis is the case of Brazil. The Brazilian labour movement had an opportunity to redefine the legal framework and labour code when the Constitution was redrafted after the military dictatorship, yet labour interests opted to retain pre-existing labour codes and legal precedents (see discussion in French 2004). The lack of change in Brazil contrasts India where state based regulations were unwound first in the 1980s and subsequently in the 1990s (Frankel 2005; Rodrik and Subramanian 2004). Since legal systems and their implementation are not static over time, the microeconomic interaction of stakeholders becomes a central explanatory consideration.

An alternative to an endowment based theoretical framework is a framework built around politics and the power of the state. State-directed capitalism is widely explored in both economic and political economy literature. The argument is that the political influence of the state, through a willingness to prevent failure and provide backstops or guarantees, enables firms to outperform (Durban and Ng 2005; S&P 2006). Firms with explicit or implicit state backing can either operate less efficiently or take greater risks than they would have otherwise been able to do. The state intervenes in firm operations when the firm is strategic to state interest. The state's influence is easily visible in firm performance through market based indicators, most specifically through indicators of creditworthiness (Borenzenstein et al. 2007; Peter & Grandes 2005; Ferri & Liu 2003; Peter 2002; Ferri, Liu & Majnoni 2001). The challenge, where the economic literature fails to provide a coherent explanation, is the paradox of why some SOEs are more successful than others. For example, Brazilian SOEs are far more successful than Indian SOEs. Indian SOEs lag their private sector peers (Mohan 2005; Majumdar 1996) and fail to demonstrate global competitiveness and credibility (Forbes 2011; S&P 2011). Brazilian SOEs, in contrast, have a much more mixed record (Lazzarini and Musacchio 2011) but have achieved a much higher level of global competitiveness/credibility (Forbes 2011; S&P 2011).

How state authority influences the firm and is transmitted to the domestic economy is contemplated in the developmental political economy literature. A benign interpretation of state intervention is presented by Johnson who demonstrates how the state directed technology policy in the development of Japanese industry (1982). Wade, similarly, in his case study of Taiwan, specifies how the state supported the development of export-oriented industries (1990). Other governments use firms much more specifically. Banks, for example, can become part of the political business cycle (La Porta et al 2000; Dinc 2005). In an effort to understand the different styles of state intervention, Kohli analyses the varied power structures of developmental states (2004). Kohli finds four varieties of state intervention in Nigeria, Brazil, India and South Korea. Once a developmental model is established, interests align to the existing framework and fight to maintain such a network to minimise the costs of creating a new market model (Morgan 2005). Over time, however, state control of economic complements oftentimes leads to a misallocation of resources. As Evans and Chibber show in their review of developmental states in India, Brazil, and South

Korea, market function is not exclusively the product of government dictate but is rather a function of the interaction of stakeholders (2003; 1995). The consistency between government policy and complement tendency therefore plays a role in a firm's ability to operate efficiently because it affects how firms access resources.

The challenge then becomes to understand why some countries benefit from developmental intervention and why other countries do not (and experience a misallocation of resources). Shirley asks exactly this question and argues that the variation is a function of political readiness, defined as willingness by stakeholders to bear the costs of reduced power, closure of services, higher initial costs/lower prices (i.e. removal of subsidies), and/or job losses (1999). Political readiness is not really a function of willingness but rather a question of the distribution of power. Entrenched stakeholders will not willingly accept the costs of "privatisation" unless economic (through financial crises, for example) or political forces compel them to surrender to the costs. Varieties of Capitalism (VoC) theory provides a relevant framework because of its emphasis on the political dimensions of economic relationships and a basis to empirically analyse stakeholder bargaining.

VoC and the Comparative Context of India and Brazil

India and Brazil represent two cases where developmental state coordination failed to drive expected economic outcomes. Both countries sought to trace the "coordinated" developmental patterns of export orientation but instead faced balance of payments crises. The cases are framed in a VoC context because of the need to understand the development of complements after the diminution of centrally coordinated economic activity. A clearer identification of the formation of complement structures in India and Brazil will provide a more adequate and comprehensive explanation of how capitalist typologies affect microeconomic interaction.

Specific to VoC theory, a comparison of India and Brazil provides new perspective that can advance the relevance of capitalist typologies to new markets. India is rarely considered in a VoC context which means that an analysis of India, one of the world's largest countries, needs to be more adequately considered in a VoC context. Brazil has been more frequently contemplated in a VoC context, but the empirical findings suggest that structural deficiencies in Brazilian institutions make it difficult to reconcile the market structure within a purely LME/CME framework.[29] Furthermore, India and Brazil in a comparative context are interesting because of the cross-regional aspects of these two economies. As VoC theory is developed in a more global context, there will be an increasing need to conduct cross-regional analysis to broaden the empirical relevance of the theory. The thesis will posit three theoretical conclusions that follow from the core research questions about market structures and typological trajectories.

First, not all markets converge to a LME. The cases of India and Brazil show that differentition in capitalist typology lead to divergent outcomes relative to each other and South Korea, which VoC categorises as a CME. While India may still benefit from labour cost arbitrage in low cost manufacturing in its near future, India's institutions do not exhibit the same levels of coordination of a CME that would enable competitiveness in incremental innovation (i.e. akin to South Korea, where stakeholder bargaining reinforce complement structures). Furthermore, Brazil, which produces further along the manufacturing value chain than India, retains mixed market characteristics. Brazil demonstrates neither LME characteristics, as theories of globalisation might expect, nor CME characteristics similar to the example of South Korea. The divergent trajectories of India and Brazil are an important perspective for both the VoC debate and the development political economy debate.

Second, the relative level of development of a country matters when a VoC approach is contemplated. Brazil's institutions are arguably more mature than India's because of Brazil's relatively advanced stage of development. Brazil initially industrialised in the 1950s and the standard of living in Brazil is considerably higher than that in India (World Bank 2013; Panagariya 2008; Baer 2008; Frankel 2005). Meanwhile India is still in the middle of its industrialisation process and continues to grapple with extreme poverty. These differences affect institutional operation, and stakeholder bargaining. Arguably, Brazilian institutions are closer to capitalist equilibrium than Indian institutions. Therefore comparisons between India and Brazil need to account

[29] Schneider, for example, creates a new typology, heirarchical market economy (HME), to classify the Brazilian variety of capitalism (2014; 2009a). While I do not disagree with the HME categorisation, I later argue that given the global context of the analysis, it is sufficient to consider Brazil as a MME.

for such differences, especially when contemplating institutional change, a hypothesis that is empirically demonstrated in the thesis.

Third, firms, whether private or state-owned, react to the contours of capitalism in the domestic political economy. Firm-specific factors are not usually considered in VoC, but such analysis more conclusively links microeconomic behaviour with macroeconomic structures. While the importance of the firm is emphasised in VoC literature, the intricacies of corporate governance are not explored in the literature. Yet corporate governance behaviour is the ultimate test of the longevity of domestic market structures because a firm, to remain competitive, will need to react to the forces of the market. While firm decisions contribute to the stakeholder bargaining process, if a firm does not shape its corporate governance according to the demand structure of the domestic market, it will lose competitiveness. Therefore corporate governance convergence at a firm level, within countries, is an important finding that provides insight into the relationship between microeconomic actors and macroeconomic institutional structures. In the Indian and Brazilian cases, I trace the corporate governance patterns of three companies that began with different corporate governance structures. In both cases studies, firm corporate governance converged to a single market typology, liberal in the case of India and mixed market in the case of Brazil. Importantly, the convergence was not to a state-linked or coordinated typology as one might expect in a state-centred developmental state or export-oriented coordinated economy.

While the political economic trajectories of India and Brazil share many similarities, there appear to be key differences in the typological trajectories, or complement structures, of these two markets. The differences between the two markets are an important finding. National systems of capitalism are a reflection of the political and socioeconomic bargains that are agreed by the domestic polity for economic interaction. Where both labour and capital markets act collectively, economic interests can set long-term horizons and build asset-specific expertise that lead to firm expertise in incremental innovation (i.e. sophisticated manufacturing). Where both labour and capital markets are characterised by a lack of collective action, then economic interests tend to have short-term time horizons and focus on disruptive innovation. In between are systems where either capital or labour markets are characterised by collective action while the other market is not.

1.5 Summary

From a distance, many of the similarities between Brazil and India – prevalence of SOEs, labour laws, underdeveloped capital markets, and institutional instability – suggest commonalities, characteristic of developing countries. However, when the details are highlighted in a comparative context, we see how different these two markets are. There are differences in how firms drive productivity in the microeconomy, how complements are and are not formed, and how typological trajectories may not always converge to liberal market norms. The need to understand market dynamics from both a microeconomic and macroeconomic level is critical to understanding the structures of an economy. The contrasts of India and Brazil are important because they highlight how much of an effect the VoC has on the competitiveness of firms and economic development. Since liberalisation, the Indian economy has moved towards a LME while the Brazilian economy remains structurally mixed.

The primary research aims of the thesis are to determine capitalist typological trajectories and why the most competitive EM firms differ across markets. VoC provides an analytical basis to link domestic political economic institutional structures with firm performance. Economic and political explanations fail to explain why firms in the same sector perform differently across markets. An institutional/VoC approach, however, clearly demonstrates the importance of incentives and institutional structures for firm competitiveness.

Broadly, the empirical findings show that firms are not exclusively the products of hyper-globalised markets. Firms cannot exclusively operate outside of the structures and constraints of the domestic economy. Rather, firms consistently exhibit distinctly local characteristics and patterns. To use basic examples, Indian firms developed sophistication in software management and pharmaceuticals, Brazil in banking, agriculture and commodities, and South Korea in electronics and automobiles - these divergences would suggest India may have competitive advantages as a LME, South Korea as a CME, and Brazil as a MME. The variation, in a developmental context, is unexpected because all three countries pursued state-based macroeconomic strategies aimed at stimulating the development of domestic manufacturing industries. Of the three, only South Korea achieved global competitiveness in sophisticated manufacturing. The link between firm competitiveness and VoC is an important one because it better deciphers the source of competitiveness in EMs which would re-assert or undermine many of the "development" policies that continue to be implemented by state-centric developing economies.

The thesis will argue that the patterns of firm success in the Indian and Brazilian market reflect the incentive sets faced by firms in the microeconomy, a result of differences in each country's typological trajectory. I hypothesise that India's economy is driven by a developmental state in transition towards a LME while Brazil's economy is characterised by a developmental state cum institutionalised interventionist state, or MME. Indian IT firms were able to establish liberal market corporate governance norms before liberalisation and reinforced their strengths after liberalisation. Arguably, these firms were able to innovate disruptively. In contrast, Brazilian banks took advantage of weak anti-trust enforcement and poor minority shareholder protections to build highly conservative, protected, domestic businesses. The lack of innovative sectors originating in Brazil and state-influence would explain why banking is at the apex of domestic industry.

Differences at the firm level are the result of differences in complement tendencies. The thesis will show how labour and capital markets have varied equilibrium sets in each country. Brazilian labour markets are constitutionally codified with highly specific corporatist foundations. The prerequisite collective bargaining necessary for such laws to be functional, however, are largely absent. Rather than engage in collective bargaining with business interests, *sindicatos*, where active, tend to organise around strikes and/or political activism to drive change. The Indian case is similar in that labour movements tend to be highly politicised and striking is not uncommon. Key differences, however, are present in the flexibility of labour markets. Indian labour is heavily fragmented across not only firms but also states. Individual skills are highly valued, as firms seek to hire the most talented individuals and train them. Unskilled labour, more frequently than not, operates in the informal economy because of the restrictiveness and ineffectiveness of Indian labour laws. Most importantly, India has set a precedent of excluding certain sectors from the dirigiste labour laws and frequently extends these amnesties to other sectors. While both systems have corporatist origins, microeconomic coordination and function varies dramatically.

Differences in capital markets are more pronounced. Ironically, while Brazil is the country that has fully liberalised its capital account, it is India, with a partially closed capital account, that has the most dynamic capital markets. BOVESPA, the primary Brazilian stock exchange, is highly concentrated amongst a select set of key firms and has major deficits in corporate governance standards (DiMiceli 2010a). India, in contrast, has two stock markets the size of BOVESPA and many more regionally; furthermore, Indian stock markets are extremely liquid, even more so than U.S. markets when measured in transactions (Allen et al 2007). Indian laws and regulatory frameworks do a better job ensuring rights for minority stakeholders and transparency, respectively. Weak minority shareholder protections because of weak laws and poor regulation are at the heart of the problem of investment in Brazil, which affects both equity and credit investments. As a result, Brazilian bond markets are also poorly structured and Brazilian banks will only engage in short term lending (tenor less than three years) without government guarantees (Lazzarini and Musacchio 2011; personal interviews). The Brazilian development bank dominates the distribution of corporate credit (Lazzarini and Musacchio 2011). Otherwise, four key banks dominate the consumer market. The Indian banking sector, in contrast, is highly fragmented (Mohan 2013). The state plays a role but does not direct lending. Rather, the state is an owner of 75% of the banking sector, which helps SOEs but does not prevent private sector banks from making their own credit decisions (in Brazil even private sector banks rely on state guarantees to make loans to companies). The differences across capital markets affect how firms finance and govern themselves.

Furthermore, the thesis will show that the propensity for change is also very different across the two markets. While both were forced to liberalise after IMF interventions in the early 1990s through sector-specific carve-outs, the direction of developmental state intervention in each market differed. SOEs provide a clear example of difference. Brazilian SOEs represent the largest, most competitive firms in many sectors, with Vale and Petrobras at the apex (Lazzarini 2011). India's SOEs, by contrast, are frequently outperformed by private sector competitors (Mohan 2005). In fact, many sectors have multiple SOEs (i.e. India does not actively promote national champions in the sense that Brazil does). Many Indian SOEs have divested shares and done so while ensuring minority shareholder rights are protected (Ministry of Finance 2007). Brazilian SOEs, in contrast, make ready use of cross shareholding or hold golden veto shares (Lazzarini 2011; DiMiceli 2010a).

The centrality of the government in Brazilian business moves beyond developmental state considerations (relative to India where rural development, poverty alleviation and agriculture remain central to state policy-making). In Brazil, directed state influence/intervention infiltrates both public and private stakeholders. The political influence in regulatory affairs is difficult to measure empirically but direct links have been established through financing mechanisms, namely via BNDES (the Brazilian National Development Bank or Banco Nacional do Desenvolvimento). Nearly all long term capital in the Brazilian market is channelled through BNDES which gives the development bank considerable control over disbursements (Arbix and Caseiro 2012; Lazzarini 2011; Di Miceli 2010b; Di Miceli 2010c). Additionally, the relationship between market actors and regulators is hazy. Regulatory agencies like CADE (the Brazilian anti-trust regulator or Conselho Administrativo de Defesa Econômica) are unable to enforce anti-trust regulation. Reliance on non-market mechanisms is a result of dysfunction between microeconomic stakeholder constructions and macro political economic bargaining - unlike in a CME where non-market coordination drives efficient complement structuring. Consequently, the Brazilian complement dystopia requires state intervention to enable firm growth via non-market mechanisms. Brazil relies on the creation of national champions, supported by the state, to create internationally competitive firms.

At the firm level, in both India and Brazil the thesis finds that corporate governance standards converged to the contours of capitalism in the domestic market. In India, liberal market norms prevailed despite heavy resistance from state owned enterprises and mixed structure hierarchical conglomerates common of a MME. In Brazil, mixed market structures, cross shareholding, and pyramidal schemes took precedence over state owned corporations and new innovative firms trying to establish liberal market norms. The behaviour of firms is an important dimension of VoC and institutional change often overlooked in the literature. The convergence process took time as firms sought to establish different conventions of corporate governance in the macroeconomy, but over time individual firms still had to follow the contours of national capitalism to remain competitive.

The remainder of the thesis is organized as follows: first, a theoretical discussion of VoC and developmental states. The aim is to demonstrate how EMs fit into a VoC framework, and to clarify how developmental states affect the institutional equilibriums of a market. The theoretical section spans two chapters. The first theoretical chapter, chapter two, summarises VoC theory and how it can be amended in an EM context. In the second theoretical chapter, chapter three, I provide the theoretical basis for typological trajectories and EM firm analysis. To achieve this, I explore the origins and application of developmental state coordination. I introduce the concept of a typological trajectory, which can lead to a coordinated, mixed, or liberal market economy. The path taken depends on the level of collective action present in negotiations between labour and capital. The transition from a developmental state, which is naturally coordinated from the top down in the public domain, to a VoC typology that is inherently negotiated bottom up and organised in the private domain, can be challenging or relatively straightforward depending on the type of emergent VoC. Additionally, the shaping of market structures is part of a dynamic feedback loop where by interests actively negotiate complements. Market structures are first defined by the levels of collective action manifest in capital and labour markets, and then are reinforced by the influence of successful and competitive firms. The theoretical discussion sets the stage to explain how EM firms drive success by reacting to incentives defined by market structures.

Consequently, I test the hypotheses in two case studies, one focused on India and the second on Brazil. The Indian case study begins with chapter four. Chapter four is an analysis of the incentive set created by country-level factors in the Indian market. The chapter traces the development of complements across labour and capital markets as well as the processes of institutional change in India. After defining India as LME because of the competitive tendencies that mark microeconomic stakeholder interaction, I move into chapter five, which studies IT firms. The IT firm chapter discusses the development of a disruptively innovative sector in a market historically dominated by a developmental state. The success of the IT sector results from the ability of leading IT to adeptly shape the feedback loop that structures complements in the Indian economy. Chapters six and seven are devoted to the layered case study in Brazil and are formatted in the same manner as the Indian case study. Chapter six discusses market structuring and explores why Brazil can be defined as a mixed market economy. Chapter seven explores financial institutions in Brazil to understand how Brazilian banks have maximized their credibility and competitiveness. Similar to the case in India, the strength of Brazilian banks reinforces the mixed market dynamics that characterise complement structures in the domestic political economy. The case studies emphasise how market structures are shaped, and then how successful firms in the domestic political economy reinforce institutional arrangements.

The thesis concludes with chapter eight, which is a discussion of how Indian and Brazilian firms, despite operating in different institutional equilibriums, maximised their returns by reacting to the contours of capitalism of their respective domestic political economies. The success of firms in India and Brazil demonstrate the need for typological trajectories to be defined in EMs.

Chapter 2 VoC AND EMERGING MARKETS

2.1 VoC Framework

The core research question of the thesis, as defined in Chapter 1, is to understand how successful EM firms in India and Brazil navigate challenging institutional structures to become competitive. To answer the question I present an argument of national systems of capitalism within a VoC framework. Chapter two introduces the core tenets of VoC theory. The chapter explains how VoC theory is and is not applicable in an EM context, specifically exploring the minutia of interactions both amongst microeconomic actors and between the microeconomy and macroeconomy. I hypothesise that both India and Brazil demonstrate capitalisms that can be specified within a VoC framework.

The tenets of VoC theory are directly relevant to the key research question of the thesis. VoC theory makes the following claims: firms are central actors in the economy; the macro- and microeconomy are components of the same organization; institutional considerations influence firm behaviour; and states operate varied kinds of capitalism (Hall & Soskice 2001). Each tenet parallels key aspects of the thesis. First, both VoC and this thesis are concerned with the development of firms and view the firm at the analytical centre. Second, both survey state-firm relations to understand the dynamics of macroeconomic and microeconomic interaction. The third shared tenet relates to the importance of institutions in constructing economic policies and regulating markets. Finally, the theory recognises that capitalism operates differently in different states. At both an empirical level, as demonstrated in Chapter one, and at a conceptual level, VoC theory is a good starting point for the analysis of country-level factors and EM MNCs.

VoC theory is operationalised through analysis in five core dimensions of the firm: corporate governance, industrial relations, labour market relations, vocational training/education, and inter-firm relations. Broadly classified in a capital market and labour market framework, the focus on these firm dimensions permits a construction of complement structures. The first area, corporate governance, is closely tied to capital markets and corporate strategy. Narrowly, it is constricted to understanding how firms access capital markets. More broadly, however, it includes the legitimacy of management and transparency of operations, since these are central concerns for investors and the polity as a whole (Roe 2003). Corporate structures, including voting, share distribution, management models, accounting methods, transparency, profit and loss management, and balance sheet management are all factors that influence corporate governance and capital market access.

The second, third, and fourth areas, industrial relations, employee relations, and vocational training, respectively, are tied to labour markets. Industrial relations, at its core, is the aspect of state-firm interaction that describes how wage bargaining is coordinated as well as how social welfare norms are agreed upon in a political economy. Focal points of study include how labour coordinates activity and whether or not unions are active. With regards to social welfare, the extent to which the state provides baseline support is important in understanding expectations of labour and the responsibilities of the firm. Employee relations focus on the relationship that the individual employee has with the firm. Firms are concerned with employee competence and commitment, while individuals are worried about job protection and what kinds of benefits the firm will provide. The fluidity of labour markets and the extent of coordination of wages across entire sectors of an economy are helpful because these factors demonstrate propensity for employee turnover, or, more simply, the dynamics of supply and demand in the labour market. Vocational training examines how firms resource human capital. The central differentiation is the extent to which firms are able to hire employees that are immediately ready to be productive or first have to be trained. Education models influence how firms train and use labour. Industrial and employee relations are heavily influenced by the level of collective bargaining in an economy while education is often a function of state policy and demand for labour.

The fifth and final dimension, inter-firm relations or product market strategies, involves analysis of how firms are able to coordinate with other market actors, including the supply chain and end market. Focal points of study include the level of participation in business associations, supply chain sourcing, domestic and international market access, and any evidence of collusion.

The consistencies with which markets organise interaction along the five VoC dimensions dictate the structure of complements that direct the market typology. Economic systems rely on complementarities to function and operate. Complementary relationships between stakeholders provide the mechanical core of an economy. Hopner describes institutional complementarity as when "the functional performance of an institution A is conditioned by the presence of another institution B and vice versa" (Hopner 2005, 383). Complementarities demonstrate how institutions[30] link together and interact in capitalist systems. Complements are important in a firm context because they determine how capital and labour resources are secured and allocated. If firms consistently rely on strategic cooperation in selecting capital and labour inputs, then the market is deemed to be a CME. Strategic cooperation is characterised by tri-partite bargaining systems, strong unions that are not politicised (i.e. have bargaining power to negotiate with employers and strike infrequently), reliance on bank relationships for capital, and complex cross-shareholding structures (Amable et al 2005). If firms consistently rely on competitive forms of coordination to select capital and labour inputs, then the market is deemed to be a LME. Competitive arrangements would include individual labour agreements, a preference for equity, clearly defined securities that are tradable, and straightforward shareholding structures with considerable minority shareholder protections. The extent to which the different dimensions are consistently coordinated indicates the efficiency with which firms can secure inputs and defines a capitalist typology (Hancké and Goyer 2005).

The remainder of the chapter is organised as follows: section 2.2 discusses VoC theory and the firm to delineate the role of the firm within the existing framework and describe the interaction of stakeholders; section 2.3 discusses the challenges of extending VoC theory, as currently conceptualised to an EM context; and section 2.4 maps EM typologies.

[30] Institutions, in this sense, are defined broadly and reference the structural characteristics of subsystems in the domestic market (i.e. labour markets, capital markets, state apparati, etc.). For example, references to labour market institutions would include unions, nature of employment contracts, skill formation, and regulations of labour (cf., Papola and Rodgers 1992). Capital market institutions would include banks, exchanges or bourses, investor protection laws, contract laws, and systems of corporate governance.

2.2 VoC Theory and the Firm

Section 2.2 discusses how firms fit in a VoC framework as currently theorised. The section discusses linkages between the firm, the economy, and stakeholders. VoC explains how comparative advantages in domestic markets result from the organisation of the state, capital, and labour. VoC borrows principles from management and microeconomics and applies these ideas in a political economic context. VoC theory argues that the varied configurations of complementary institutions create differentiated comparative advantages for firms. Microeconomic actors organise around complementary relationships to drive productive capacities (Hall and Soskice 2001). Where complementary relationships are cooperative (i.e. CMEs), firms will have a tendency to develop their business through incremental innovation. Successful firms from CMEs are theoretically more likely to find competitive advantages in sectors tied to manufacturing, mechanical engineering, and business process engineering (ibid). Where complementary relationships are competitive, firms are more likely to take greater risks and will focus on transformational or disruptive innovation and new product development (i.e. LME). Successful LME firms have comparative advantages and excel in sectors tied to pharmaceuticals, biotechnology, ideation and strategy businesses, service oriented businesses, and IT (Hall & Soskice 2001). The firm level focus of VoC enables insight into the dynamics of macro to micro economic iteration and, in turn, clear identification of incentives set by country level factors.

The concept of disruptive and incremental innovation needs to be clearly defined and clarified because of its importance in a VoC framework that views innovation as the manifestation of comparative advantage. Innovation is widely used in a variety of literatures with a range of meanings but is usually associated with exclusively disruptive models. In the thesis, innovation is defined broadly, and parallels the definition offered by Rosenberg, more recently cited in Amann and Cantwell: "Innovation consists essentially of a continuous process of problem-solving in and around production" (Amann and Cantwell 2012; Rosenberg 1982). Innovation refers to how firms organise inputs to create solutions to competitive challenges in the marketplace. Some firms take more risk (which they are able to do because capital and labour inputs are flexible and competitive) by trying to discover new technologies or strategies. This type of innovation would be classified as disruptive. Alternatively, other firms have a tendency to focus innovation on production or product-improvement (which aligns with stakeholder incentives defined by capital and labour complements), and is classified as incremental innovation. EM firms are still developing innovative capacities. Therefore, the stereotypical disruptive and incremental definitions offered by VoC need to be contextualised through a developmental lens. As countries develop their innovative capacities, they progress along the value chain and develop global competitiveness.

At the most basic level, firms must organise inputs from capital and labour (in exchange for interest or dividend payments and compensation, respectively) to competitively produce goods and services. How firms access those inputs depends on the domestic variety of capitalism and the configuration of state-based institutions. The efficiency with which those inputs can be accessed directly impacts the productive capacity of the firm. The state directly influences the firm's access to inputs through three channels: monetary/fiscal policy, labour standards, and regulations. Regulatory policies in labour markets can be focused at an individual level or at a union level. Similarly capital markets are structured by policy and regulations which may be driven by the state, investors and/or banks. The level of collectivisation in labour and capital markets determines what kinds of policies are lobbied for at the state level. As stakeholders align along either asset specific or competitive forms of organisation, complements develop. The efficiency of labour and capital markets is determined by whether or not policy is coherently aligned. The iterative and isomorphic tendencies of the system create a feedback loop whereby actors assimilate and begin to consistently favour a typology.

Figure 2.1 is a visual representation of the interaction of market actors. Firms and States are depicted as the core entities representing the key actors of the micro and macro economy, respectively. The precedent for the centrality of the state, which includes the institutions that govern the domestic variety of capitalism, is established in institutional explanations of how economies function (Rodrik 2007; North 1990). Firms operate within the context of the rules set by the state, while at the same time leading firms help to shape the same rules that govern them. A firm can try to fight for better protections or regulatory structures but they are only one of three entities directly influencing macroeconomic policies, as both labour and capital interests also have a part to play. There are thousands of firms in an economy that may or may not have aligned interests. In the end, firm influence is often a function of their size, political influence, and the consistency with which they rely on a certain form of market coordination for inputs.

Figure 2.1: Interaction of Economic Stakeholders

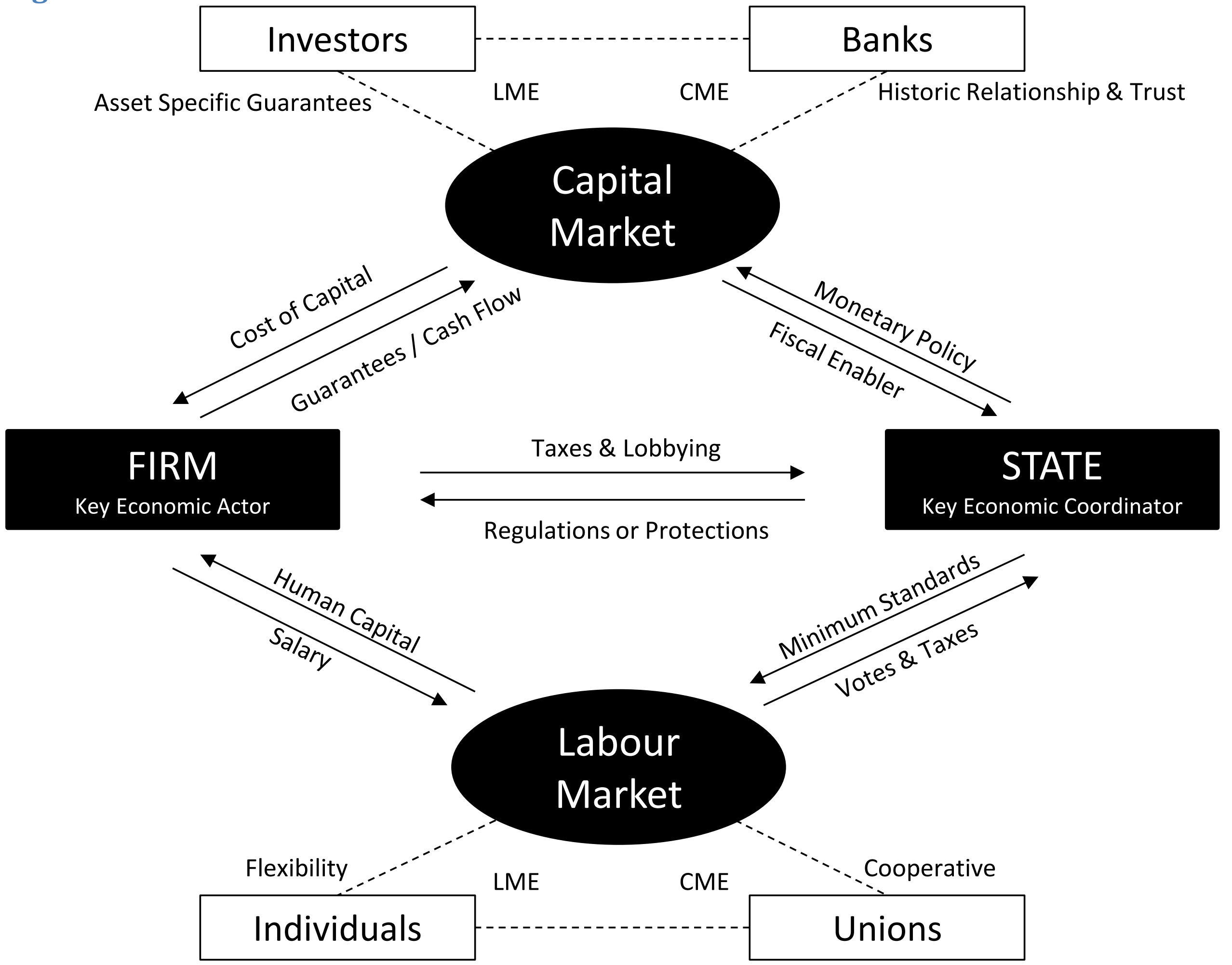

Figure 2.1 is a stylised diagram of stakeholder interaction. The State plays the role as a key economic coordinator. Note the asset specific guarantees references a financial definition of assets (i.e. legal foundation for assets that enable transfer of ownership).

The process of complement organisation is on-going because the relative power and influence of interests can vary over time (Morgan 2005b; Thelen 2004). As value propositions for interests shift, the negotiated complement equilibrium must be re-negotiated. Firms are nimble market actors that must adapt to survive (Morgan 2005), but firms also have the power to change market structures once they align to a specific form of coordination. Ideally economic stakeholders will align their interests to promote one variation of capitalism because when macroeconomic policies match the organisation of the microeconomy, complement frameworks gain in efficiency and drive both productivity and innovation.

When stakeholders do not agree or align in a VoC, barriers to productivity and innovation arise. To overcome barriers of coordination, the state can play a defining role in directing complements. Hancké et al. use Mixed Market Economies (MME) to define the mid-spectrum, non-conforming markets, where state intervention often provides a final source of arbitration in the event of conflict (2007). In some cases, the state may pre-determine market structures in an effort to bring order to a seemingly discordant system (i.e. a developmental state).[31] MMEs, broadly defined to include intervening states as well as developmental states, rely on state-compensating controls to "sustain subsystems that are far from 'correctly calibrated' over time" (Hancké et al. 2007, 14). MMEs are characterised by a state that fills complementary voids. In advanced economies these voids are usually institutionally embedded, while in emerging markets these voids are usually the result of institutional deficiencies (though this is not to say that they do not eventually become institutionally embedded).[32]

[31] Where market structures are imposed it becomes more critical to understand how state economic policy aligns with economic performance and efficiency in labour and capital markets.
[32] As Schneider demonstrates in a Latin American context (2013; 2009a).

2.3 The Challenge of Extending VoC to Emerging Markets

EM institutions do not fit well into a traditional VoC framework because of active developmental states, informality, and changing institutions. EMs often exhibit seemingly incongruous complements and institutional deficits are common. Such factors change the "lens" through which EMs need to be viewed (Hancké et al. 2007). As EM firms globalise and compete, the need to frame VoC in an EM context becomes increasingly important. Section 2.3 reviews existing approaches to VoC in an EM context.

VoC theory was developed in the context of OECD economies. Hall & Soskice initially characterised two capitalist typologies: liberal market economies (LME) and coordinated market economies (CME). Derived from contrasts between American markets and Rhineland capitalism, the typologies are descriptive categorizations of ideal types (Goodin 2003). LMEs use market relationships to coordinate activities while CMEs rely on non-market, corporatist relationships – "competitive" characterises the former and "collaborative" the latter (Hall & Soskice 2001). The typologies represent levels of collectivisation among and between key economic stakeholders. As institutions developed and evolved in advanced economies, economic complements hardened based on the continued interaction between interests in the domestic economy. In EMs complementarities are equally necessary to understand the operation of the market, but the difference is that the underlying institutions are recently formed, frequently imposed by developmental states, and are still settling.

Subsequent research widened the scope of economies that could be encompassed in a VoC framework through the development of new capitalist typologies (see for example Armijo 2013; Carney 2009; Schneider 2009a; Schneider and Soskice 2009; Hancké et al. 2007, Amable 2003). A range of new capitalist typologies were developed to account for EMs that deviate from the traditional CME- LME framework. Amable defines five models in an effort to further distinguish European and Asian diversity (2003). Carney, via a deductive approach, suggests seven distinct typologies that characterize capitalisms (2007). And in another example, Nolke suggests the creation of Dependent Market Economies to encapsulate the diversity of

Eastern Europe (Nolke and Vliegenthart 2009). Nolke extends the argument to other countries stuck lower in the value chain by arguing for a 'BRIC' variety of capitalism (Nolke 2012). Finally, focusing specifically on Latin America, Schneider proposes Hierarchical Market Economies to describe the inefficient complement networks developed in the region (2013; 2009a). One common characteristic of the new capitalist typologies is the heavy regional identities of the constituents. I seek to examine these approaches in a more global context through an inter-regional comparison of India and Brazil.

The creation of new typologies demonstrates the challenges of extending VoC theory to new markets. Jackson and Deeg rightly point out that typological creation is a matter of balancing parsimony and complexity (2006). In the context of the thesis, to reduce complexity and increase parsimony, I argue that a traditional VoC framework can be considered in EMs so long as the analysis provides a more careful consideration of relative levels of development. Differences in stages of development become more easily apparent when EM comparative analysis is conducted across regions rather than within regions. If the relative level of institutional maturity and malleability (i.e. through governance structures and relative numbers of veto players) of a country is considered, then a traditional LME/MME/CME VoC framework can provide important insights into the contours of domestic capitalism.

Specifically, for example, Amable suggests East Asian capitalism should be considered its own typology[33] to characterise state-based coordination (2003). While he identifies cooperative dimensions that parallel CMEs in the wage-labour nexus, corporate governance, and vocational training spheres, he argues that the key differentiating point for the Asian model is the degree to which government is involved in the distribution of welfare and the extent to which finance is protected by laws and regulations (ibid). What I believe Amable fails to adequately consider is that the role of the state in the Asian model was driven by developmental factors. The central role played by the state in today's emerging economies is not unique but rather reflects a country's relative stage of development. As Rodrik notes, no economy

[33] While Amable approaches the question of capitalist typologies from a regulatory school perspective, his dimensions of analysis are identical to those of Hall and Soskice. Unsurprisingly, he arrives at conclusions that tightly parallel those that form the base of VoC analysis.

developed simply through liberalisation and no economy sustains growth without liberalisation implying that there is a balance between market forces and state support in developing economies (2007). Japan and South Korea, for example, are regularly included as a CME in analyses of advanced market economies (Hall and Soskice 2001; Soskice 2007; Hall and Gingerich 2009) yet both find their economic origins in centrally-coordinated, state-directed forms of capitalism.[34]

Neither Japan nor South Korea needs a separate typology categorisation simply on account of the coordinating role of a developmental state. [35] Developmental states serve a function to provide guarantees and/or a framework that directs complement formation to spur economic interaction. [36] The influence of the developmental state diminishes as the economy develops because economic stakeholders coalesce and private complements develop efficiencies (Evans 1995). Peter Evans clarifies the diminishing role played by developmental states in his analysis of state embeddedness in the economy: “the very success of state efforts could undercut the political possibilities for sustaining state involvement” (1995, p16). Both South Korea and Japan experienced such phenomena, whether through the chaebol or kieretsu system, institutions like the Japanese Ministry of International Trade and Industry became less controlling and influential as the economies moved up the value chain. To separate out Asian economies into a new typology is premature, ignores the consistency with which economic stakeholders act collectively, and obscures the need to focus, instead, on how institutions change as an economy matures.

Similar to Amable, Schneider also proposes a new typology, that of a hierarchical market economy (HME) to reflect the unique challenges faced by Latin economies. An important difference between Schneider and Amable is that Schneider does account for relative stages of development in his analysis (2013). For example,

[34] For discussions on the developmental state in Korea, see Wah 1996, Wade 1990, and Amsden 1989. For discussions on the developmental state in Japan, see Okazaki 1996, Lee and Yamazawa 1990, and Johnson 1982.

[35] For discussions on institutional change in the context of East Asian development, see Vogel 2006, Carlile 2006, Aoki et al 1996, and Aoki 1996. The levels of state intervention are closely related to the relative economic development of the market and how far it has to "catch up" to its peers.

[36] Furthermore, Amable fails to even fully consider the other states following the East Asian model and how they compare to Japan and South Korea. The state plays a central role in the early development of other East Asian markets, consider for example Taiwan (Wade 1990) or the communist regimes of Vietnam and China.

Schneider's discussion of diversified business groups acknowledges the frequency with which conglomerate-structures exist in developing economies (Schneider 2009a; Schneider 2009b). Specifically, the HME typology identifies challenges that originate from diversified business groups, foreign-based multinational corporations, low-skilled labour, atomistic labour relations, and, perhaps most importantly, political structures that reinforce these characteristics (2013; 2009a). The applicability of the HME framework to Brazil works very well empirically. The Brazilian economy exhibits hybrid characteristics across corporate governance and labour markets (Schneider 2009a; Schneider and Soskice 2009). Where my argument differs comes with regard to application of a HME framework in India. While India may share problems related to diversified business groups, foreign-based multinationals and atomistic labour relations, India exhibits fundamentally different characteristics across sub-spheres of the political economy. What needs to be considered with greater precision is the role of the state and whether or not the state is acting in a developmental capacity or a coordinating capacity.

Considering the non-Latin comparative dimension of the thesis, I refrain from using the HME typology. While the HME framework emphasises the hybrid institutional structures that exist in Latin America, in the context of the thesis I believe the hybridisation can be adequately characterised as a MME. Schneider does not discuss the distinction between MMEs and HMEs in depth. I argue that the two categorisations sufficiently overlap to use the MME typology, especially given the cross-regional context of the thesis. Both HME and MME typologies focus on incongruent complement structures that become institutionally reinforced politically. The role of veto players, cross class coalitions, and centralised economic leadership are common to both HMEs and MMEs (Schneider 2013; Hancké et al 2007; Molina and Rhodes 2007). In fact, as the thesis will demonstrate, Brazil borrowed heavily from a classical MME - Italy. Much of the Brazilian labour code is modelled on Italian law, with parts of Mussolini's code directly copied into Portuguese (French 2004) as Brazil looked to Europe in the early days of its democratic formation (Barbosa de Araújo 1990). Brazil sought to replicate the coordinated systems of Europe but, in the end, followed the same path as Italy, where interests and veto players undermined economic efficiencies that might have been generated by enhanced coordination (Simoni 2012).

One effort in the literature to take a cross-regional approach comes with Nolke and Vliegenthart's creation of Dependent Market Economies (2009). Dependent Market Economies are intended to encapsulate middle income countries whose position in the value chain leverage a combination of cheap labour and manufacturing sophistication.[37] Nolke, building on his argument that middle income countries require new paradigms, consequently begins to describe a VoC in India and Brazil that focuses on the role of the state (2012). To make an argument that middle-income countries merit a unique variety of capitalism without a proper discussion of developmental economics, however, is a tenuous assertion and leads to empirically questionable conclusions.

Nolke begins his argument by comparing the "similar" situation of India and Brazil by asserting that both countries "operate on a labour-intensive medium level of technology, based on cheap labour" (2012), yet this claim, central to his comparative analysis, does not hold up in light of empirical evidence. Nolke specifies the "specializations" of mining in Brazil and services in India as key sources of labour insensitivity that drive a comparative advantage (2012). These claims demonstrate a weak understanding of the composition and dynamics of growth and economic development in India and Brazil. While Brazil may export raw materials, the extractive industries are highly capital intensive and are not a major "low cost manufacturing job" source in Brazil. At the peak of the global commodity cycle in 2008, mining accounted for approximately 0.4% of national employment (ILO 2010). In India, where IT services are hardly comparable to natural resource extraction to begin with, he fails to make note of the fact that many more jobs exist in India's low-tech manufacturing industries than in services (Ministry of Labour 2013). Even within services, IT is not the predominant source of jobs (Ministry of Labour 2013). India's fastest growing manufacturing export sectors are actually textiles and leather, hardly "medium tech" (Papola & Sahu 2012). Nolke's comparison of "middle income" countries fails to recognise that fundamentally India is at a much lower income level than Brazil and, as a result, deciphering patterns of development,

[37] For examples of Eastern European analysis in a VoC framework see Feldman 2007; Mykhenko 2007. Future studies have expounded beyond the VoC framework (see for example Becker 2013; Bhole and Greskovits 2007), but the discussion in the thesis focuses on the core topics of India and Brazil.

complement structuring, and market competitiveness requires deeper empirical investigation.

An example of the need to better understand relative differences in stages of development is made more apparent in Nolke's assertions that the current structures of Indian and Brazilian capital markets are similar. In actuality, corporate governance practices in India and Brazil are notoriously different. While both countries face challenges of corruption and family dominated corporations, the institutional norms of each country vary greatly. In the context of Nolke, I highlight a basic empirical problem with his analysis (2012). Nolke asserts that the illiquidity[38] and family-oriented tendencies of Indian businesses are a basis to group Indian and Brazilian corporate governance standards (Nolke 2012; Allen et al 2006). Nolke makes his assertion of illiquid Indian capital markets by referencing the concentration of ownership, but concentration of ownership is just one of many intervening variables that determine market liquidity. Nolke's empirical evidence of illiquid Indian markets comes from a paper published by Allen et al in 2006, yet the same paper and in a subsequent paper (Allen et al 2007) Allen actually identifies Indian equity markets as being impressively liquid. According to Allen et al, the Bombay Stock Exchange (BSE) and National Stock Exchanges (NSE) are considered two of the most liquid stock exchanges in the world:

> "While the dollar value of trading on the Indian Stock Exchange is much lower than the dollar value of trading in Europe or in the U.S., it is important to note that the number of equity trades on BSE/NSE is *ten* (emphasis from author) times greater than that of Euronext or London, and of the same order of magnitude as that of NASDAQ or the New York Stock Exchange.[39] Similarly the number of derivatives trades on the NSE is several times greater than that of Euronext / London, and on an order of magnitude comparable to U.S. derivatives exchanges. The number of trades is an important indicator of the extent of investor interest and investor participation in equities and equity trading, and emphasizes the crucial importance of corporate governance practices in India" (2007).

[38] Specifically, Nolke writes "trading on [India's] exchanges has remained extremely concentrated, which has meant that the bulk of shares in the most significant markets are rarely traded" (2012).
[39] India has a per capita GDP of approximately $1500 while the United States has a per capita GDP of approximately $53,000 per capita GDP (US$ Current Value from World Bank Database 2013).

More specifically, the NSE indicates that 94% of its listed firms are considered highly liquid because their shares were traded in over 100 days during the previous fiscal year (NSE 2012).[40]

In India, minority shareholder rights provide structural support for equity markets.[41] The experience of India contrasts that of Brazil, where minority shareholder protections are poor, equity markets are relatively illiquid (Park 2012), and firms make active use of subordinated shares to abscond liberal corporate governance practices (Lazzarini and Musacchio 2011; DiMiceli 2010a; DiMiceli 2010d).[42] That India has developed better equity capital market institutions is surprising since Brazil's per capita GDP is 7-8 times larger than that of India.[43] The need to consider local institutional context and differences in stage of development is critically important in a cross-regional comparative analysis.

Very simply, the fact that Brazil's per capita GDP is 7-8 times larger than that of India suggests that there are likely to be major differences in terms of development and institutional priorities. Before asserting a new VoC, consideration needs to be given for the institutional and empirical challenges that arise from comparing systems of capitalism across countries where the per capita differential can be as great as 35 times (i.e. between India and the U.S.). A more nuanced understanding of the inter-relationship of development, developmental states, and VoC is required - a topic that will be discussed in greater depth in the next chapter.

EMs represent a new frontier for VoC theory. The challenge of applying the theory in an EM context is that developmental state legacies combine with immature institutions, factors that complicate complementary relationships. Since EMs of today were not first to industrialise, states frequently intervened in the organisation of the microeconomy to stimulate development and "catch up." State intervention alters

[40] Bombay Stock Exchange was unable to provide similar data despite efforts to conduct archival work at the headquartes in Bombay.
[41] Indian equity markets protect minority shareholder rights, and the regulator, SEBI (Securities and Exchange Board of India), is a reliable enforcer of such rights (SEBI 2012; Mohan 2011; Mohan 2005).
[42] For example, in Brazil, state ownership of golden shares and subordination of minority shareholders through non-voting shares are very common (Lazzarini 2012; Lazzarini and Musacchio 2011).
[43] per capita GDP US$ Current Value from World Bank Database (2013). India is $1500 and Brazil is $11,200.

incentive sets domestically. Such alterations may work early in the development process as the returns on capital compensate for the costs, but as an economy develops, the costs (which usually manifest in the form of fiscal deficits) become increasingly unsustainable.[44] Over time, excessive or inefficient state intervention leads to institutional deficits in labour and capital markets (see for example Nolke 2012; Feldmann 2007). The transition from a developmental state to a market economy is not always straightforward. Where these transitions are problematic, the state often faces fiscal deficits and, if the situation is exacerbated through inefficient domestic consumption, a balance of payments crisis.

[44] Costs reference both fiscal resources expended to support inefficient businesses and foregone economic output.

2.4 Mapping Emergent Typologies

At the core of capitalist typologies are trade-offs between and amongst stakeholders that determine how much collective action is present in capital and labour markets. Where firms are able to follow incentive sets that are consistent across capital and labour markets, they develop efficiencies and achieve levels of competitiveness that are not easily achieved otherwise. Where complements fail to align on either competitive or cooperative forms of coordination, the influence of the state becomes paramount to understanding capitalist structures (Hancké et al 2007). The opposing nature of complement interaction in the two base typologies provides the anchors for the CME/LME typologies, with MMEs used as a descriptor for markets that fall in between. Section 2.4 reviews the dichotomies of typologies to their roots of collectivisation to set the framework of analysis as the section builds on the empirical framework developed by Hall & Soskice in their initial review of market typologies.

The original cooperative coordination (CME) - competition (LME) divide was proposed by Hall and Soskice (2001) and was further developed in subsequent papers (e.g. Hall and Gingerich 2009). Even critics of the foundational cooperative coordination-competition index recognize that coordination and competition reflect relative measurement of collective action in coordination of economic actors (see for example Kenworthy 2006). That economies fall somewhere in between a coordinated and competitive framework should be no surprise, since any negotiation of interests will invariably lead to balancing of extremes. Critics, who identify the existence of cooperative elements of LMEs and competitive mechanism of CMEs as proof of VoC theoretical incompatibility (Hay 2005), miss the broader utility of the theory. Fitting into a LME typology does not categorically make every economic function in that economy competitive, and fitting into a CME typology does not categorically make every economic function in that economy cooperative. Markets are complex and are filled with a range of possible forms of coordination across various sectors. The key is to identify where the greatest efficiencies are achieved in the market, since that is where productivity and economic growth will be strongest. The degree of coherence in the core, value additive aspects of the economy can be categorised within a CME-MME-LME framework.

To investigate CME versus LME forms of organisation in EMs, I map out the typological characteristics of a subset of EMs. I use the same capital and labour market indicators from the original Hall and Soskice framework but adapt the measures to be relevant in an EM framework (figure 2.2). Hall and Soskice use stock market capitalisation along the x-axis and employment protection along the y-axis (2001). In an EM context I use the ratio of stock market capitalisation to domestic private credit for the x-axis. Since stock market capitalisation is a function of both the size of equity markets and the level of development, using a ratio of equity to bank capital normalises the measurement of capital market tendencies for the varying levels of development (remember the India market capitalisation/liquidity example from before, where it was necessary to consider a country's relative level of per capita GDP in stock market analysis). The ratio more accurately measures relative dependence on bank versus equity capital. For labour, in an EM context, I use the average change in unemployment over a global business cycle (2002-2009).[45] In advanced economies, Hall and Soskice depend on a sophisticated index built by Estevez-Abe, Iverson, and Soskice to measure employment protection, but similar measures are not available in EMs because clarity of data is a major obstacle. The core components of the Estevez-Abe et al measure are unavailable for developing countries and therefore an alternative indicator is required. The change in unemployment indicates the level of stability in a labour market. Where there is a higher level of annual turnover, labour markets tend to be competitive, or liberal, and where changes of employment hold more stable, labour markets are characterised by cooperative coordination. The resultant scatter plot is the EM version of Hall and Soskice's original mapping of institutional complements.

[45] Because the data spans a wide range of years, addition or subtraction of years makes little difference. In fact, in nearly all countries the greatest change is from 2001 to 2002, a change which is captured in the 2002 differential. Extending the series through 2010 and 2011, which is not done because of data availability for Brazil and India, would only reinforce existing trends.

Figure 2.2: EM Institutions across Sub-spheres of the Political Economy

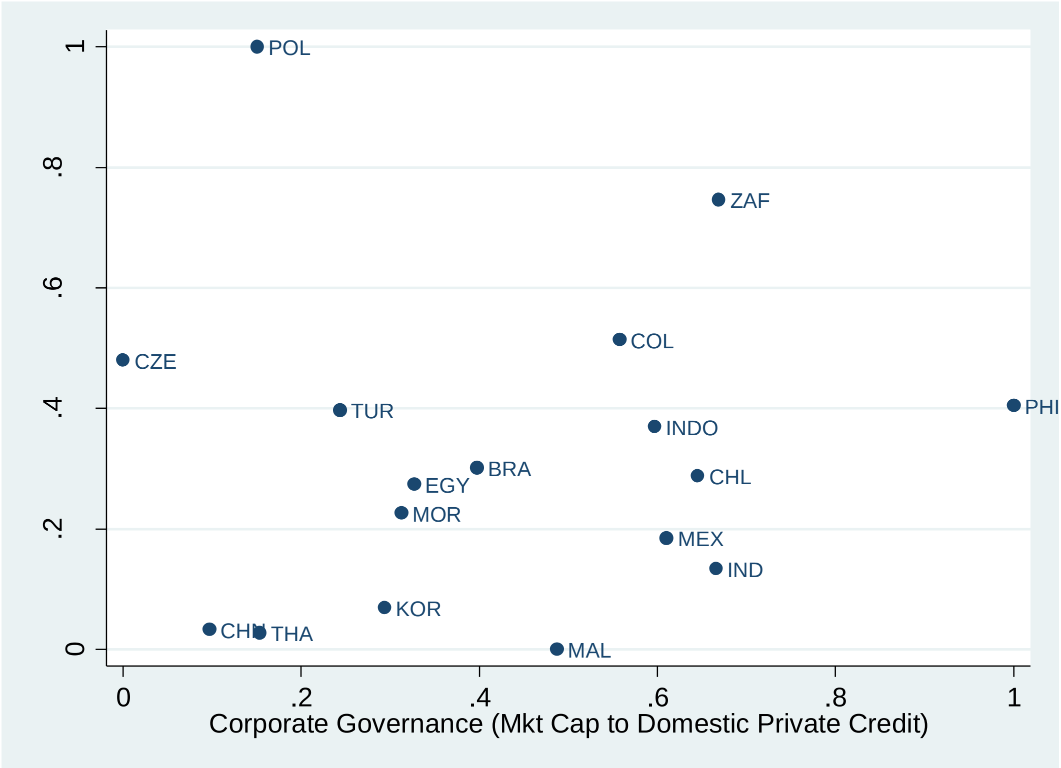

Figure 2.2 maps Corporate Governance coordination (x-axis) against Labour Market coordination[46] (y-axis). Origin is heavily coordinated. Sources: see Table 2.2

The clustering of markets is not as clear cut as Hall & Soskice's plot of advanced economies, but a pattern is nonetheless discernible. Economies with heavy coordination lie in the bottom left of the coordinate plane. Korea, which has developed an export-oriented manufacturing model with a legacy of an activist developmental state, could serve as an anchor to the plot with its location in the bottom left hand corner. A number of other EMs, where the state continues to have heavy influence over the economy, comprises the next "band" of relatively coordinated economies. Turkey, Morocco, and Egypt are examples of economies where developmental coordination (or activist states) continues to be a major factor in the organisation of the market. Moving to the opposite end of the plot, states with more liberal forms of market organisation appear on the relatively liberal ends of the spectrum (e.g. South Africa, Chile, and Colombia). Additionally, some EMs fall away from the traditional CME-LME axes. These states could be representative of either MMEs or transitional developmental states that have liberalised in a piecemeal

[46] India only recently began collecting unemployment data so the proxy for unemployment in India is change in employment applications as a percentage of total work force.

pattern. To better understand the position of each economy, country-specific analysis is required to decipher between developmental state interference and institutional stasis.

Looking specifically at case countries Brazil and India, the scatter plot answers some questions while introducing new ones. Brazil's in between position suggests that it has mixed market characteristics. Brazil is to the right of markets where we might expect coordination, like Korea and China, but it is not quite comparable to the more liberal markets of South Africa, Chile, and India which have fairly strong equity markets relative to debt capital markets. Brazil's labour coordination again ranks in the middle, indicating it is caught between collectivised and non-collectivised labour models. India, similarly, does not seem to fit well into a liberal or coordinated categorisation. India's capital markets are heavily liberal but its labour market seems to be caught in stasis with moderate changes to unemployment. The mixed characteristics of the Indian market are distinct from those of the Brazilian market.

Figure 2.3 recreates a second scatter plot used by Hall & Soskice in an EM context. The original scatter plot uses gini coefficients along the x-axis and full-time equivalent employment along the y-axis. VoC argues that gini coefficients will be lower in coordinated economies because of the cooperation that drives productivity and higher in liberal models of capitalism where competition is the norm (Hall and Gingerich 2009; Hall and Soskice 2001). Similarly, VoC theory suggests that coordinated market economies will have lower levels of full-time employment because working hours are shorter for a greater proportion of the population (ibid). I also use the gini coefficient for the x-axis measure. A lack of data makes it impossible to determine a normalised rate of full-time employment, so I instead use the percentage of non-agricultural workers in the informal economy. Informality of the labour market will indicate the extent to which labour follows the guidelines set by labour market institutions. While low informality may not indicate a distinctly liberal or coordinated labour market, high informality will indicate inefficiency between labour market structures and demand. Put simply, the level of formality or informality can begin to help us discern levels of development and institutional coherence / incoherence (as higher levels of informality reflect lower levels of development and/or institutional incoherence).

Figure 2.3: Distributional Outcomes & Development across Political Economies

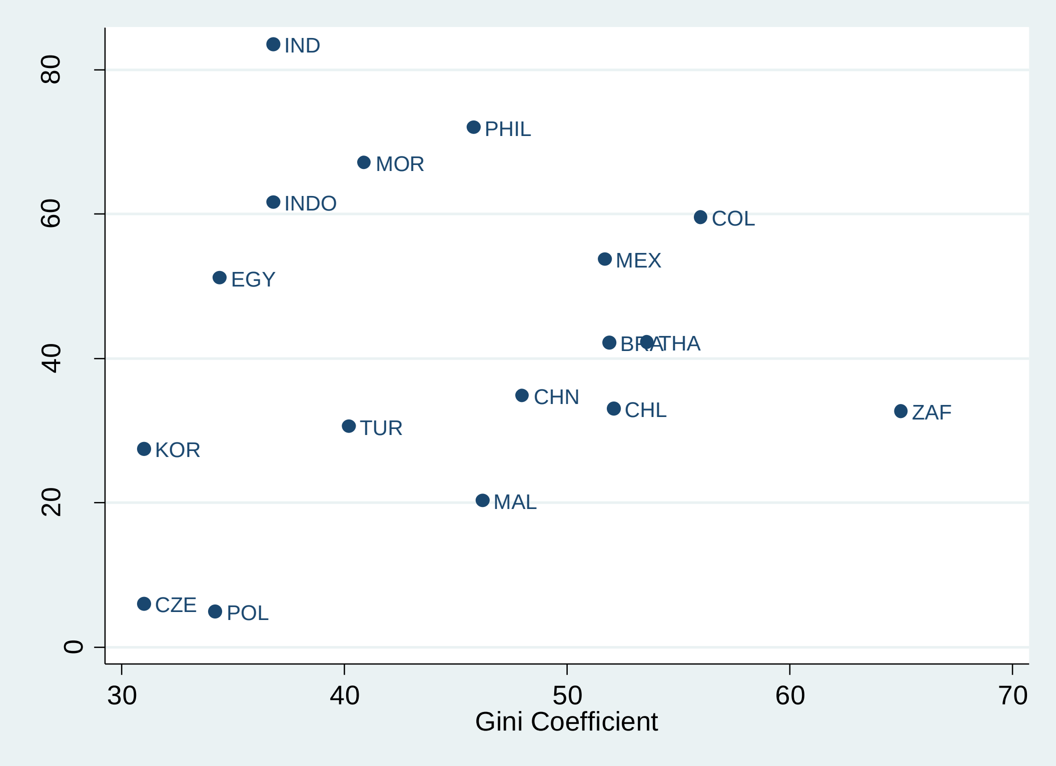

Figure 2.3 maps the Gini Coefficient (x-axis) against the percentage of non-agricultural workers in the informal economy (y-axis). Origin represents a more equal distribution of wealth and formalised labour force; it would be considered a CME. Sources: see Table 2.2

The resulting scatter plot closely resembles the Hall & Soskice findings of a division of market typologies. Markets that are more coordinated lie to the bottom left and those that are less coordinated lie to the top right. Data on GDP per capita (i.e. relative level of development) and % of banks that are state owned (i.e. centralisation of economy), included in table 2.2 will help give individual country context for the scatter plot results of Figure 2.3. Combining the results of Figures 2.2 and 2.3 as well as table 2.2, one can argue that informality is higher when macroeconomic labour policy does not match the preferences of microeconomic stakeholders (including both firms and labourers), and informality is lower when macroeconomic labour policy does match the preferences of microeconomic stakeholders.

The Czech Republic and South Korea, for example, exhibit CME characteristics in Figure 2.2 and their institutional coherence is reinforced in Figure 2.3. On the other end of the spectrum are South Africa and Colombia. China and Thailand, which appeared to be highly coordinated in Figure 2.2 are caught in the middle in Figure 2.3, which suggests their relatively lower levels of development and higher levels of inequality. The lack of development in two of the other poorest countries of the sample, India and the Philippines is also visible when comparing the figures - as they move from the bottom right in Figure 2.2 to the top left in Figure 2.3. An anecdotal observation that both of these economies have found success in service-based industries may hold clues to how their economic institutions are changing in a post-developmental state environment. Egypt, Indonesia, and Morocco are notable because of their position in the top left of figure 2.3 but middle position in figure 2.2 potentially suggest an "enforced" mixed market economy. Those three economies contrast the relative middle-middle consistency of Turkey and Brazil which are known to have firmer democratic roots, thus suggesting that Turkey and Brazil may be MMEs with institutions that are negotiated more so than enforced.

Table 2.1: Key Statistics on EM Structure

Key Statistics on Emerging Market Structure

	Indicator	Figure 2.2 Capital Market: Stock Market Capitalisation (% GDP)	Figure 2.2 Capital Market: Domestic Credit to Private Sector (% GDP)	Figure 2.2 Labour Market: Average Change in Unemployment 2002 - 2009	Figure 2.3 Labour Market: Non ag workers in Informal Econ*	Figure 2.3 Labour Market: Gini	Figure 3.2 Development: GDP per capita	Figure 3.2 Development: % of Banks that are State Owned
Korea, Rep.	KOR	107.4	100.8	0.3	27.5	31.0	20,757	30.0
Czech Republic	CZE	22.4	56.2	1.0	6.0	31.0	18,254	28.0
Malaysia	MAL	172.6	114.9	0.1	20.3	46.2	8,373	0.0
China	CHN	81.0	131.1	0.2	34.8	48.0	4,428	99.0
Thailand	THA	87.1	116.7	0.2	42.3	53.6	4,608	31.0
Turkey	TUR	41.7	43.9	0.9	30.6	40.2	10,094	36.5
Poland	POL	40.6	54.9	2.0	5.0	34.2	12,294	23.0
Brazil	BRA	74.0	57.0	0.7	42.2	51.9	10,710	43.0
Mexico	MEX	43.7	24.5	0.5	53.7	51.7	9,133	0.0
Chile	CHL	167.9	90.2	0.7	33.1	52.1	12,431	12.0
Morocco	MOR	75.8	68.5	0.5	67.1	40.9	2,796	n/a
Egypt, Arab Rep.	EGY	37.7	33.1	0.6	51.2	34.4	2,698	67.0
Colombia	COL	72.3	43.5	1.1	59.6	56.0	6,240	13.0
Indonesia	INDO	51.0	29.1	0.8	61.6	36.8	2,946	57.0
India	IND	93.5	49.0	0.4	83.5	36.8	1,410	80.0
South Africa	ZAF	278.4	145.4	1.5	32.7	65.0	7,280	2.0
Philippines	PHIL	78.8	29.6	0.9	72.0	45.8	2,140	12.0

*Data unavailable for Malaysia and Korea. A commonly used proxy statistic on self-employment is used instead. The actual informal indicator would be much lower.
Sources: World Bank WDI Database; ILO KILM Database; OECD Database; CIA World Factbook; Gourevitch & Shinn 2005; Barth et al. 2001; Hawkins & Mihaljek 2001
Directorate General of Employment: Ministry of Labour Government of India

Focusing specifically on Brazil and India, the data helps drive hypotheses that can be tested. India moves dramatically in figure 2.3 shifting from a potentially liberal market economy to one that is marked by heavy informality. The movement from the bottom right to the top left of the plots suggest that India's institutions do not efficiently allocate labour. Combined with a high level of state penetration in banking and lower per capita GDP, it suggests an immaturity of Indian institutions and relative underdevelopment. In contrast, the relatively high reliance on equity in Indian capital from figure 2.2 shows the relatively low level of state intervention in Indian equity capital markets - an interesting dichotomy to the banking sector and further evidence of institutional incoherence. The need to further research variation in market typology is made more apparent in figures 2.2 and 2.3 as well as figures 1.2 and 1.3 (where India and Brazil's capital and labour dynamics are viewed through time). Both countries exhibited coordinated developmental states in the early 1990s, but, after having to deal with imbalances, notably fiscal deficits, India and Brazil transitioned away from "coordinated" characteristics.

The findings lead to the hypothesis that India's institutions are transitioning out of developmental state towards a liberal market economy. Brazil's position, on the other hand, remains relatively consistently in the "middle" in both scatter plots. Brazilian capital and labour markets exhibit mixed characteristics. Brazil has a high level of informality but does not approach states that have more assertive centralised economic policies emanating from a developmental or authoritarian state. As a result, it is possible that Brazil’s mixed market status is one in which institutions have settled already.[47] Contemplating the finding in a developmental context, Brazil firmly fits the description of a country stuck at a "growth wall" (see Eichengreen et al 2013; Eichengreen et al 2011), which might theoretically corroborate how vested interests may try to protect vested interests through preferred institutional configurations, thus inhibiting institutional change. These ideas will be developed further in Chapter three where the thesis theorises on how to integrate concepts of a developmental state into a VoC framework.

[47] Such a finding would thus be consistent with Schneider's findings of Brazilian characteristics consistent with HMEs (2013). This view is reinforced by the GDP per capita and state influence in banking stats that suggest the inequality and state influence are persistent.

Chapter 3 Typological Trajectories and the Developmental State

3.1: A Proposed Theory: Typological Trajectory

Chapter 3 discusses VoC in the context of institutional change as well as the concept of a typological trajectory. I argue that EMs follow typological trajectories as institutional complements develop. When economies are in early stages of development, states often intervene in the allocation of resources in the microeconomy to overcome capital constraints and stimulate development. The state's goal is to re-allocate resources and provide guarantees that enable the economy to "catch up." Over time, as markets develop, developmental states cede control to privately organised complements. The transition from publically organised to privately organised complements is not always straightforward, and the concept of a typological trajectory will clarify the direction of privately coordinated complement formation.

An inability to account for processes of institutional change is commonly cited as a central weakness of VoC theory. Crouch, among others, highlights the theory's weakness with regard to temporal and institutional change (Crouch 2005; Blyth 2003). The claim is that VoC is static. VoC appears static only because it has been surveyed in an advanced economy context and within a specific timeframe. Institutional bargaining is more volatile in EMs because stakeholder relationships are less entrenched and governments are more exposed to pressures that emanate from global capital markets and globalisation. Evidence of change, however, is also evident in advanced economies. Thelen, for example, demonstrates how institutions evolve with her work on the "trajectories of change" (2014).[48] Thelen's work follows analysis of institutional change in corporate governance (Gourevitch and Shinn 2005) and the bargaining framework for capital allocation (Rajan and Zingales 2003).[49]

[48] Thelen describes three typologies of change in advanced economies: deregulatory liberalisation, dualisation, and embedded flexibilisation (2014).

[49] Gourevitch and Shinn highlight three trends that changed owner-employee equilibrium setting: worker equity ownership, worker recognition of the ties between corporate governance and employment stability, and management receptiveness to accountability (2005). Rajan and Zingales argue for an interest group theory of financial development which affects capital allocation but which changes after capital markets de-restricted (2003).

I similarly trace the political economic adjustments made in India and Brazil to discover their "typological trajectories." Economic stakeholders are constantly negotiating and re-affirming complement structures. The key difference in an EM context is the equilibrium setting process when an economy is emerging from a state-centred model. The “capitalist game” in EMs is very active (relative to advanced economies). Just as advanced economies underwent dramatic transitions in eras of industrialisation, so too are emerging economies experiencing transformational change. Since today's EMs are trying to "catch up" to advanced economies, governments use developmental state structures to quicken the pace of development.[50] State intervention is more direct in the modern era because globalisation introduces new opportunities (global markets) as well as threats (global competition). How countries face the challenges of competing in a globalised market is largely determined by domestic level politics (Gourevitch and Shinn 2007; Whitley 2005; Rajan and Zingales 2003; Doremus et al. 1998; Kogut 1993). The importance of how developmental state policies affect microeconomic interaction is fundamental to understanding the formation of competitiveness.

Conceptually, I use a third dimension of analysis, in addition to the labour - capital dimensions of VoC, to demonstrate the relative positioning of institutional development vis-a-vis the state. As EMs move towards the traditional VoC complement structures, I argue the process is marked by a gradual withdrawal of the state. Figure 3.1 depicts the process of microeconomic stakeholders assuming privately negotiated complements. As the economy moves closer to the origin, I view it as being closer to achieving a privately coordinated equilibrium. The closer to the origin, the more sustainable complements become and enable competitive firms. Further from the origin, interests are more likely to have been subsidised, protected, and/or managed and are less likely to have been freely negotiated. The motif does not mean that states must all reach the origin because in some instances, as we see with MMEs, an interventionist state can become institutionalised.

[50] For example, today's developing economies are experiencing a more rapid pace of income development than did the developing countries of historical eras (McKinsey 2013).

The drivers of complement development come from both the capital and labour market as they seek to become competitive in domestic and global product markets. Where capital and labour are aligned, then it is usually easier to emerge from a coordinated development state. Otherwise, the push and pull of capital and labour interests make it more difficult for the economy to break from embedded interests that are established in state-coordinated economies.[51]

[51] Oftentimes, in the latter scenario, economies will face balance of payment or fiscal crises as the existing model of capitalism is unable to support the existing market structure.

Figure 3.1: Theoretical Mapping of Typological Trajectory

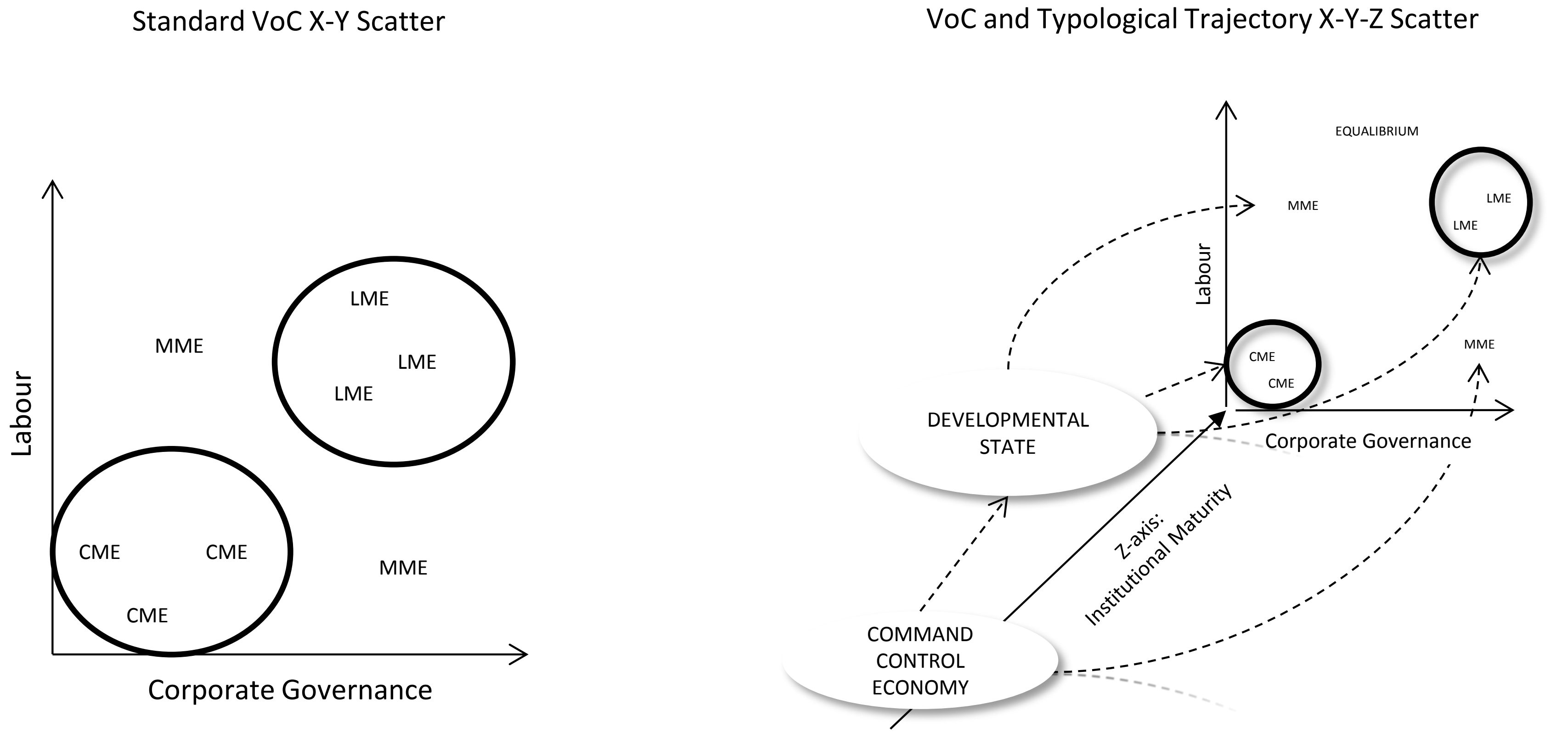

Figure 3.1 on the left represents a x-y scatter plot of economies according to their VoC as was used in Chapter 2. The figure on the right is a conceptual mapping of how developing countries follow a typological trajectory, or z-axis. As economies develop and liberalise, economic stakeholders negotiate complements. Institutional structures settle into equilibrium. The paths from centralised economic planning to equilibrium may vary over time but eventually an institutionally mature economy requires capital and labour market structures that reinforce each other.

Typological trajectories map the relative level of independence and maturity of domestic institutions vis-a-vis complement equilibrium. A typological trajectory is a function of the propensity of economic stakeholders to act collectively and form complements based on either strategic coordination or competitive norms. The goal is to identify patterns of institutional change as microeconomic stakeholders react to and fight for new market standards. High levels of cooperation, or collective action, across capital and labour indicate an increased probability that CME equilibrium will be achieved, whereas low levels of cooperation and reliance on market based forms of coordination indicate an increased probability that LME equilibrium will be achieved. Where state policies promote, curb, actively define, or prohibit the scope of microeconomic interaction, then the economy would be further from a privately coordinated equilibrium. Fundamentally, the level of state influence in the coordination of capital and labour dictates the capacity for institutional equilibrium setting to take place.

Conceptually, states with a command control market (where all decisions making power lies with a centralised authority) would be furthest from the origin, democratic developmental states closer,[52] and modern advanced capitalist states figuratively nearest to a privately negotiated equilibrium. Centralised economic management is intended to spur development, provide stability in traditionally volatile markets, and overcome inefficient outcomes in both the micro and macroeconomy. As capital and labour interests coalesce around certain forms of market organisation, the state can withdraw from economic management. Continued state involvement in the economy is problematic because as the market expands, the institutional resources necessary to manage the economy become too great and too expensive for the state. The cost to the state of providing either subsidies or guarantees quickly becomes onerous. For example, in the cases of Brazil and India, a combination of fiscal deficits, external debt, and/or imbalanced growth led to a balance of payments crisis.

[52] For example, quotas, tariff barriers, and any allocation of resources by a centralised authority are all examples of developmental state policies that pull an economy away from the origin.

Figure 3.2 empirically examines the trade-off between state influence and economic development to test the relationship between developmental states and complement structuring. The more influence from the state, the more likely the market is characterised as a developmental state.[53] I build on empirical evidence from the previous chapter to measure the level of state influence in complement formation. In the discussion in Chapter 2, I noted the need to consider Figures 2.2 and 2.3 in light of per capita GDP and percentage of bank assets under state ownership to gauge relative levels of development. Taking the data from table 2.1, I create a scatter plot that maps the level of state influence in the distribution of credit against economic development. The x-axis is GDP (Gross Domestic Product) per capita, which is a standard, commonly used macroeconomic indicator of development. The more developed a country, the higher it's GDP per capita. The y-axis is public bank ownership, which is used as a proxy for state influence in the productive capacities of the economy.[54] The higher the level of state ownership, the more influence that the state has in distributing capital, investing in businesses, influencing corporate governance, and managing economic stakeholders. In theory higher levels of development should be associated with lower levels of public involvement since firms will have driven efficiencies through privately negotiated complements.

[53] One challenge is deciphering between developmental states and MMEs. To differentiate, cases must examine relative levels of development, industrialisation, poverty, and, most importantly, complement structures. Is state intervention intended to facilitate the creation of complements or does state intervention fill gaps that result from the incompatibility of complements that are institutionally grounded?

[54] Public Ownership of banks is used instead of other indicators because it most closely measures state control of capital inputs and corporate governance. Other indicators are either difficult to quantify or are imprecise indicators of state intervention. For example, the level of state interference in state-owned enterprises is nearly impossible to measure: the influence of the state in government-owned entities is considerably different in China than in Brazil or India. Similarly, tariff barriers do not tell us whether the state is actively intervening in the microeconomy.

Figure 3.2: Developmental States & Developmental Progress Across Political Economies

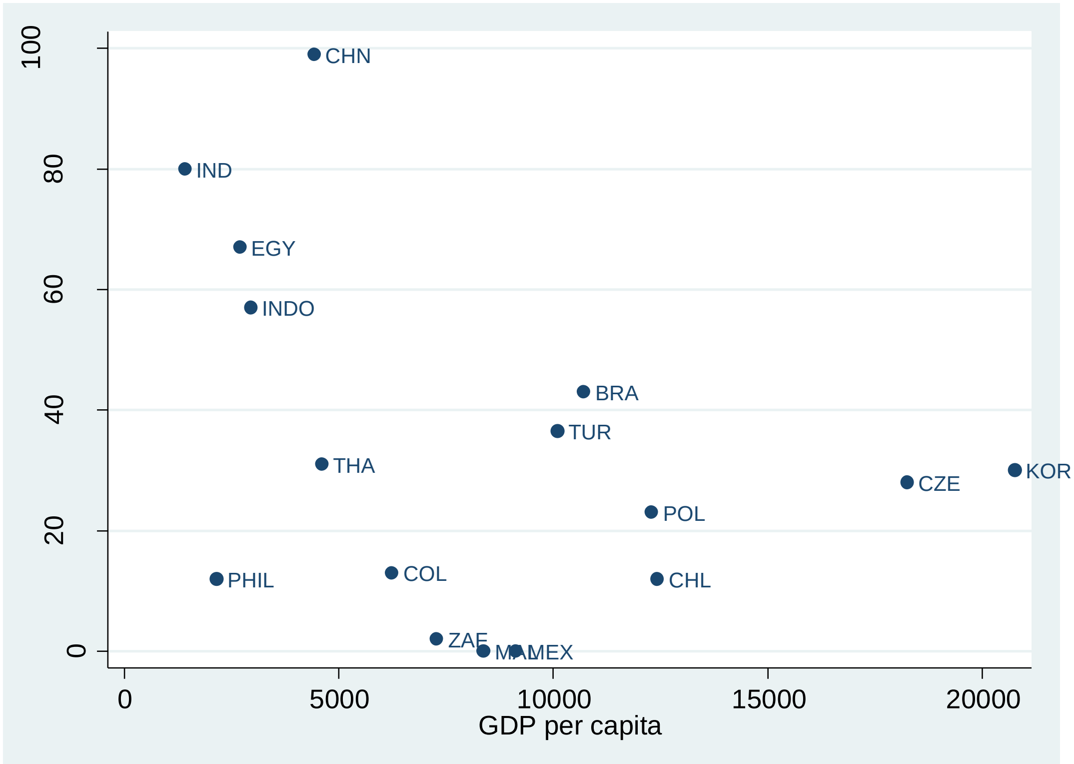

Figure 3.2 maps GDP per capita (2010 data) on the x-axis and public bank ownership on the y-axis to identify the "centrality" of the state in bank capital markets. The argument is that more active developmental states will exhibit lower levels of GDP per capita and higher levels of public bank ownership.

Figure 3.2 largely confirms the expected relationship between GDP per capita, or the level of development, and public bank ownership, which is used as a proxy of state influence in the allocation of capital. A fitted trend line would run from the top left towards the bottom right. As a country moves towards the bottom right, the further along it is in its typological trajectory. Parallels in public and private coordination in corporatist developmental states and CMEs, respectively, enable growth to remain strong during phases of liberalisation. The Czech Republic and South Korea, for example, have higher levels of public bank ownership, which reflects their corporatist legacies and CME typological trajectories. China and India have largely centralised banking systems which indicates a heavy state presence. Malaysia, Mexico, and South Africa represent a range of market typologies but given the lack of state presence in bank ownership, there is greater confidence that the state does not direct microeconomic stakeholder interaction as forcefully as in places like India and China. Finally, the figure indicates that the state's most likely to exhibit MME characteristics are Brazil and Turkey because of their relatively high level of development with an active state presence in the distribution of capital. Figure 3.2 supports the need to further explore typological trajectories.

As a country progresses towards private coordination, complement structures will begin to exhibit characteristics of a CME, if cooperation continues across labour and capital interests via formalised mechanisms for collective action or a LME, if actors are unable to coalesce. When microeconomic actors exhibit CME tendencies, then the transition from centralised planning to market coordination will be smoother (see for example the Korean example as discussed in Kohli 2004; Park 1996; Dutt and Kim 1994). The process of liberalisation is more gradual because, as firms become more competitive, interests are more amenable to integration in the global marketplace. The political discourse to de-link from state mechanisms in a CME faces fewer obstacles since the competitiveness of leading firms is not adversely affected by the withdrawal of state support and/or protections.

Where microeconomic actors exhibit non-CME tendencies, then the transition from centralised planning to market coordination will be more sudden. These transitions are often forced and/or marked by balance of payments imbalances and/or fiscal crises (see for example the Brazilian case as discussed in Baer 2008 or the Indian case as discussed in Panagariya 2009 and Frankel 2005).[55] The process of liberalisation is a political struggle because firms fear that they will not be competitive when state supports are removed. As a result, to overcome political resistance for reform, crises provide the best opportunity for divergent interests to agree on the need for reform. New domestic power structures can be implemented and complementary relationships will reset (Rajan and Zingales 2003). The structure of the liberalised market will be a function of the balance of power of interests that drives renewed institutional construction domestically (see figure 2.1).

[55] The cases of India and Brazil in the early 1990s are distinct from the East Asian crisis in the late 1990s because the former were more strongly weighted to domestic imbalances. International capital flows instigated the Asian financial crisis (Sachs and Radelet 2000). Malaysia, for example, introduced capital controls and relied on coordinatd domestic complement structures to recover (Rodrick and Kaplan 2002).

The catalyst for liberalisation can originate from two sources: either as firms become more competitive and seek new markets or as states run out of fiscal resources to sustain interventionist economic policies. In situations where firms become competitive, the form of public coordination promoted by the developmental state paralleled the development of private complements. Parallels between state coordination and microeconomic complements are most common in export-oriented economies that specialise in incremental innovation, as firms develop efficiencies around strategic coordination between capital and labour inputs. Alternatively, when the state faces a balance of payments crisis because of fiscal shortages, then state's economic resources, intended to support interventionist development policies, have been depleted. In such a situation, microeconomic actors have failed to coalesce around the form of coordination promoted by the developmental state. In the face of fiscal crisis, developmental states are usually forced to liberalise markets.[56]

When a state has achieved complementary equilibrium, either as a CME or LME, its institutions will function in a largely regulatory capacity. The state as a regulator provides the glue that enables capital and labour interests to continue negotiating efficient outcomes. The process depicted in figure 3.1 is iterative, and the institutions that regulate the market are constantly reacting to interests and reinforcing market norms. The transition from developmental state to regulatory state can be challenging and tumultuous. Even where strategic coordination passes from the state to the microeconomy, the transition of a developmental state to a regulatory state will be accompanied by a political process that involves a renegotiation and reinforcement of market norms. The iterative process of layered interaction from the macroeconomy to the microeconomy and back is why VoC in EMs must focus not on equilibria, as it does in advanced economies, but rather on the *formation* of equilibria.

The remainder of the chapter considers in further depth theoretical implications of development states, process of institutional change, and typological trajectories.

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[56] Often a challenging process of formalising the informal economy ensues as microeconomic stakeholders will have fled the formal economy in search of efficient complements.

3.2 Theoretical Consideration of the Developmental State & Withdrawal

Section 3.2 explores the allocation of resources in centrally coordinated developmental economies and how complements react to the withdrawal of developmental state policies. As noted before, the transition from public to private complements is more easily done in a CME because of consistency between the macroeconomy and microeconomy. Conversely, when a market is trending to a LME, then the transition can be more difficult. State institutions have to rapidly develop their regulatory capacity and microeconomic actors have to develop competitiveness independent of the state. The key contribution of the section is to delineate the transition from publicly to privately organised complements through analysis of institutional change.

The form and function of a developmental state is unique to the country in which it is implemented (Evans 1995). The developmental state provides a mechanism to ensure that sufficient coordination exists in a marketplace that may seem incoherent (see Deeg 2005). While state involvement in the economy may correct incentives in the short run, in the long-run it is more likely to distort incentive structures. Interests and institutions are greatly impacted by developmental policies. Regardless of whether states are successful or unsuccessful in formulating policies for economic growth, political discourse is affected. Market structures settle around negotiated outcomes that are inherently political which defines incentives for firms: "[the] emergence of [comparative] advantage depends on a complex evolution of competitive and cooperative ties among local firms, on government policies, and on a host of other social and political institutions" (Evans 1995, 9). Firms that conform to state-led forms of institutional coordination have distinct advantages over other firms in the marketplace because of better access to capital, labour, and technology (Whitley 2005).

Active developmental states emanate from a desire to "catch up" to advanced economies. The state tries to direct the coordination of microeconomic stakeholders to overcome inefficiencies in the coordination of firm inputs and to drive productivity (Musacchio and Lazzarini 2012; Amsden 2001; Johnson 1999; Wade 1990). Public coordination distorts supply and demand factors in an effort to incentivise certain forms of economic coordination. The success of a developmental state depends on the state's capacity to implement a coherent economic policy and microeconomic acceptance/conformance of the policy (Rodrik 2007). Developmental states expend considerable fiscal resources to overcome institutional inefficiency and drive complement formation (Haley and Haley 2009; Easterly and Schmidt-Hebbel 1993; Roubini 1991). While state intervention may be fiscally sustainable in a rapidly growing economy, the cost becomes unsustainable when economic growth slows and capital becomes scarce. The politics of economic policy inherently move slower than the market (Haggard and Webb 1993; Broad et al 1990) and therefore create inefficiency. Interventionist development policies are difficult to adjust in a sudden economic downturn: subsidies and protections will continue even when demand is depressed, creating an oversupply of capital in segments of the market. When microeconomic actors coordinate privately, supply and demand is more efficiently adjusted throughout the business cycles (see discussion in Roubini 1991 of how political instability leads to greater budget deficits). For a development policy to be sustainable, it must eventually enable microeconomic actors to privately coordinate complements. Private coordination of complements enhances domestic capacities and enables firms to become competitive. The transition from public coordination of complements to private coordination of complements is marked by a move towards VoC equilibrium.

State-led economic policies reduce transparency (by withholding information from the market and/or determine levels of supply and demand) and favour a carefully selected set of investors and economic stakeholders (Gourevitch and Shinn 2005; Wade 1990). As a result, oftentimes a select set of embedded firms or, more explicitly in some cases, state-owned enterprises dominate the domestic economy in EMs. The influence of the state serves to embed a form of coordination on the market, which is sometimes coerced (see discussion of role of state in state-market relations in Chibber 2005 or Schneider 2004). Where the state is active, then the determinant of firm success is how that firm's operations rank in the priorities of the state. Oftentimes disregard for basic market principles leads to the creation of inefficient state run enterprises.[57]

[57] In India, for example, state efforts to engineer a tripartite arrangement between economic stakeholders incentivised firms to grow without regard to profitability. State-owned firms explicitly did not have to

Not all states provide the same incentives for state-linked enterprises, and differentiated firm responses are noticeable. To use a comparative example, the case of steel in Korea and Brazil demonstrates how firms can respond differently to different kinds of developmental policies. Brazil used tariffs to protect domestic steel manufacturers (Amann and Nixson 1998) whereas Korea supported production through subsidies and ensured that steel pricing was competitive in international markets (Rodrik 1995). The result was notably more efficient steel production in Korea than in pre-liberalisation Brazil. Brazilian firms were only as operationally efficient as was necessary to be priced below the protection offered by the tariff (D'Costa 1994). State-led development models impose new cost-benefit rubrics on economic stakeholders and firms (Chibber 2005).

The point is not that subsidies are a better form of developmental support than tariffs;[58] nor is the point that Korea had a more successful development model than India or Brazil. The argument is that firms respond to the incentives set in the macro political economy, and in some cases those incentives can be enabling and in other cases disabling. Peter Evans suggests four developmental state models that represent a range of intervention levels: custodian, demiurge, midwifery, and husbandry (1995). The models account for the different ways that states approach collective action challenges and information asymmetries. Over time, states either find that developmental policies foster efficiency, which lead to a gradual devolution of state control to the market and an increase in private coordination (Evans 1995), or states find these policies unsustainable because of pressures that grow from inefficient economic support and/or protection.

Processes of institutional change in East Asian economies, specifically for example Korea and Taiwan (Wade 1990, Zeigler 1988), led to enhanced forms of private complements with coordinated foundations. Historically, while capital markets were controlled by the state, relatively low levels of labour dissent (Amsden 1989) enabled complements to settle. Complement structures were not challenged as the market shifted from developmental state to regulatory state, primarily during the fifth economic plan of

worry about bankruptcy and private enterprises could implicitly count on government support if their finances fell too deeply in the red (Agrawal 1997).

[58] This argument is widely played out in development literature and is inconclusive.

Korea (Kim 1997). Financial liberalisation was gradual because the state's hand was not forced by fiscal crisis or inefficient state allocation of resources (Park 1996). After the economy liberalised, the substantive form of complements changed little (Kim et al 2004). Firms were already prepared to compete and leveraged existing institutional complements in a liberalised marketplace.[59]

The alternative extreme is when the state is unable to successfully foster economic development. Inefficient state intervention is frequently manifested in fiscal deficits (because of a need to buy off interests), which often culminate in fiscal crisis and more sudden realignment. The Latin American economies represent a subset of economies where central coordination largely failed. Capital could not be applied productively in domestic economies, thus creating excessive debt. A more specific and relevant example comes from India. The Indian state is constantly facing fiscal shortages, especially in instances when economic growth slows. The biggest wave of changes came in the early 1990s as India faced a fiscal crisis and successfully implemented liberalising policies. Change is otherwise hard to achieve because of political barriers. Frequently, economic crises provide the impetus for the removal of politically sensitive subsidies that are economically inefficient.

Some states benefit from public coordination while other states do not. The success of East Asian states and export-oriented industrialisation is partially attributable to the fact that coordinated policies were used in these economies which exhibited high levels of collectivisation in labour and capital markets. When CME developmental states tried to implement LME style policies to incentivise disruptive innovation, they failed (see for example Japanese efforts at developing a software industry; Cusumano 1991). Conversely, the continued failure of other states to replicate the successes of Korea or Japan arguably is because the level of collectivisation in those states is considerably less. For example, India has tried to implement a corporatist manufacturing policy to leverage

[59] One major shock that could have served as an impetus for change was the Asian financial crises. Capital flight and inter-linkages within chaebols exposed liabilities and forced corporate restructuring as well as regulatory changes (Lim 2010). Nevertheless, the fundamental structure of Korean labour and capital remain (see empirical findings of chapter 2 and Appendix B).

its "apparent" labour endowment but failed to stimulate growth in the sector (for a discussion see Sibal 2012b; Kohli 2006). The need for private coordination is driven by either microeconomic stakeholders seeking efficiency and productivity, in the CME case, or by fiscal crisis and an inability to pay for public coordination, in the LME case. A theme that becomes increasingly apparent throughout the thesis is a need for growth policies to match the political economy of microeconomic bargaining and market structures.

3.3 Typological Trajectories in Advanced Economies

Section 3.3 considers the theoretical proposals of typological trajectories and institutional change in the archetype CME and LME markets, Germany and the U.S. The historical foundations of German and American complements have legacies of state intervention. The path of development was not immediately apparent in these countries as the state withdrew. Following on the empirical work of Rajan and Zingales who demonstrate the "great reversals" (2003) and theoretical work of Thelen on institutional change (2014), the section provides stylised histories of the U.S. and Germany to show that capitalist outcomes were not always apparent in advanced economies. Section 3.3 will support the discernment typological trajectories in today's EMs, which is discussed in section 3.4.

The role of the state may vary in its depth and breadth across countries but the influence is relevant in the VoC debate, for both advanced and emerging markets alike (Thelen 2014; Hancké et al 2007). State intervention was common amongst those states that industrialised first, though not in as direct a capacity as we see in modern developmental states. The advanced economies of today "emerged" from varying levels of economic sophistication over different periods of time. The structure of advanced economies are clearly linked to the dynamic process of macroeconomic and microeconomic interaction (see for example Carney 2010; Carney 2009; Cusack, Iverson, and Soskice 2007; Gourevitch and Shinn 2005). The capitalistic paths of Germany and the U.S. were neither pre-defined nor immediately obvious. The path of capitalist formation faced multiple crossroads and stakeholders negotiated outcomes to optimise productivity.

Developmental state policies were central to the advancement of capitalism in Germany and the U.S. Hamilton, the father of the U.S. treasury and a leading statesman of the first Washington cabinet advocated policies that sought to protect American industry whilst it developed competitiveness (Chernow 2004). Many of Hamilton's ideas were not realised and legislated until well in the 19th century, but his ideas were manifested in the policies that helped stimulate American industry (List 1856). The German state, similarly, implemented policies that helped stimulate the productive capacities of domestic industry (Trebilcock 1981; Tilly 1966). Both the German and American markets were at similar levels of underdevelopment (relative to European powers, namely the UK) and focused on enhancing the domestic manufacturing capacity through developmental state policies. The infant industry protections that each country enacted parallel many of the policies we see in today's EMs. In these policies, the beginnings of national systems of capitalism and typological trajectories are visible.

Germany

As the modern German state and economy took shape, it was actually not immediately obvious that a CME market structure would be the point of equilibrium. [60] German states were largely independent and differentiated, much like American states, until the Zollverein customs union began to take on an increasingly formalised political role (Wengenroth 2000; Dumke 1991). The Zollverein, which is essentially an economic union amongst Germanic regions, became a mechanism through which economic policies could coordinate the accumulation of capital to help the economy "catch up" technologically to European neighbours (List 1856; Lee 1991). The initiative paved the way for other forms of economic support, such as public guarantees on capital, forums for negotiated systems of labour collectivisation, and the removal of restrictions on cross-shareholding structures that enable banks to finance industry (Fioretos 2011; Feldenkirchen 1991). In the coordinated environment, firms could more efficiently take advantage of a legacy of specialised inputs that existed in the German microeconomy. The coordinated support helped the newly structured German state industrialise and become a European power.

The kind of support provided by the state in Germany is similar to some of today's developing EMs, notably in infrastructure and the allocation of credit (Tilly 1996). German firms relished the public coordination that drove industrialisation:

> "In its fullest incarnation [the organisation of the German economy] was a totally binding collective agreement into which member firms entered, retaining their individual business status but bowing absolutely to cartel headquarters over the subject-

[60] Germany received a maximum score of 5 in the Cusack, Iverson, and Soskice Coordination index (2007).

> matter of the agreement. This would include: the fixing of prices; the setting of a production quota for each member, to be exceeded only under penalty of a stiff fine; and the complete surrender of all sales decisions to the central sales bureau of the cartel" (Trebilcock 1981).

The German economy organised around cartels and syndicates[61] that were based on "collaborative industrial action." The cartel-like German structures parallel the kieretsu and chaebols entities that dominated Japanese and Korean development, respectively, two other economies that have followed a CME typological trajectory.

The legacy of strategic coordination that existed in Germany before the World Wars enabled the economy to quickly reorganise and restore its strength after World Wars I and II. Modern institutions that govern the German economy were organised after World War II but retained legacies of the pre-war era because of how grounded institutional structures were in the German economy (see for example Lehmbruch 1989; Bowen 1947). Business interests were largely aligned within three federal organisations: The Federation of German Industry, the Federation of German Employers' Associations, and the Diet of German Industry and Commerce. These organisations coordinated collective bargaining on behalf of capital interests and helped spur the German vocational training infrastructure. Similarly, trade unions collectivised under the umbrella of the Federation of German Trade Unions (Katzenstein 1989). The coordinating institutions relied upon to re-develop complementarities after the war were also used to ensure that political power remained devolved so as to prevent a potent German state. Microeconomic coordination, as a result, remained private and the state functioned in a regulatory capacity:

> "Federal economic policy[makers]....argued for the restoration of a strong market mechanism, vigorous and unrestricted competition, and a state apparatus designed to promote the market rather than distort or

[61] Labour was equally as concentrated, with half of the German workforce being employed in firms in firms that had over 500 employees by 1914 (Trebilcock 1981). The modern German economy has similar characteristics, with approximately 40% of workers employed by large corporates (Statistisches Bundesamt 2010).

> inhibit it...this was not a full liberal or laissez-faire economy by any means...the state took responsibility to provide the conditions for a 'usable and human economic order'" (Solper and Rakip 1994 in Overy 1996, 8)."

The state facilitated but did not order market interaction. State-linked banking institutions, specifically the Bank for Reconstruction, the German Bank for Settlements, and the Industrial Credit Bank provided long term capital access. In addition, tax incentives and bond schemes built long term lending capacity (Vitols 1997). Financial sector support drove a dramatic rise in long term, industrial finance in the German market (Fioretos 2011; Deeg 1999). In a complementary fashion, labour laws in the early 1950s were conducive to long term negotiations. Employee representatives sat on supervisory boards and had an influence in the development of strategy. Additionally, the Ministry of Labour was reconstituted as a collective bargaining supervisor which meant that industry wide collective bargaining agreements had legal validity (Vitols 1997; Fioretos 2011).

The post WWII path faced many hurdles and stakeholders were forced to reaffirm the structure of labour markets. In the 1970s, German unions re-negotiated working arrangements given new pressures faced by German firms to remain competitive (Hobson and Dworkin 1986; Sabel 1987). Similarly, in the early 2000s, another struggle emerged as the labour market had to be restructured because of a need to improve the competitiveness of the German economy (Streeck and Trampusch 2005). In both instances, collectivised structures were reinforced in Germany's leading sectors (Thelen 2014). Economies that strategically coordinate inputs in capital and labour at the firm level eventually develop comparative advantages in incremental innovation. The typological trajectory of the German economy reflects this reality as do leading German firms: Volkswagen Group, Daimler, Siemens, BMW (Bayerische Motoren Werke AG) Group and BASF (Badische Anilin und Soda Fabrik) (Forbes 2013).[62]

[62] German firms in the Forbes 2000 top index also include Allianz and Deutsche Bank.

United States

The United States took a different path to reaching its equilibrium as a LME. The state also played a critical role in developing a complementary framework and providing guarantees, but a lack of coordination amongst economic stakeholders at a microeconomic level meant that the market remained fragmented.[63] Diverse interests and barriers to collective action made strategic cooperation unsustainable in the American market. Bensel cites 5 core factors that made strategic coordination difficult: 1) American diversity and size exacerbated by uneven development; 2) a party system rooted in conflict over the interregional transfer of wealth between the industrializing North and agricultural, cotton dominated South; 3) inefficient organisation of labour movements; 4) race politics and non-economic interest sharing in political agendas; and 5) sectional organization of politics within a larger 2 party system (2000). While the obstacles may have prevented the state from espousing as direct an industrial policy as we saw in Germany, protections and subsidies did play a critical role in the advancement of domestic industry.

As the United States (US) used tariff barriers to support domestic industries, interests were constantly battling to determine which industries should be protected and for how long with the divide between North and South being most prominent (Bairoch 1993; Bils 1984). For example, a set of manufacturing oriented protectionist policies implemented in the face of the War of 1812 against Britain were short lived becaue Southern states rescinded their support shortly after the war ended and agricultural trade normalised (Garraty and Carnes 2000). The lack of a federal framework to enforce alignment of varied interests (and consequently complement structures) meant that regional and capital interests drove development policies. Only after the North won the Civil War did a national economic policy become reality. For example, government subsidies helped stimulate infrastructure development, namely in railroads, and push American industrialisation (Kozul-Wright 1995).[64] The superior power of the North at the time led

[63] United States received a score of 0 in the Cusack, Iverson, and Soskice coordination index (2007).

[64] The division between a labour dependent South rooted in agriculture and a capital dependent North anchored in manufacturing and industry, however, were not overcome merely with the reunification of a national market. Periodic crisis in 1873 and 1893, which were mostly a result of financial instability

to protectionist industrial policies[65] that provided sufficient support to enable American manufacturers to catch up to British/European manufacturers (Bensel 2000). The protections were, in effect, a 19th century version of import substitution industrialisation (Krasner 1976).

Until the 1930s, to sustain growth, firms consolidated sectors to drive economies of scale via monopolies and oligopolies. Without sufficient capital, a major problem of developing countries, innovation and investment relies on retained earnings, which are more easily achievable in oligopolistic and monopolistic markets (Galambos 2000a).[66] Without a clear institutional framework (i.e. regulator or legal infrastructure), investment in innovation becomes too risky (Bensel 2000). During the 1920s, the remit of the government in economic planning was limited to infrastructure, land distribution, and local economic development (Galambos 2000b). The Great Depression of 1929 was severe enough to force a reconsideration of market structures. The causes of the Great Depression are widely debated (see Temin 2000 for a discussion) but the net political economic effect was that a new bargain had to be struck amongst economic stakeholders.

Revised complementary relationships were needed to help drive the US economy out of the Great Depression. Historically driven by capital interests, a number of fundamental changes altered the relationship between capital and labour in the microeconomy. Capital interests could no longer drive the stakeholder bargain because of a newly empowered labour movement. As Barrett writes, "The economic effects of the war…sharply raised the issue of living standards and…In the process the war greatly strengthened unions' bargaining position and ability to organize and raised questions of democratic ideology…" (pg.1014, 1992). A new standard for women's rights also changed the dynamics of labour markets (Greenwald 1980). The bargaining gains enabled by a more

stemming from speculative bubbles and the battle between silver, gold, and greenbacks to provide the anchor for the national currency, exposed and exacerbated divisions amongst economic interests (Rockoff 1999).

[65] The agricultural products of the South were excluded from tariffs because of their dependence on international markets for demand.

[66] Where there is a regulatory void, the state often drives production and innovation, but from the onset the US was never able to build state-owned enterprises or capture the means of production through the public sector.

complete and democratic workforce altered the domestic political alignments that drove economic policy (Rogowski 1989; Eichengreen 1989). The new economic emphasis focused on state-led investment to resuscitate a broken economy.

The New Deal presented an alternative model for market stabilisation and provided a framework for complement formation. Roosevelt enacted economic policies that increased the federal government's control of production (Temin 2000). Using mechanisms like the Reconstruction Finance Corporation, Emergency Banking Act, Securities and Exchange Act, Glass-Steagall Banking Act of 1933, Social Security Act and National Labour Relations Act, Roosevelt provided federal guarantees that would reduce risk for microeconomic actors and promote business development (Galambos 2000a; Nester 1998). These acts regulated capital markets, improved bank liquidity, and provided federal support and guarantees that enabled banks to more efficiently allocate capital (White 2000). The Bank's share of capital allocation in the US was quite high in 1950 as a result (and subsequently diminished over the decades as capital markets shifted away from bank-based finance).[67]

Similarly, for the first time, progressive labour laws enabled collective bargaining, formalised union structures, and protected basic worker rights (Goldin 2000; Tomlins 2000). The New Deal reforms created the pre-conditions for coordinated labour. For the first time the strength of organisations like the AFL-CIO enabled industry wide bargaining. The coordination, however, was short lived and as the coordination increasingly shifted to the private sector and was paralleled by union decline. Wages that converged during the post WWII era diverged in subsequent decades (Goldin 2000; Allen 1987). Similarly, union membership peaked the decade after the New Deal, in 1954 (Goldfield 1987). Capital infusions from public works programmes and military commitments boosted the recovery after the Great Depression and World War II. The military industrial complex was likely the strongest force in helping spur innovation and enable investment to drive growth (Galambos 2000b; Nester 1997). The centralised

[67] White has a good summary of financial intermediation of assets by decade (2000). The reference to changes in monetary policy considers not only regulatory issues but also the Nixon shock that de-linked the US Dollar from the gold standard.

spending tied to military programs mimicked many characteristics of developmental states. The prolonged military spending gave economic stakeholders guarantees that gave them time to strengthen complementary relationships.[68]

Over time, as US government spending pulled back and the military industrial complex scaled down, complements began to revert towards private coordination. In subsequent decades, interests pulled away from asset specificity towards competitive market structures. By the 1980s a loss of competitiveness in medium technology industries finally pushed the U.S. to reinforce liberal labour market norms as employers tried to lower labour costs (Thelen 2014). The U.S. union movement faced an extended period of decline in the 1980s and 1990s. A lack of collective action and preference for labour market flexibility were key factors in the devolution away from coordinated labour markets (Farber and Krueger 1992; Clawson and Clawson 1999). The pattern seen in labour is also seen in capital. Economic stakeholders found mutual agreement to move in the same direction on the side of capital formation. An "alignment of convenience" saw capital and labour align in the fight for minority shareholder protections as both capital and labour converged in their ability to benefit from a liberal system (Gourevitch and Shinn 2007). At the nexus of the interests of the stakeholders were pensions, which if enabled to grow through equity capital markets, would both benefit workers and alleviate firms of future liabilities through exposure to securities. The evolution of American capital markets are a result of decades of negotiated interests and the breaking down of vested interests that held considerable blocks of American securities (see discussion narrative in Gourevitch and Shinn 2007).

The American experience was further from a pure developmental state than that which took shape in Germany because the federal government in America could not sustain public coordination. The state did, however, play a critical role providing federal guarantees and legal enforcement to enable the formation of private complements. After

[68] Military spending also had economic costs (Nestor 1997; Adams 1968), and, over time, private coordination began to re-assert its influence. Market based forms of coordination became the norm, especially when it came to innovation (Nelson and Langlois 1983). The end of the Cold War brought military spending under 5% of GDP (Whitehouse 2012) which affected how market forces would be responsible for most innovation (see Mowery 1998).

the great depression, public coordination again became the norm as the government sought to provide economic stimulus. The U.S. was able to drive economic advancement through coordination, but liberal complement structures re-affirmed themselves soon thereafter. Over time the collective bargaining necessary to sustain "incrementally innovative" elements of the economy fell away, and the dominant sectors became those tied to disruptive innovation. America's leading companies include investment entities like General Electric[69] and Berkshire Hathaway as well as technology companies like Apple, IBM (International Business Machines), Microsoft, Hewlett-Packard, Intel, and Cisco Systems (Forbes 2013).[70] Fragmented, competitive institutional structures and disruptive innovation form the underlying foundations of these businesses.

When a historical perspective is taken across most advanced economies, we find similar typological trajectories. Microeconomic stakeholder interactions have institutional characteristics that enable us to largely predict whether, once released of state intervention and public coordination, a market will tend towards a LME or a CME. Where the state remains present to overcome inefficiencies and is able to institutionalise coordinating principles, a MME structure may take root. Cusack, Iverson, and Soskice, in an effort to explain the origins of electoral systems, produce a coordination index focused on the turn of the 19th century, circa 1900 (2007). Replicated as table 3.1 below, the conclusions are interesting and relevant. Cusack, Iverson, and Soskice use the coordination index to demonstrate a logic that explains democratic organisation. The same logic can be applied in a market structuring framework because the data is representative of coordinative tendencies amongst microeconomic stakeholders. The patterns identified by Cusack et al. are visible in today's VoC mapping. Countries that are low in the coordination index were most likely to become LMEs, whereas countries high in the index would become CMEs. Those in between were left with typological trajectories that were not pre-defined by probabilistic outcomes: Finland and Japan

[69] General Electric's largest segment is their Capital Investment business. The firm also has business lines in other technology intensive products in healthcare and oil & gas (GE 2012).

[70] The U.S. has 30 firms in the top 100 of the Forbes index. Many of the other firms include branded product and service providers as well as companies that have leveraged their strength in global markets. The primary outliers in the top 100 are Ford and General Motors, both of which received considerable state support in the face of bankruptcy (Kleir and Rubenstein 2012).

became CMEs while France and Italy became MMEs. The historical precedents of microeconomic interaction enable clearer identification of how interests align at a macro political economic level which facilitates clearer identification of typological tendencies.

Table 3.1: Indicators of Economic Structure and Organisation (ca. 1900)

Indicators of Economic Structure and Organization ca. 1900						
	Guild Tradition and Strong Local Economies	Widespread Rural Cooperatives	High Employer Coordination	Industry/Centralized vs. Craft/Fragmented Unions	Large Skill-Based Export Sector	Coordination Index
Australia	No	No	No	No	No	0
Canada	No	No	No	No	No	0
Ireland	No	No	No	No	No	0
New Zealand	No	No	No	No	No	0
United Kingdom	No	No	No	No	No	0
United States	No	No	No	No	No	0
France	Yes	No	No	No	No	1
Japan	Yes	No	Yes	No	No	2
Italy	Yes	Yes	Yes	No	No	3
Finland	Yes	Yes	No	No	Yes	3
Austria	Yes	Yes	Yes	Yes	Yes	5
Belgium	Yes	Yes	Yes	Yes	Yes	5
Denmark	Yes	Yes	Yes	Yes	Yes	5
Germany	Yes	Yes	Yes	Yes	Yes	5
Netherlands	Yes	Yes	Yes	Yes	Yes	5
Switzerland	Yes	Yes	Yes	Yes	Yes	5
Norway	Yes	Yes	Yes	Yes	Yes	5
Sweden	Yes	Yes	Yes	Yes	Yes	5

Sources: Table 4 from Cusack et. al. 2007. Cusack et al. constructed the index with reference to Leonardi 2006; Thelen 2004; Mares 2003; Swenson 2002; Guinane 2001; Herrigel 1996; Crouch 1993; Katzenstein 1985; Hechter and Brustein 1980; Lewis 1978; Syrnes 1963; Marshall 1958

3.4 Interpreting Coordination in an Emerging Market

Section 3.4 returns to the research question about today's EMs and their institutional challenges. The section examines how to define a typological trajectory for the case countries.

The core research question dealt with drivers of firm competitiveness in the face of institutional weakness. Linking the microeconomy and macroeconomy is a central focus of the thesis. I argue that firm-level analysis provides a unique insight into the processes of change that are occurring in an economy. Firms are agile organisations that must reconfigure themselves and adapt to the changing business environment in order to survive (Morgan 2005). Successful firms are those that have predicted and adapted to the institutional structure of the market. Competitive firms are those who have managed to drive efficiency in capital and labour inputs to maximise productivity. How firms organise themselves along the five dimensions of VoC enables us to understand the form and nature of the change affecting the institutional foundations of the market. Industrialisation in advanced countries was marked by class struggles and capital investments. Both labour and capital sought to mitigate risk and maximize returns, which is dependent on an efficient mechanism of coordination (Thelen 2004). Institutional change in emerging markets is driven by similar variables as advanced economies, labour, capital, and the state, but with different pre-conditions.

As noted previously, the fact that developing countries were not the first to industrialise alters firm opportunities and challenges. Namely the role of globalisation and application of development models are stronger forces in EM maturation. A global marketplace provides greater access to inputs (principally in the capital sense) and demand (Schneider 2009b), but, conversely, the global marketplace is also a source of competition. Developmental programmes seek to either exploit global demand or protect local firms from global competition at a macroeconomic level. [71] Developmental states take a dominant role in market structuring precisely because of the potential risks and rewards

[71] A debate exists on the relative influence of the state on development processes in advanced economies versus EMs. The key point is that while protective strategies may be similar, the notion of state coordination for the purposes of economic development is much stronger in EMs.

that come with globalisation. States seek to direct resources to productive ends by controlling firm inputs and outputs. The analysis emphasises the point that industrial policy has a role to play in the development of an economy (Rodrik 2007). As a result, developmental states organise public coordination in capital and labour markets. Processes of institutional change begin when the divide between formal institutions and application of policy widens (Streeck and Thelen 2005). Analyses of how change occurs in labour markets, capital markets, and state governance will demonstrate how the gap, or disconnect, is being bridged in the underlying microeconomy.

The relative level of collective action in the institutional subsystems of the market is the key factor that distinguishes the form of coordination, or typology, in the market (see Table 3.2). Where labour is able to act collectively, cooperative agreements among labour market participants and between labour and capital facilitate the coordination of firm inputs. Where capital allocation is negotiated across the capitalist class and banks, firms are able to receive more patient capital and operate with longer time horizons. Where training is linked to employers through vocation-specific programmes, firms are able to develop more stable relationships with employees. With regard to firm outputs, the structure of supply chains and market access are cooperative when economic actors are able to coherently direct firm production. When cooperation is not achieved along all but is achieved along some VoC dimensions, the form of coordination is mixed. Finally, where market based competition drives the allocation of capital and labour, the market is labelled as liberal. Therefore, when determining institutional change along dimensions of capitalism in EMs and advanced countries alike, the key factor is the relative amount of collectivisation among economic stakeholders.

Institutional weakness in developing countries makes empirical research along each relational sphere challenging. Microeconoimc data is not always available and market structures oftentimes exhibit legacies of a strong state. As a result, in EMs, the capacity for collectivisation should be considered at a market level rather than at a relational level so as to capture the typological tendencies of stakeholders in the market. Subsequent chapters will therefore discuss each VoC dimension within a broader dialogue about labour and capital. How firms manage relationships and drive inputs from capital and labour markets will determine the sustainability of patterns seen in the structure of capital and labour markets.

Labour organisation in EMs exhibit similar characteristics: weak institutions, large informal economies, an over-supply of labour, limited employment insurance, and underdeveloped markets (Schneider 2009a; Boeri et al. 2008; Phelan 2007). Parallels exist not only among EMs but also between EMs and historical labour market precedents in advanced economies (Gourevitch and Shinn 2007; Carney 2008). Industrialisation, democratisation, urbanisation, collectivisation are all themes common to the history of union movements in advanced economies (Thelen 2010; Phelan 2007; Kaufman 2004; Rajan and Zingales 2003), and the same themes are critical to understanding the construction of labour markets in subsequent case studies. As economies mature and political bargains are struck, labour is better able to defend their interests.

The modern global economy and the fact that developing countries were not the first to industrialise may present unique challenges (Mosley 2008), but the importance of collectivisation and political bargaining of interests in structuring domestic labour markets remains the same. In the face of globalisation, the degree of collectivisation domestically is the key indicator of the institutional changes likely to occur in the labour market (Bieler et al. 2008; Phelan 2007). Developmental states use public coordination to speed the pace of labour market development and to protect (or direct) labour interests (Phelan 2007). Whether or not policies created by developmental states are sustainable depends on how well the policies match interests of microeconomic stakeholders. Firms are happy to offer protections for labour (cf. Swenson 2002), but labour must reciprocate by offering a strong skill set and firm commitment. Protections for employees can be achieved without sacrificing economic efficiency (Pagano and Volpin 2001; Crouch 1993).

The obstacle in EMs from a capital perspective is that capital interests are not as incentivised to cooperate with labour until the skill sets provided by labour are not easily replaced. The oversupply of labour in EMs is the key driving force for asymmetry and the key differential when comparing EMs to the historical development of labour in advanced economies. Firm willingness to commit to a longer term labour relationship is a function of the firm's need for skilled labour, which is tied to economic development (Rudra 1995). Laws protecting jobs and establishing minimum wages tend to not be effective. Firms fear labour protections because firms are unable to correct employment and wage levels should performance metrics begin to slip. In CMEs, agreements on wage reductions or furloughs can be negotiated, but such negotiations are either not possible in developing economies because of an oversupply of labour, underdeveloped unions, or overdeveloped unions with unskilled workers. Similarly, minimum wage laws/agreements may or may not be enforceable because employment may be driven to the informal economy. What results is a large informal economy. Such challenges mean that traditional measures of employee relations and industrial relations must be adapted to an EM context.

Equally challenging to decipher in EMs are relationships surrounding corporate governance and inter-firm relations. The structure of domestic capital markets affect corporate governance and firm financing (Rajan and Zingales 2003; Petersen and Rajan 1995). Where capital markets are not well developed, firms will rely on retained earnings to finance operations and new investments (Rajan and Zingales 2003). A lack of capital market sophistication affects firm management because without equity or debt capital markets, the demand for transparency and credible management systems is less. Without credible management systems and shareholder structures, management and ownership structures blend, frequently leading to prevalence or dominance of SOEs and/or family run firms.

Furthermore, in developmental states incentives are shaped around the economic goals set by the state. Capital allocation and lending decisions tend to be based on politics rather than processes of risk assessment (see Dinc 2005; Verdier 2003). In state led regimes, information asymmetries and politics can deter firms from achieving operational efficiency and productivity. Firms are reluctant to do business because of a lack of trust in market mechanisms. Firms, where they can, will prefer to pursue vertical and horizontal integration as a strategy rather than develop greater efficiencies in existing businesses. Without the state driving regulatory structures, firms will be reluctant to normalise their marketplace relationships. With the state driving coordination, firms will react by responding to the clearest incentives, even if they are political.

As states develop and begin to extract themselves from the market and permit capital to coordinate itself, the state's role in the coordination of capital remains central (Rajan and Zingales 2003; Petersen and Rajan 1995). The role of the state slowly moves from allocator of capital to regulator of capital markets. Capital markets require enforceable regulatory structures in LMEs and require an active avenue for consensus building dialogue among stakeholders in CMEs (Gourevitch and Shinn 2007; Pagano and Volpin 2001). Developmental states are unable to provide the necessary regulatory support and therefore states have to shift institutional resources towards regulation. The risk is that capital management policies become inconsistent and piece-meal. For example, the creation of investor protections in equity capital markets but not bond or bank capital markets can shorten the time horizons of firm financing and management. Likewise, liberalisation of the banking sector without similar steps in alternative capital markets can either alter or limit how firms finance themselves.

The ability for change to occur is dependent, first, on the ability for interests to drive decision making, and, second, on the ability for change to propagate through the system (i.e. number of veto players). Domestic structures play an important role in the way collectivisation operates across states (Mosley and Uno 2007). Interests must find avenues of influence.[72] Collectivised interests are able to ascertain a larger voice, but

[72] The path to private coordination of complements and effective state regulatory policy is affected by both formal and informal interests. A veto player framework offers a relatively parsimonious illustration of what is and is not feasible. The more veto players, the more difficult it is to achieve policy consensus (Tsebelis 1995). Proportional Representation systems result in diffuse power bases because each party represents a veto player (Simmons 1994; Eichengreen 1992). Studies have found that these systems tend to have independent central banks and are less consistent fiscal policies (Bernhard and Leblang 2002; Bernhard and Leblang 1999; Tsebelis and Chang 1994). Competing domestic political institutions (e.g. branches of government or federal-state relations) provide another potential source of incoherence (Hallerberg 2002; Bernhard 1998; Lohmann 1998). Fiscal policy, monetary policy, fixed exchange rates, central bank independence, etc. are all heavily affected by domestic political institutional structures

where interests are not collectivised the path to reform to promote the creation of liberal markets (and a subsequent shift in state management from coordination to regulation) can be long and arduous.

(Bernhard et al. 2002; Keefer and Stasavage 2002; Moser 1999a; Moser 1999b; Alt and Lowry 1994; Goodman 1991). Price-wage negotiations specifically and macroeconomic equilibriums, more generally are also affected (Soskice and Iverson 2000; Hall and Franzese 1998; Iversen 1998).

3.5 Conclusion

Chapter two argued that the VoC conceptualisation of typologies should be considered as parts of a capitalistic spectrum, with LMEs and CMEs providing the two extremes. The re-conceptualisation of how we classify economies enables a clearer focus on the role of institutional change in VoC, which is critical in an EM context. Chapter three proposes a new theoretical approach to VoC by introducing the concept of a typological trajectory. Beginning with the developmental state, I argue we can identify patterns in microeconomic organisation that will indicate which typology is most likely to take root in the market. Typological trajectories clarify which country level factors are strongest in an economy. The incentives firms face depends on the complements being formed in the market. If labour and capital market institutions are like tectonic plates, then successful firms are those that are stepping onto newly created crust and failing firms are those being submerged. Firms that are at the forefront of the market will be best positioned to take advantage of the comparative advantages being created by the nascent VoC taking root in an economy. Subsequent chapters will use a case study approach in a VoC framework to decipher a typological trajectory and explore how country level factors influence the most successful and competitive domestic firms.

Chapter 4 The Typological Trajectory of the Indian Economy

4.1 Complements in the Indian Market

Chapter four analyses the Indian system of capitalism. The focus is on structural aspects of Indian capital and labour markets. To determine the typological trajectory of the Indian market requires determining the level of collective action in complement organisation. Additionally, the level of public versus private coordination will determine the level of involvement of the developmental state and how close the market is to equilibrium. The analysis seeks to determine how incentives are propagated through the economy and how firms react to those incentives. The chapter picks up from the findings of the theoretical chapters that place India as an evolving LME. The chapter answers the following questions: How much does the state continue to facilitate public coordination and is it sustainable? Have liberal market norms manifested themselves in the creation of private complements? How coherent are privately coordinated complements? The answers to these questions set the stage for chapter five which focuses on the second layer of the case study at the firm level.

Given the abundance of labour in the economy, the discussion begins with labour and then moves onto capital. Labour markets are characterised by anachronistic labour laws that were drafted early in India's history. The labour market has changed little post-liberalisation because of political barriers and developmental imperatives. In implementation, however, labour policy is highly incoherent as diversity across states and sectors hamper the coordinated principles that guide the labour policies. Furthermore, a significant portion of the Indian economy operates in the informal economy because of the legalistic hurdles of operating in the formal economy. Meanwhile, capital markets demonstrate a tendency towards riskier privately held, non-bank asset classes. The state, however, continues to manage the distribution of credit. Additionally, India's capital account convertibility remains restricted. So what to make of the confusion and dichotomies that characterise the Indian market? In the labour market, why has a labour endowed economy been unable to achieve success in labour dependent sectors like manufacturing? In capital markets, why does the state continue to operate a largely nationalised banking system with restricted capital account convertibility but permit burgeoning equity capital markets infused with Foreign Direct Investment (FDI)? The answers are complex and tied to the institutional and political structures that dominate India.

The chapter is organised into four additional sections. Three of the sections each represent one of the axes necessary to plot the Indian economy along its typological trajectory: section 4.2 is about labour, section 4.3 is about capital markets, and section 4.4 discusses the role of the state and public coordination to trace the transition to private coordination to define a trajectory. Within labour markets, employee relations, industrial relations, and vocational training are discussed. I analyse the origins of labour law, how it was reinforced in the macroeconomy, and how the labour market operates at a firm level. I demonstrate how Indian labour laws aimed at public coordination have lost their relevance in the modern economy. Flexible labour mobility is taking root in India as coordination proves untenable. The capital section discusses corporate governance and inter-firm relations. I demonstrate how liberal market norms have come to dominate Indian capital markets and how firms have surprisingly transparent corporate governance for a developing economy. The section on the role of the state in the economy offers a broader historical analysis to trace institutional change. Section 4.5 concludes by summarising the coordinating role of the market across multiple dimensions of the Indian economy as the state withdraws public coordination and private coordination takes over. The final section also considers India's trajectory in comparison with that of Brazil.

4.2 Indian Labour

Section 4.2 traces coordination and complement structures in the Indian labour market. VoC theory identifies three dimensions in which complementary relationships affect the structure of the labour market. First, industrial relations are the strength of unions in industry and the level of bargaining for wages. Second, employee relations are the compensation and security that the employee receives from the employer. Third, vocational training, which will be discussed in the context of employee relations, relates to how employee skills are shaped. Relics of a publicly coordinated system try to foster a tri-partite arrangement but fail at the firm level, where informality is the norm. Previously, I posed the question as to why archaic laws remain in place when the market is almost entirely informal. Part of the answer is explicitly linked to developmental challenges and part is because of the political challenge to reform labour market structures. The section outlines a brief history of Indian labour regulations, clarifies labour function at the firm level, and discusses the extent to which we can expect institutional change to re-align legislation.

Successive legislative acts create the parameters that structure Indian labour markets and reflect the long reign of the Congress Party. Table 4.1 summarises key laws that establish worker rights. The Constitution explicitly defines equal opportunity and the right of labour to assemble but omits any guidance on working conditions and wages (Pandey 2006). In addition to the Constitution, a series of legislative acts prescribe laws that provide minimum standards and a foundation for public coordination. The step-wise creation of labour law reflects an effort by politicians to legislate a "labour code" rather than rely on jurisprudence, which one might expect in a common law system. Further complicating implementation is the fact that different labour related provisions fall under different levels of governance within the Indian federal structure. For example, implementation of many sector-specific acts are the responsibility of the central government but the broader structural pieces of legislation are to be implemented by a mix of federal and state level entities (Ministry of Labour 2007). The discord and onerous litany of labour provisions makes it easy for firms to arbitrage formal markets since the state cannot monitor compliance.

Table 4.1: Summary of Key Labour Laws

Year	Act	Description
1923	Workmen's Compensation (Employee's Compensation) Act	The Employees Compensation Act provides employees and/or their dependents relief in case of accidents arising out of an in the course of employment and causing either death or disablement of employees. The Workmen's Compensation (Amendment) Act in 2000 brought all employees within its ambit, irrespective of their nature of employment.
1926	Trade Unions Act	The Trade Unions Act provides for registration of trade unions (including associations of employers) to render lawful the organisation of labour that enables collective bargaining. The Act also confers on a registered trade union certain protection and privileges.
1936	Payment of Wages Act	The Payment of Wages Act was enacted with the object of (i) regulating payment of wages, imposition of fines and deductions from wages, and (ii) eliminating all malpractices by defining wage periods and mode of payment of wages. The Act ensures payment of wages in a particular form at regular intervals without unauthorised deductions. The Act is applicable to employees receiving wages up to Rs. 10,000 p.m. (amended as of 2007).
1946	Industrial Employment (Standing Orders) Act	The Industrial Employment (Standing Orders) Act is social legislation. It aims to protect labour by providing uniform and stable conditions of service. The Act requires employers of certain industrial establishments to clearly define the conditions of employment and to make them known to the workmen employed by them. The Act applies to every industrial establishment wherein 100 or more workmen are employed or were employed on any day of the preceding 12 months. The Central or State Government may, however, extend its provisions to any industrial establishment employing even less than 100 workmen. Once the Act becomes applicable to an establishment, it does not cease to apply on account of a subsequent fall in number of workmen in the establishment.
1947	Industrial Disputes Act	The Industrial Disputes Act provides the machinery and procedure for the investigation and settlement of industrial disputes by negotiation instead of by trial of strength through strikes and lockouts.
1948	Minimum Wages Act	The Minimum Wages Act provides minimum statutory wages for scheduled employments with a view to obviate the chances of exploitation of labour through payment of very low wages. The Act also establishes maximum daily working hours, weekly rest day and overtime. Rates fixed under Minimum Wages Act prevail over the rates fixed under award/agreement. The Minimum Wages Act is a Central legislation; however, its enforcement is administered by the Central and State Governments in their respective spheres. The State Government shall fix the minimum rates of wages in respect of the various scheduled employments, make the rules, appoint Inspectors and decide claims relating to non-payment of minimum wages.
1948	Factories Act	The main objectives of the Factories Act are (i) to regulate working conditions in factories, and (ii) to ensure that basic minimum requirements for the safety, health, and welfare of the factory workers are provided. The Act regulates the working hours, leave, holidays, overtime, employment of children, women and young persons, etc. The Act was amended in 1987 for the

		handling of hazardous substances. A Factory means any premises (i) wherein 10 or more workers are employed on any day of the preceding 12 months and manufacturing process is carried on with the aid of power; or (ii) wherein 20 or more workers are employed on any day of the preceding 12 months and a manufacturing process is carried on without the aid of power.
1965	Payment of Bonus Act	The act seeks to define bonus payments for workers so as to ensure they are aligned with profits or productivity. The act applies to all formal work areas where at least 20 people are employed but can be extended to establishments with at least 10 employees. All workers who have been employed for at least 30 working days in a year and early wages up to Rs 10,000 per month are eligible. Calculations of the bonus provision are provided in the legislation.
1976	Equal Remuneration Act	The act seeks to ensure equal remuneration for men and women for work of a similar nature. The act further denotes that women cannot be discriminated against.
1976	Bonded Labour System (Abolition) Act	The act seeks to prevent the exploitation, either economic or physical, of labourers. The act excludes the ability for a creditor to use bonded labour for repayment of debts and ensures that all existing debts that involved bonded labour were cleared.
1986	Child Labour (Prohibition and Regulation) Act	The act replaced a predecessor child labour act from 1938. It seeks for the exclusion of child labour in unsafe and harmful situations in all establishments where an industrial process takes place. A child is defined as any individual who has yet to reach his/her fourteenth birthday. The act clearly defines occupations where child labour is prohibited and otherwise limits how long children can work as well as defines standards that must be followed in the eventuality of employed children.
1988	Labour Laws Act	The Labour Laws (Exemption from Furnishing Returns and Maintaining Registers by Certain Establishments) Act requires registers to be submitted / maintained by small and very small establishments, in lieu of more complicated registers required for larger firms. A small establishment is one wherein not less than 10 and not more than 19 persons are employed or were employed on any day of the preceding 12 months. A very small establishment is one wherein not more than 9 persons are employed or were employed on any day of the preceding 12 months.

Source: Garg (2012); Ministry of Labour (2012)

The inconsistent application of labour laws creates inefficiency. Firms overcome inefficiency by coordinating privately and building complements outside formal labour market structures. While International Labour Organisation (ILO) statistics indicate 84% of non-agricultural workers work in the informal economy, Himanshu calculates that the figure is nearly 95% for the trade, repair, and services sectors (ILO 2012; Himanshu 2011). The high level of informality is a clear indicator of the inability for Indian labour law to translate into the microeconomy.

When Indian labour laws were drafted, the architects of the Indian developmental state were anticipating what India might become as it industrialised. The vision, especially apparent in the labour disputes act, foresaw legally established minimum standards upon which a tri-partite system could flourish. The implementation of a corporatist model, however, would always be a challenge in an economy that, before independence, was fragmented (Deshpande 1992). Additionally, an oversupply of unskilled labour and an undersupply of skilled labour undermined labour's position and left the state in charge of managing "labour's interests". Without microeconomic foundations to support corporatist principles, the labour infrastructure to drive tri-partite bargaining became “irreversibly state-regulated” (Papola 1992 36).

Firms are consequently incentivized to remain small, which prevents them from leveraging economies of scale and achieve efficiency gains. Laws intended to provide minimal protections for labour create insurmountable obstacles for firms. Firms with over 100 people cannot easily fire employees; firms with over 50 employees have to provide health insurance; firms with over 20 employees have to contribute to pension funds; while firms with less than 20 employees have few if any requirements. To avoid regulators, businesses employ contract labour or informal labour to remain outside of the purview of labour regulations (Krueger and Chinoy 2002; Deshpande 1992). Labour law restrictions affect not only operating costs but also the bottom line, since enforcement of labour provisions continues even in bankruptcy. In situations of bankruptcy, instead of allowing the firm to fail, the government historically provided subsidies to prevent the loss of employment (Agarwal 1997). Firms find it difficult to adjust operations to react to market demand. The inflexibility means that firms prefer to invest in technology, capital goods, and mechanisation rather than labour, despite its abundance.

Firms consistently find ways to circumnavigate existing labour market restrictions to enable as much flexibility as possible (Deshpande 1992).[73] The problem became even worse after liberalisation. As the Indian economy develops, labour supply and demand

[73] Deshpande enumerates 7 strategies: contracting labour, leasing capacity in smaller firms, increasing capital intensity of production, bargaining with unions on terms of productivity, incentivising early retirement, operating away from city centres, and resorting to corruption.

characteristics shift more rapidly. For example, despite India's labour abundance, a shortage of skilled labour is affecting nearly all sectors of the economy from construction to manufacturing to information technology (Hajela 2012; Rao 2011; Das and Kalita 2009). Firms are reluctant to hire and train workers because of the inflexibility of labour laws. Conversely, there is such an oversupply of unskilled workers that movements to align labour are undercut by labourers operating outside of the system. The inability for the market to match supply and demand is a clear indicator of the problems posed by the existing market structure.

Industrial relations follow the same pattern as employee relations. Laws intended to facilitate cooperation and negotiation between capital and labour, in practice, create barriers. The labour laws incentivise the accumulation of many small factories instead of manufacturing hubs. Small factories work against labour interests because they divide union movements and make it nearly impossible for labour to act collectively. Statistical data confirms the relative weakness of unions in India. Only 10% of the formal workforce is unionised, but when one considers that over 90% of the labour force is informal, the effective unionisation rate is roughly 2.2% (IAMR 2009). And even the unions that do exist are, on average, quite small (Deshpande 2004; Ministry of Labour 2008). In practice, the divided union structure makes it nearly impossible for firms or industry segments to negotiate with workers. And in cases of conflict, legal provisions for arbitration are ineffective because labour cannot negotiate coherently. The state regularly intervenes in arbitrations and more often than not dictates the terms of any settlement (Nagaraj 2002; Zagha 1999). As a result, because unions are ineffective, union structures act through political channels to promote protectionism or individual interests (rather than the interests of the wider labour force) which further undermines collective action (Deshpande 1992; Papola 1992).

Even if firms were not fragmented, language, race/ethnicity, nationalism/regionalism, and caste would undermine collective action (Varshney 1998). Workers prioritise caste or race over socio-economic status which changes the way in which Indian labour interests are represented. Successful industrial bargaining requires collective action based on wage demands and economic principles. The preferences of workers and division of nationalities in India are unique characteristics of the market. The division of Indian states creates a similar barrier to collective action. Unions rarely cross state borders. Workers and firms arbitrage the differences in labour regulation across states. Across multiple dimensions and cleavages, labour movements in India are so fundamentally decentralised that collective action is always undermined (Bardhan 2004).

With regards to vocational training, general skill training is the norm. Top firms find the best talent available in the market and provide training (Kazmin 2010; TCS 2010a; Wipro 2010; Yadapadithaya 2001). Demand for skilled labour outpaces supply which drives turnover in the market. The FY 2007 accession and separation rates (i.e. labour turnover) in the formal sector are 18% and 22%, respectively, and those figures have been consistently high over time (Ministry of Labour 2008). The rates are in line with those common to uncoordinated labour markets (OECD 2009). As the strength of India's top sectors, especially those linked to services,[74] continues to improve, the vocational model is reinforced because the demand for top talent is reinforced. India's most successful sectors, which rely on sophisticated human capital, are not unionised and individual labour contracts are the norm. The arrangement is mutually agreed and equally beneficial to the employer and employee (Sarker 2012).

Economic stakeholders are investing in education to raise the standard of the average Indian skilled worker. These investments are not coordinated and exhibit no characteristics one might expect in a system built on strategic cooperation. Public universities have tried to offer students greater flexibility through changes in curricula (Singh 2010a). Firms are exploring avenues to further support Indian higher education through sponsorship and private universities (Rao 2011). It is estimated that industry already spends $1bn a year on training programmes, with thousands of new hires undergoing training programmes that last months (TCS and Infosys executives, personal interviews Mar 2012). Individuals, similarly, recognise the opportunities available for

[74] Indian economist Arvind Panagariya estimates that 38% of Indian GDP came from the top 650 service enterprises (2010).

educated human capital and invest heavily in education privately[75] (Singh 2010b; Panagariya 2009; Kochar 2002).

The net result of the demand for skilled labour is a "hierarchy of labour" where educated workers operate in a flexible labour market and uneducated workers operate either in the informal economy or in dysfunctionally unionised industries. The dichotomy is clearest in a comparison of the IT and manufacturing sectors. The developmental models for the two sectors have been very different. In manufacturing, the government took a corporatist approach. Federal laws sought to protect labour at the cost of firm efficiency, a trend that has continued after liberalisation. Approximately 90% of the sector remains informal, productivity has stagnated, but wages have risen (T.S. Papola, personal interview Feb 2012; Goldar 2004). Firms avoid hiring employees and instead rely on contract labour or capital equipment investments to survive (Nagaraj 2002). As a result, despite being labour endowed, India has failed to reach the level of success of its regional neighbours (EPWRF 2012).[76] In contrast, the IT sector was given special exemptions to operate in a flexible labour model (Kumar 2009). The flexibility strengthened firms, incentivised competition, and enabled an entrepreneurial culture to develop. IT firms are consistently rated the top employers because of the work culture and compensation (Business Today 2012). The success of the IT sector translated to other trading sectors and is now considered a model for the wider economy, even manufacturing.[77]

A dual economy structure whereby manufacturing is coordinated while services are liberal is commonly seen but requires context to be interpreted. Germany, for example, has a phenomenon where service based industries have been given increasing freedom to operate on a flexible labour model while the manufacturing sector remains fixed in a tri-

[75] Approximately $2BN is spent in the private sphere, annually, relative to a 2003/4 public education budget of $3.7BN.
[76] India exported, on an average volume basis, less than China, Malaysia, and Thailand between 2001 and 2010. And in terms of trade as a % of GDP, India falls behind all of its neighbours: Bangladesh, China, Indonesia, Malaysia, Pakistan, Sri Lanka, and Thailand (EPWRF 2012).
[77] The most recent effort to stimulate manufacturing in India has sought to copy IT developmental policy. Manufacturing technology parks are being created in an effort to spur innovation (Ministry of Commerce & Industry 2011). The potential for such a programme to create mass employment is limited because such an initiative will only spur disruptive innovation and is unlikely to be able to spread to the broader market (Sibal 2012b).

partite agreement (Hall 2007). Conversely, in the US, manufacturing is much more unionised than any other sector. The key differentiation between the two markets is that GDP growth and large corporations are largely affiliated with manufacturing in Germany and disruptively innovative services in the US. In India, three facts need to be considered to understand labour market duality. First, manufacturing is not the key driver productivity and statistics confirm that it is not a sector characterised by efficiency and incremental innovation (Das 2009; Das 2004; Goldar 2004). Second, coordination in manufacturing is publicly managed (Ghosh 2010; Frankel 2005). The lack of scale and/or efficiency in Indian manufacturing is because stakeholders have yet to develop efficient complements. Third, India operates almost exclusively in low value manufacturing and has been unable to become competitive in high value manufacturing (Ministry of Commerce 2012; Kohli 2006). Low value manufacturing does not require innovation and relies on labour cost arbitrage in a globalised market. CME markets specialise and innovate in high value manufacturing. India's labour market duality results from a contradiction between public and private coordination and not because of a strong CME market structure.

In summary, along multiple dimensions of labour market interaction, competitive forms of coordination are preferred since public coordination has failed and collective action is untenable. The market is characterised by high rates of informality, high rates of labour turnover, and non-vocation specific education. India's top sector relies on labour policy exclusions to recruit in a flexible labour market. In the remainder of the market, protectionist policies, a legacy of public coordination in a developmental state, continue to stifle. Despite liberalisation in the 1990s, institutional structures remain intact. The fact that India is ranked 92nd in labour market efficiency in the global competitiveness index is not a surprise in light of the contradiction between public and private coordination (2011).

4.3 Indian Capital Markets & Corporate Governance

Section 4.3 is about Indian capital market structures and the coordination of complements in the market. The capital section focuses on corporate governance and inter-firm relations. Corporate governance is tied to management hierarchy and firm financing decisions.[78] Inter-firm relations include both supply chain relationships and sector specific competitive dynamics. India has a segmented market where firms that are attractive to equity investors are able to list on stock exchanges and adjust their corporate governance practices accordingly, whereas other firms remain mired in a web of state controls and beholden to a largely public banking system. Previously I posed the question as to why the state continues to operate a largely nationalised banking system with restricted capital account convertibility while permitting and regulating burgeoning equity capital markets infused with FDI.[79] The section will seek to explain exactly how and why such a contrast exists in the capital market and the extent to which we can expect institutional change to enhance efficiency.

Public coordination has been embedded in the Indian economy since independence (and with the British before that) because of Gandhi and Nehru's swadeshi[80] principles. Nehru and the Indian National Congress built India's developmental state through a series of legislative acts.[81] The provisions directed the flow of capital. At first the system worked because of the discipline and cooperation enabled by the Congress Party. After Nehru's passing, however, it became nearly impossible to implement centralised economic policies (see Sibal 2012a). Underlying fragmentation meant that to preserve public coordination, interests had to be bought off through subsidies and corruption. Indira Gandhi's decision to pass legislation further nationalising industries is a testament to the

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[78] Capital structures signal how firms finance themselves and what kind of creditworthiness they are able to maintain given their cash flows.

[79] For a discussion on FDI inflow see Rao and Dhar 2011.

[80] Swadeshi is the socialist principle of self-sufficiency that Gandhi advocated in his aim of undermining any colonial economic exploitation that was subsequently carried on into Indian economic policy after independence.

[81] The Foreign Exchange Regulation Act (a continuation of a British resolution implemented during WWII), Imports and Exports Act of Parliament (a continuation of a British resolution implemented during WWII), and Capital Issues (continuance of Controls) Act all were implemented in 1947; subsequent policies included the 1948 Industrial Policy Resolution, the Industries Act of 1951, the First Five Year Plan (1950/1), the Second Five Year Plan (1956), and the Industrial Policy Resolution of 1956 (Tomlinson 1993; Mohan 2004).

challenges Indian leaders faced implementing corporatist policies in a fragmented market.[82] The effect of the government's command control of the Indian economy was detrimental, as the average annual growth rate slowed considerably.[83] A delicate balance between economic management, protecting the poor, and political bargaining pulled capital market management in different directions.

The current banking system is governed by the Reserve Bank of India (RBI) Act of 1934, Industrial Disputes Act of 1947, and Banking Regulation Act of 1949 as well as a series of microeconomic banking acts (Umarji 2008). Indian banking continues to be largely nationalised and coordinated from the centre. Indira Gandhi nationalised the 14 largest commercial banks in 1969 with Banking Companies Act and then added the next 6 largest commercial banks in her second rise to power in 1980. All meaningful segments of the banking sector were government controlled until liberalisation, but twenty years after liberalisation, roughly 75% of the sector remains in government hands (Adhikari 2011). Despite state control, the banking market is fragmented. Considering the balance sheets of the top 50 banks in the market, approximately 15% are with the State Bank of India and the remainder are split across the market with no single firm exceeding 5% (Business Today 2011). The state has tried to walk a delicate line of enabling competition while protecting developmental considerations.[84] The net result, unfortunately, is that the Indian banking sector is largely inefficient (Adhikari 2011; Rezvanian et al 2008).

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[82] She, beginning in 1969, nationalised large industries to help channel resources to small businesses, farmers, and the rural economy: the small-scale industries reservation policy of 1967 reserved the production of select goods to small and medium enterprises; the Monopolies and Restrictive Trade Practices Act of 1969 allowed the government to regulate big business; the Banking Companies Act of 1969 nationalised all meaningful banks; the Industrial Licensing Policies of 1970 and 1973 regulated new production activity of big business; and the Foreign Exchange Regulation Act of 1973 put an effective cap of 40% on foreign equity holdings of corporations (Panagariya 2009).

[83] The average annual growth rate was 2.9% between 1966 and 1980, and the per capita average growth rate was a meagre 0.7%. The range of annual growth for the period was -5.2% to 9.0%, which indicates how volatile the economy was. The compound annual growth rate was 3.1% in contrast to the 3.8% rate in the preceding fifteen years (RBI 2010, author's calculations).

[84] The government seeks to use banks as a medium to extend credit and subsidies to the poorest elements of the population. The state manages credit by placing minimum lending requirements for underserved regions. State banks have high levels of non-performing assets and are undercapitalised given domestic credit demands (Adhikari 2011; Mohan 2011).

Market pressures, the inefficiency of public coordination, and demand for credit are forcing change. Legislative efforts include the Recovery of Debts due to Banks and Financial Institutions Act of 1993 and Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act of 2002 (Umarji 2008). The laws enhance creditor rights. More recent dialogue includes provisions to enhance voting rights of bank shareholders, raising SOE bank public ownership ceilings, directing all M&A approvals exclusively to the RBI, permitting the RBI to take over failed banks, and better enforcement of financial holding company regulations (to de-link conglomerates from financial institutions) (Diwanji et al 2011). The changes push coordination to the private sphere and push the RBI to assume greater regulatory functions.

Liberalisation enabled change in the core structures of capital markets. While business restrictions were loosened in 1981, capital market reform came only in 1991. Key changes included the creation of the Securities and Exchange Board and National Stock Exchange, convertibility of the rupee (managed float), market determined interest rates, abolition of production licensing and lifting of quantity restrictions in the external sector, lower liquidity requirements for banks, tax reform, and operational reforms in the RBI (Bhattacharya and Kar 2007). Structurally, credibility and risk came to play a more central role in the operation of the financial system as banks had to focus more closely on their profitability (Sengupta and Neogi 2009). Legislation in 2001 gave banks enhanced power to take control of non-performing assets and force defaults if covenant criteria are not met (but government barriers to full bankruptcy mean that lenders still have to rely on debt tribunals and arbitration which can be inefficient).[85] Shareholder protections have helped enable more sophisticated lending structures, including for example syndications which help promote corporate lending. Similar to the bank capital market, the bond capital market remains underdeveloped at the corporate level because of state

[85] Secured lenders are pari passu with workers in the legal system when it comes to claiming assets of a company in default. The lack of state based pension funds mean that worker claims are tied to salary and not more complex, state-based pension claims. Furthermore, taxes are subordinated to lenders and workers in all corporate. Complicating matters are state level provisions that oftentimes seek to make taxes the most senior claim, but these laws are only applicable in limited liability partnerships and companies since corporations fall under federal regulation.

interference (Kanagasabapathy et al 2011; Shah et al 2008).[86] Essentially the shift in debt based capital markets is away from state management towards market management and state regulatory enforcement (c.f. Gupta et al 2009).

The best example of how markets structure themselves absent of state interference is visible in equity capital markets. India has 19 stock exchanges, of which the National Stock Exchange of India (NSE) and Bombay Stock Exchange (BSE) stand out because of their market capitalisation and sophistication. The depth, variety, and liquidity of Indian exchanges are unique for a developing country. As of 2011, the NSE had over 1600 companies listed with a combined market capitalisation of $985BN, and the BSE has roughly 5,000 companies listed with a combined market capitalisation of $1 trillion (NSE 2012; Struyven 2008). The largest firm by market capitalisation in the NSE is Axis Bank, which, at 3.7% of the total exchange market capitalisation, means that trading is not dominated by a narrow subset of firms. In fact, 94% of listed firms are considered highly liquid because their shares were traded in over 100 days during the 2010-11 fiscal year (NSE 2012). The BSE is also quite fragmented and competes directly with the NSE (Struyven 2008). Trading in Indian exchanges is comparable to that of the United States when viewed from a volume rather than value standpoint (Allen et al 2007), which is appropriate given the low valuations of Indian companies because of differences in purchasing power parity and development. Overall, the strength of Indian equity capital markets are one of the primary reasons that

How firms leverage capital markets is the key differentiating factor between market typologies. In India, bank loans are used for working capital. Project finance and more complex, long term lending for "general corporate purposes" is less common. Bank lending is largely defined by SME (small and medium sized enterprises) lending and government targets that filter through the SOEs. Credit risk processes are unsophisticated, although this trend is changing. With equity capital, firms have better opportunities to be strategic, evaluate growth opportunities, react to market volatility, and

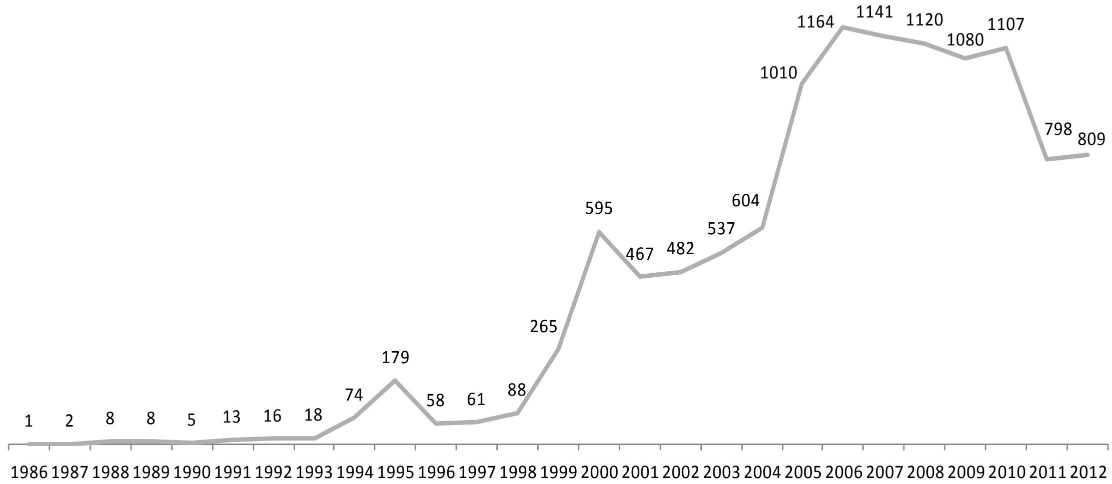
[86] Rupee denominated government bonds crowd out potential corporate issuers (Rangarajan and Narendra 2004). In lieu of bonds, firms sometimes access private placements (Dr. K. Kanagasabapathy and Anita Shetty, personal interview Mar 2012).

seek inorganic forms of growth. For example, the fact that Indian companies have made record acquisitions (see Figure 4.1), especially in technological and pharmaceutical sectors, abroad is indicative of the sophistication and maturity of liberal market practices (Nayyar 2008).[87] The impetus behind Indian M&A contrasts Brazilian M&A where firms seek to consolidate market share domestically rather than seek out new markets.

New found access to capital has facilitated a rapid increase in M&A activity, as is visible in figure 4.1. Counter to trends in many other EMs, the Indian financial landscape continues to choose securities over bank capital (Shah et al 2008). The average capital structure (measured roughly as the ratio of bank to equity capital) has shifted dramatically towards equity since liberalisation (see table 4.3). The changing and improving dynamic of Indian capital markets is a key reason why capital markets are viewed as a competitive advantage (World Economic Forum 2010). Indian firms and SOEs are increasingly espousing transparency and liberal forms of corporate governance. While family shareholding remains common in India, the thesis previously noted the relative poor performance of family held corporations. Efforts to increasingly privatise SOEs, de-regulate banking, and improve stock market transparency are all discussed in the thesis and reflect ongoing institutional change in India, where the momentum is clearly towards liberal governance.

[87] Analysing patterns of foreign acquisitions by Indian firms between 2000 and 2006, we find that 50% were in the IT and pharmaceutical sector. Furthermore, nearly 50% of the targets were either in the US or the UK and approximately 70% of the targets are accounted for by firms in the global north, or industrialised countries (FICCI 2006).

Figure 4.1: Indian M&A Transactions



Source: Thomson (2013)

Table 4.2: Financing Patterns of Leading Indian Firms

Year	Net Worth (Rs. Crore)	Borrowings (Rs. Crore)	Market Cap (Rs. Crore)	Debt-Equity Ratio Book Value	Debt-Equity Ratio Market Value
1990	57,251	81,936	37,425	1.43	2.19
1991	70,942	119,226	55,176	1.68	2.16
1992	79,832	144,513	213,688	1.81	0.68
1993	96,784	176,448	140,783	1.82	1.26
1994	130,440	188,152	326,136	1.44	0.58
1995	186,770	228,337	343,954	1.22	0.66
1996	232,232	244,652	400,927	1.18	0.69
1997	266,614	309,156	375,466	1.16	0.82
1998	303,115	355,763	444,224	1.17	0.80
1999	327,772	390,536	444,904	1.19	0.88
2000	368,628	423,518	842,887	1.15	0.50
2001	403,298	445,073	494,933	1.10	0.90
2002	420,432	508,018	563,447	1.21	0.90
2003	464,156	508,165	545,741	1.09	0.93
2004	522,034	493,936	1,176,976	0.95	0.42
2005	621,838	602,419	1,673,743	0.97	0.36

Source: Table 2.9 in Shah et al 2008

The success of equity financing in India is made possible by improving standards in transparency, regulation, and minority shareholder protections. In fact, when compared to other equity markets around the world, India's disclosure requirements trail only the U.S. and Singapore, and SEBI has an above average rating, even when compared to other

English-origin legal systems (Allen et al 2007). One area of relative weakness is minority shareholder protections. The Indian legal structure and SEBI, while able to act against pyramidal ownership structures, permit complex corporate holding formations that enable promoters to hold majority stakes in publicly listed firms. To protect minority shareholders, the following rules are enforced: Indian companies do not list non-voting shares; promoter shareholding is limited for all new issues to 25% in the case of private companies and 10% in the case of SOEs (SEBI 2012)[88]; and "golden shares" are not permitted (Mohan 2012). Despite the prevalence of promoter shareholding, high transparency standards help investors decide which firms are acting in shareholder interests or not. As a result, investors are able to have confidence in their equity investments.

Over time, even in companies held by promoters, firms that have consistently outperformed are those best prepared to operate in liberal markets. The leading example is Tata, which is a family tied company with one of India's strongest brands. The Tata group of companies have performed better than nearly all other promoter owned firms after liberalisation. The group's success is arguably tied to its corporate governance structure whereby an independent charitable trust owns a majority of shares.[89] The Tata Brand is well known for its ethical business practices. Other promoter held companies suffered in the wake of liberalisation because they had been dependent on state subsidies and non-market based forms of coordination (Shah et al 2008; Nilekani 2008).

Promoters include families and the state. Both family and state owned firms have underperformed since liberalisation, although state owned firms have proven more durable. In 1991 37 of the top 100 companies in India were owned by 6 families; by 1999 four of the same families owned only 20 of the largest 100 companies and two families were no longer on the list (Forbes 2002). Families that own businesses in sectors dependent on disruptive innovation prefer not to have their wealth tied to such high risk investments and sometimes sell out to enter lower risk, trading businesses (e.g. Ranbaxy).

[88] The Regulation for public shareholding used to be 60% but was reduced after liberalisation in an effort to attract listings in public exchanges. Additionally, there is an active debate as SEBI considers further raising minimum public shareholding requirements.
[89] The Trust is discussed in greater depth in chapter 5.

In addition, the inheritance of businesses is no longer straightforward as the standards for succession of corporate leadership are becoming more rigorous (Raval 2011). Similarly, numerous SOEs were forced to recalibrate their operational models to become profitable, since the government could not continue to subsidise in the face of better competition in a liberalised market. In recent years, the gap between public and private sector firms has narrowed considerably (Bhuva 2011; Parekh 2011). Public sector firms have re-aligned management models and used equity issuances to help drive accountability and financial performance (KPMG 2010; Mohan 2005).

Sectors where the government continues to play an active role managing the economy generally experience higher levels of corruption. Alternatively, sectors, like IT, where the government has enabled firms to make decisions in both labour and capital dimensions, corruption is much less. Where the state is still active, legacies of price control, restrictive labour laws, licenses, and quotas mean that firms did not and sometimes still do not compete on price (Dasgupta and Sengupta 1989; Sankar 1997). Access to capital equipment and markets historically depended on political and/or informal channels.[90] Distorted incentives inhibit the creation of a natural supply chain, which, in turn, affects the consumer market and hinders the ability of firms to develop sustainable business practices. Ironically, many firms that would be better off in a transparent market to avoid corrupt officials are constrained by legacy corporatist laws. The drive for enhanced transparency in other sectors is a result of new shareholding patterns in firms. Institutional and non-institutional domestic investors that represent a wide range of private capital without links to the government drive high standards of transparency.[91]

To facilitate change in the macroeconomy most firms rely on lobbying or business associations. Until Rajiv Gandhi began liberalisation efforts, the Federation of Indian Chambers of Commerce and Industry (FICCI) was the only business association with

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[90] For example, manufacturers regularly pay bribes to government labour inspectors or complain about market asymmetries that result from inconsistent application of tariff barriers (Rajan Chadha personal interview, Feb 2012).

[91] The push is primarily driven by domestic actors, as foreign investment accounts for less than 10% of shareholding (Allen et al 2007; NSE 2012).

power, and it operated on a rent-seeking basis. The state viewed associations as a medium to implement policy. For example, soon after independence, the government used business associations to impose price controls to tame inflation. The policy failed, though, because of firm unwillingness to strategically cooperate (Chibber 2003). Such fragmented behaviour has been a mainstay of business coordination, and the post-liberalisation diversity of business associations reflects this market reality. After liberalisation, organisations like the Indian Chambers of Commerce and Association of Chambers of Commerce recruited new members to become relevant (Sinha 2005). Gradually industries organised representative associations. The National Association of Software and Services Companies (NASSCOM), which became a leading association, helped to define a new model for industry association based on policy promotion and sector research. The transformation, however, has been piece-meal, as organisations like FICCI and the Confederation of Indian Industry (CII) are large and slow. In many instances, because the state continues to play such a dominant role in industrial policy, lobbying efforts are focused on continued state protections and tariff barriers (Nilekani 2008).

Overall, similar to the pattern in labour markets Indian capital markets demonstrate liberal characteristics. Rent-seeking firms dominated the landscape when the state played an active role in directing the economy. Profitability and productivity were not major concerns for firms operating in a centrally coordinated environment. When complements are publicly coordinated, there was little incentive for cooperation and/or collusion among firms since redistribution was the name of the game. Relative gains were most important. After the private sector was left to fend for itself in a competitive environment, firm behaviour changed. If ever there were an opportunity for firms to cooperate in a more traditional CME style, immediately after liberalisation would have been the time most likely for that to happen given the dominance of only a few family-based conglomerates in the economy. Nevertheless, the market transitioned towards non-collectivised, market based forms of coordination.

4.4 Mapping Complements and Institutional Change

Section 4.4 reviews the development of complements over time by discussing the historical impetus for public coordination and how private coordination has entered the market. The discussion of labour and capital markets in sections 4.2 and 4.3, respectively, included some discussion of institutional change. Section 4.4 considers the developmental state in the context of the politics of coordination and collective action.

From before independence the underlying fragmentation of India was apparent. A country with 15 national languages and as many if not more clearly defined nations, is always going to find the pre-requisite cohesion required for collective action difficult. When the British left, that India would remain as one state was largely uncertain. Colonial rule, did however, leave a legacy of centralised economic governance and a united Congress Party that could coalesce actors around the freedom movement. The cohesiveness enabled by Gandhi, Nehru, and independence helped facilitate the implementation of an economic programme defined by social consciousness and corporatism (Panagariya 2008; Dandekar 2004; Mohan 2004). An activist state guided economic expansion. Over time, however, the cohesiveness of the Congress Party weakened. As fractures developed within the Congress Party and across the political economy, effective implementation of industrial policy became more challenging (Basu 2004; Chibber 2003).

Without the political force of Nehru, the Congress Party's electoral dominance faded.[92] Prime Ministers had to compensate for a lack of political cohesiveness. Prime Minister Shastri, for example, altered the institutional structure of the Planning Commission, which played a central role in economic policy making, by instituting term limits and removing the office of the Cabinet Secretary. The changes shifted structural power to the Prime Minister’s Office (Frankel 2005; Varshney 1998). Centralised power structures reinforced efforts to coordinate markets publically. Indira Gandhi, Shastri’s successor went even further and nationalised major sectors of the economy. The effect of the

[92] The INC, which held about 365 seats and 74% of the vote in the first three elections, averaged 263 seats and 50% of the vote in the subsequent three elections.

government's commanding control of the Indian economy was detrimental, as the average annual growth rate slowed considerably.[93] As public coordination became more challenging to implement, leaders decided to consolidate power rather than permit private coordination.

Failing economic policies led to a shift in the 1980s. Indira Gandhi enacted the Industrial Policy of 1980 to create greater operational freedom for corporations. The goal was to stimulate domestic competition to drive efficiency, since the expanding public sector was far from efficient and continued to add strain on India's fiscal position (Frankel 2005). The shift, however, has been labelled as pro-business more than pro-markets (Rodrik and Subramanian 2004); the implication being that public coordination remained high on the state's agenda. After the assassination of Indira Gandhi, Rajiv Gandhi assumed power in 1984. He furthered the shift of economic control away from the state towards the market. Specific policy measures included an increase in industries exempted from licensing, capital flow liberalisation to support foreign direct investment in certain sectors (including technology), deregulation of raw material imports, and tax concessions for businesses (Frankel 2005). The effect of the change was dramatic. New companies immediately stepped in to respond to pent-up demand, the number of private corporations quadrupled (Sarma 1997) and capital accumulation increased even more dramatically.[94] Economic growth picked up considerably.[95]

The economic gains in the 1980s were achieved because businesses were so inefficient in the previous decade that a combination of pent-up demand and rapid increases in productivity and utilisation rates meant that economic efficiency was bound to rise after

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[93] The average annual growth rate was 2.9% between 1966 and 1980, and the per capita average growth rate was a meagre 0.7%. The range of annual growth for the period was -5.2% to 9.0%, which indicates how volatile the economy was. The compound annual growth rate was 3.1% in contrast to the 3.8% rate in the preceding fifteen years (RBI 2010, author's calculations).

[94] The private sector saw a 6.6x increase in capital accumulation in ten years and a 2.5x increase in capital accumulation in the year immediately after the 1980 reforms. The public sector also saw a dramatic increase in capital accumulation, with a 4x increase over ten years and a 1.4x increase in the year immediately after the 1981 reforms (RBI 2010).

[95] The average annual growth rate was 5.6% between 1980 and 1991, and the per capita average growth rate was 3.3%. The range of annual growth for the period was 2.9% to 10.1%, which contrasts from the negative growth rates in previous policy structures. The compound annual growth rate was 4.9% in contrast to the 3.1% rate in the preceding fifteen years (RBI 2010, author's calculations).

having been inhibited. The state was careful to maintain a central role in investment allocation and continued to invest public funds widely throughout the economy (Kohli 2006). Continued state support of certain sectors and interference of production continued to hamper the ability for complements to develop many synergies. Firms grew because of market access but their growth was not accompanied by gains in efficiency (McCartney 2009; Chelliah 2004; Srinivasan 2002), a key metric for sustainable competitiveness. India's fiscal position deteriorated throughout the decade, as did its debt position with external debt rising from \$19 billion in 1980 to \$62 billion in 1990 (Buiter and Patel in Panagariya 2009; Srinivasan 2005). The poor fiscal condition of India is characteristic of markets where public coordination leads to inefficient outcomes in the microeconomy.

India liberalised its economy in 1991 after fiscal mismanagement and a balance of payments crisis. The Industrial Policy of 1991 defined new rules in the Indian marketplace and the diminution of key acts like the Monopolies Act and Foreign Exchange Regulation Act gave firms greater freedoms. Increased freedom in capital movements, a managed floating currency, reduced tariffs, tax reform, removed licensing requirements for new businesses, and reduced regulations are but a few of the changes made in the 1990s (Frankel 2005; Ahluwalia 2002; Williamson and Zagha 2002).[96] The reforms of the 1990s enabled complements to coordinate privately - a key impetus for institutional change. But the pace of change has been slow because despite reforms, the pace of liberalisation has been carefully managed (Ahluwalia 2002; Ahluwalia 1999).

In the discussion of typological trajectories in chapter three, I noted how transitions in typology can be deciphered if an economy is measured at intervals over time. Advanced economies require intervals that are decades apart to see the change, but the recent liberalisation of EMs means that institutional change is visible in shorter periods. Figure 4.2 measures the institutional change of the Indian economy over time (same as figure

[96] The impetus for reform actually began in 1990, before the official commencement of the fiscal crisis. The short-lived reign of Prime Minister V.P. Singh saw the announcement of a new, more liberal industrial policy, but the policy never gained traction politically. The government fell months after the new policy was announced and the new government, led by Prime Minister Chandra Sekhar, was also unable to implement the new policies because of coalition discord (Panagariya 2009).

1.2). The figure maps corporate governance coordination relative to labour market coordination. The labour metric is extremely conservative and over-estimates public coordination because it surveys only the formal economy and does not account for the level of turnover in the informal space.[97] The labour market, if the informal economy could be measured more accurately, would be much more "flexible" (i.e. it would be higher up the y-axis). The transition away from bank based capital towards equity capital and the associated shift in corporate governance standards are indicated by India's dramatic movement over the decades as seen in figure 4.2.

Figure 4.2: Indian Institutions across Sub-spheres of the Political Economy over Time

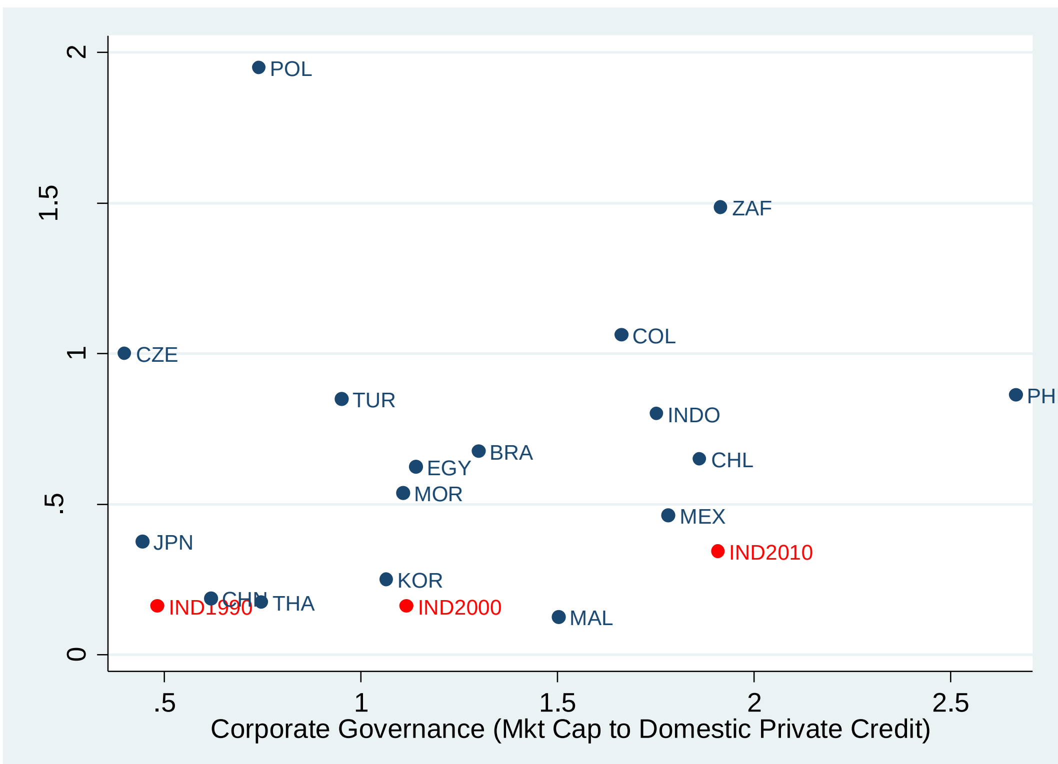

Figure 4.2 maps Corporate Governance Coordination (x-axis) against Labour Coordination (y-axis). Origin is heavily coordinated. Sources: See Table 2.2

The transition from 1990 to 2000 is a direct result of the loosening of policy before and after the 1991 liberalisation. Subsequent transition to 2010 reflects a continued commitment by multiple governments (Bharatiya Janata Party Coalition to 2004 and

[97] The 1990 labour plot is held constant to the 2000 labour plot because of unreliable employment application registers before liberalisation.

Indian National Congress Coalition after 2004) to remove barriers to growth by reforming current and capital account policies (see range of reforms discussed in Mohan 2013; Panagariya 2008, and Acharya 2008). As the market develops, India is shifting away from public coordination to private coordination. The transition, however, is politically challenging because of the subsidies and protections that have to be unwound. For example, the prices of food and energy, diesel in particular, are polemic issues in India, since such a large portion of the population is affected by food price volatility and inflation. On the production side, subsidies are used to help stabilise prices in agriculture and diesel. On the demand side, the RBI controls monetary policy[98] and monitors foreign exchange rates[99] to mitigate volatility from international markets. The pace of institutional change along a z-axis away from public coordination to private coordination will be inconsistent. When there is discord between microeconomic stakeholder tendencies and macro political economic structures, abrupt changes are more common than gradual changes, but those changes only come after long periods of struggle. The developmental state and public coordination is deeply rooted in Indian economic history and institutional path dependency makes the negotiation for change take time but the actual change will come in short bursts of economic policymaking.

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[98] In a developed economy, staples may comprise approximately 25% - 30% of the entire CPI. In India, staples comprise over 75% of the CPI, with 46% of the index being food prices (Ministry of Labour 2010). When such a high proportion of the CPI is attached to staples, consumers have almost no discretionary purchases and therefore cannot adjust spending as an individual might be able to do in an advanced economy.

[99] While the rupee floats, it is managed by the state. The central goal of the intervention is not to affect the price level but rather to minimize volatility (Kapila 2006).

4.5 Complementarities and typology

The chapter reviewed Indian economic indicators as well as capital and labour market structures to identify how the market is transitioning after liberalisation. The path of India's typological trajectory is reiterated through a historical tracing of institutional change and complement structures. Attempts by the state to implement public coordination have failed, stretched fiscal resources, and distorted incentives for firms, all of which has led to inefficiency. Economic stakeholders in capital and labour markets demonstrate a preference for private coordination. Equity capital markets are the most developed asset class in India. Firms push for greater access to equity capital and have left the banking sector to the remit of the state (as the state tries to deal with high levels of poverty through credit intermediation). Despite a seemingly unlimited labour endowment and state policy favouring coordination via corporatism, informality remains stubbornly high and labour interests are extremely fragmented and workers regularly arbitrage differentiated standards across states, firms, and industries to create an effectively flexible market structure.[100] Continued state intervention is proving unsustainable as the market becomes increasingly efficient at driving private coordination. Indian microeconomic tendencies exhibit LME characteristics and are pushing for institutional change. Table 4.3 summarises the different aspects of Indian market structures according to how economic stakeholders operate along the five dimensions of VoC.

[100] Even during the corporatist and socialist eras of Indian economic history, the market found ways to drive behaviour consistent with liberal market norms despite the inhibitive regulations of the state meant to incentivize coordination of economic stakeholders.

Table 4.3: VoC Dimensions of the Indian Firm

	Coordinated Market Economies (CME)	Mixed Market Economies (MME)		Typological Trajectory **INDIA**	→	Liberal Market Economies (LME)
Inter-firm Relations	Strong associations	Businesses collectivisation divided by size, if consensus exists at all		Not well organized	→	Not well organized
Corporate Governance	Bank based, Patient capital	State regulation perpetuates long-term inefficient equilibriums		Waning legacy of state based banking, Growth of equity	→	Capital markets, Short term outlook
Employee Relations	State provision of welfare, Longer job tenure	Dualistic labour markets combine with sector based state interventions	←	Legacy of state protections, Shift towards markets	→	Firm provision of welfare (if any), Labour operates as a market
Industrial Relations	Strong unions, Centralised wage bargaining	Politically strong unions but fragmented and weakly articulated	←	Unions have political ties but are not collectively organised		Not well organized
Vocational Training	Specific training	Mixed forms of training lead to inefficiencies		General training	→	General training

Sources: Hall and Soskice (2001); Molina and Rhodes (2007)

In India, as in any democracy, change depends on overcoming minority interests that benefit from protections provided by the state. In a key difference to Brazil, India's government structure is more conducive to enabling alignment across cleavages. India's Parliament is a first past the post Westminster style government which means that a majority party has the power to shape economic policy. Politically, Congress or the BJP have been able to align interests and govern as a single party wide ranging differences within each party's constituent structure. The ability to minimise vetoes once a party is in power better enables different interests to align, especially relative to Brazil.[101]

The path of India contrasts that of Brazil, whose institutional structures seem to have left the country in a stasis. Chapter six will more fully detail Brazil's typological trajectory, but the scatter plots that traced India and Brazil's complement structures over time (figure 1.1 and figure 1.2) demonstrate a clear contrast. While both countries began their capitalist evolution at the origin with a heavily coordinated capital and labour market structure, we find that the variety of capitalism has since diverged. Indian labour markets demonstrate many of the same "mixed" characteristics, but we have seen that much of this is actually because of high informality that results from legacy regulation that is commonly avoided in market practice (a contrast to Brazil). India does not have an organised syndicate structure or collective bargaining arrangement and demonstrates fragmentation in its labour market structures. These characteristics suggest that collectivisation would not survive de-regulation. The capital market more clearly distinguishes India from Brazil. The Indian domestic capital market has been de-regulated and espoused liberal market norms. Relatively transparent equity capital markets and minority shareholder rights both developed normative bases. Indian companies are building on liberal market foundations to become globally competitive, and the state is being pressured to withdraw public coordination (most clearly manifested by government plans to privatise SOEs as discussed in section 4.2). The behaviour of top firms from the leading sector in the next chapter will provide further clarity on patterns of corporate governance and how the market is changing.

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[101] As noted before, veto players, whether structural or partisan (see Tsebilis 1995), influence the types of economic policies that are enacted in an economy (see Bernhard and Leblang 2002; Keefer and Stasavage 2002; Hallerberg 2002; Hall and Franzese 1998; Lohmann 1998; Bernhard 1998; Goodman 1998).

Chapter 5 Indian IT Firms and Micro-economic Foundations

5.1 The Surprising Performance of the Indian IT Sector

Chapter one established that the IT sector has outperformed relative to other sectors and that firms from the IT sector have achieved unprecedented levels of competitiveness and success. The core research question asked how firms are able to outperform in the face of the institutional challenges and economic obstacles that characterise EMs. Are there comparative advantages forming in the context of India's typological trajectory? I hypothesised that the firms that were most successful were those best able to follow the contours of capitalism in a market. I established the LME typological trajectory of the Indian market in chapter 4. Chapter five conducts firm level case studies to empirically investigate patterns of corporate governance in the microeconomy. The case firms are selected by a combination of corporate governance models and market indicators.

Three corporate governance models are considered: state-owned, conglomerate owned, and shareholder owned. Firms from the same sector, in a liberalised market face, have the most comparable access to capital and labour inputs. As a result, differences in corporate governance and corporate strategy can be more easily identified. The three case firms that will be discussed, beginning in section 5.4, are TCS, CMC, and Infosys which are or were recently conglomerate owned, state-owned, and shareholder owned, respectively. The chapter tests the hypothesis that the most competitive Indian firms are those that best track the typological trajectory of the market. The key finding is that the cases converge towards liberal market norms. Each of the firms, despite differentiated corporate governance styles, adopted corporate governance norms consistent with operation in a liberal market economy to maintain competitiveness.

The IT sector provides an interesting exposé about the confounding realities of competitiveness in India. First, in a country where the export to GDP ratio, after liberalisation, is only 23%[102], the strategic importance of outsourcing firms in the Indian economy is surprising. Second, the rise of the IT sector runs counter to nearly all

[102] The ratio is taken from World Bank Data 2009.

standard economic explanations of trade theory: India's comparative advantage should lie in manufacturing because of its abundance of unskilled labour - like China - and not in IT which requires sophisticated human capital. Third, despite vast resources and preferences provided by the state to hardware firms (DoE 1973, DoE 1981, DoE 1992), which are manufacturing oriented, software firms proved to be more resilient and successful.[103] Fourth, the IT sector's rise is not tied to a boom after liberalisation. Indian IT firms did enjoy greater flexibility after liberalisation, but very basic indicators suggest that the emergence of the IT sector is not a post-liberalisation phenomenon. The foundation of liberal corporate governance appears to pre-date Indian liberalisation. Of the top 5 IT firms, none were founded after liberalisation. The average founding year is approximately 1978 if just the IT divisions / firms are considered but 1943 if the parent company brands are considered. Furthermore, rapid rates of IT firm growth began in the late 1980s, but were most dramatic in the early 2000s after the Y2K event. The path to success of firms in the Indian IT sector requires a nuanced understanding of firm level competitive dynamics and Indian market structures.

The face of India in the global economy is represented by IT firms like TCS and Infosys, who have established strong credentials in the global marketplace. IT is the only sector in India with multiple globally competitive, billion dollar companies. The competitiveness of firms in the IT sector is substantiated by the fact that Indian companies have a 58% share of the global sourcing market (NASSCOM 2012b). These firms have exhibited characteristics of disruptive innovation because of their ability to create new markets and provide new technology services solutions.[104] While TCS and Infosys advanced their business models, some companies were not able to develop the same level of competitiveness. Just because a firm is in the IT sector does not mean it is destined for success. As a result it is important to consider firms that are less competitive to identify key differences. How firms build their businesses is explicitly tied to institutional structures in the domestic political economy. The interaction between firm

[103] Even within the computing sector, India has proven unable to compete in the labour intensive dimensions of technology, namely in manufacturing of hardware and microchips.

[104] Most Indian IT firms created markets for their products and services, which is an attribute of firms that are disruptively innovation (c.f. Ramadorai 2012; additionally verified through TCS and Infosys Executive personal interviews Feb and Mar 2012).

needs for inputs and the ability of the state to enable access to those inputs is part of the isomorphic process illustrated in Figure 2.1. The firm level case study not only considers differentiating factors of the most competitive firms but the evolution of the IT industry in the face of an activist Indian developmental state.

The remainder of the chapter will be organised as follows: section 5.2 traces the development of the IT sector from the state-firm perspective to understand the role of public coordination and country level factors on the sector's development; section 5.3 surveys the competitive landscape to ensure that appropriate firms are selected; section 5.4 introduces the case firms TCS, Computer Maintenance Corporation (CMC), and Infosys; section 5.5 tests the behaviour of the three case firms along the five VoC dimensions, with particular emphasis on corporate governance; section 5.6 concludes by comparing the case firms in terms of performance and adherence to liberal forms of corporate governance.

5.2 IT Sector in Context of India's Typological Trajectory

To understand any sector in the modern Indian economy, one has to begin with the developmental state. Prior to 1991, no industry or firm could escape the reach of the state and its developmental policies. The IT sector was no different, although the sector did benefit from certain public coordination exclusions. Section 5.2 traces the role of the developmental state in the IT sector and highlights the decision by economic policymakers to permit greater private coordination of complements in the IT sector.

The government of India did not have policies for computers in the license raj system. Bureaucrats could not determine what differentiated a machine from a computer or material goods. The developmental state policies were rigid and could not accommodate new technologies (TCS Executive, personal interview Feb 2012; Ramadorai 2011). The state tried to place import restrictions and accurately assess tariffs, but this proved to be a complicated task. All of the leading IT firms have histories of legal battles in an effort to reclaim import tariffs, on the grounds that computers are different to industrial machinery. The technology was thoroughly beyond application in the Indian economy, and, as a result, the state left firms with surprising autonomy, as long as they remained export-oriented (Nilekani 2008; Evans 1995). For a period, the IT sector was ignored because of its irrelevance to the development process. In 1972, after facing fiscal shortages and realising IT exports were a way to access hard currencies, the federal government decided to manage the trade of hardware. State policymakers were cautious, however, and did not meddle with the operational side of the IT business (as they did in other sectors) since they did not want to tamper too much with the unprecedented success of IT.

The federal government created the Department of Electronics (DoE) in 1970 to help advance domestic hardware and software industries in India. Building on Kumar (2009), table 5.1 includes an overview of key policies in the sector since the founding of the DoE. Initially, American firm IBM and British firm International Computers Limited (ICL) dominated technology in India. In an effort to help foster a domestic industry the state founded the Electronics Corporation of India Limited (ECIL) in 1969 for hardware and the CMC in 1975 for software, but indigenous development was slow (DoE 1973, DoE 1975). The real catalyst for change in IT came in the mid-1970s when the Foreign Exchange Regulation Act (FERA) forced existing computer manufacturers to re-evaluate their presence in India. FERA required foreign companies to dilute their domestic equity stakes to 40%, thereby relinquishing ownership and managerial control. IBM decided to leave the market rather than dilute its equity share. CMC signed an agreement with IBM to take over local operations. CMC also developed expertise in managing other computer systems already in the market (DoE 1978). While planners were happy to see the departure of foreign firms after FERA, it also advanced the need for more sophisticated domestic technologies to fill the void. Partly in response, the state created Semiconductor Complex, which would later become the Semiconductor Complex Limited (SCL), was created in 1976. With ECIL creating the hardware, SCL the circuits, and CMC the software, the government hoped to stimulate domestic industry.

Table 5.1: Key Historical Policy Milestones in the Indian IT Sector

Year	Event	Description
1969	ECIL founded	PSU ECIL is founded to create indigenous computers
1970	DOE established	A separate department is set up to develop the hardware and software industry in India
1971	Electronics Commission	Entrusted with the task of formulating policies for the hardware and software industry
1972	Software Export Scheme	Permitted hardware imports with the condition that the importing firm earn an equivalent amount of foreign exchange within 5 years
1973	Foreign Exchange Regulation Act (FERA)	Had a major adverse impact on the presence of MNCs, as it reduced maximum foreign equity ownership in Indian firms to 40%; IBM left the country in 1978 as a result
1975	CMC Founded	CMC is founded to manage software for computer systems already in India; two years later CMC would formally negotiate with IBM to take over management of all IBM computers in India
1976	Liberalisation of policies for software exports	Reduced the import duty on hardware from 100% to 40%; provided export incentives for units in export processing zones (EPZs); offered incentives for non-resident Indians who were allowed to import hardware for exporting software with an equivalent export obligation
1976	SCL Founded	SCL is founded to create semiconductors, originally it was a research facility that would later be transformed into a PSU to sell products
1981	Software export policy	Raised import duties on hardware, but firms were allowed to used imported hardware for developing software for both domestic and export markets; firms could also use imported “loaned” hardware
1984	New Computer Policy	Software was recognized as an industry, making the industry eligible for bank financing; import duties on hardware and software were reduced to 60%; access to foreign exchange was made easier;

		however, income tax exemptions on net export earnings were reduced from 100% to 50%
1986	Software Policy	100% of export-oriented units (EOUs) could import hardware duty-free; foreign-produced software could be sold in India
1987	AICTE Act passed	All India Council for Technical Education (AICTE) is founded. AICTE is a statutory body that promotes and controls the development of technical education in the country and maintain uniformity in standards and grant approvals to technical institutions
1988	STPI Scheme	Established software parks with dedicated infrastructure facilities and satellite communication links to encourage small and medium software exporters; tax exemption for 5 years to 100% of EOUs (later extended to 10 years and continued to 2009); duty-free hardware imports and simplified procedures for customs clearance; software firms could declare local offices as STPIs
1991	Economic Liberalisation	Rupee is devalued and made partially convertible; telecom charges reduced; import duties on application software reduced to 20% and to 65% for system software (further reduced to 10% in 1995); import duties reduced
1999	New Telecom Policy	Liberalisation of telecommunications sector helps increase bandwidth
2000	Relaxation on equity ownership by foreign firms	Rules on equity ownership by foreign firms further relaxed
2000	IT Act 2000	Helped create the groundwork for an electronic economy in India by recognising electronic documents, electronic signatures, electronic commerce, and clarifying legal rights in cyberspace
2006	National e-governance plan	The government introduced a high level e-governance plan to drive the adoption of technology in governance; included in the programme is a national id plan to register all individuals in a national database; the goal is to help transparency and access to public programmes
2008	IT Act 2008	An amendment to the IT 2000 Act, further clarifies legal parameters in cyberspace and included elements of national security as it relates to critical information infrastructures

Sources: Kumar 2009; Department of Electronics and Information Technology 2012

As CMC picked up work from IBM after the passage of FERA in 1973, other large multinationals were deciding whether to find local partners or leave the Indian market. Joint ventures became common: Burroughs teamed up with Tata, Patni Computer Systems (PCS) with Data General, Datamatics with Wang, and Hindutron with Digital Equipment Corporation (Athreye 2005). One outcome of the restructuring of the IT sector in India was the improved prospects of hardware firms. Hardware firms faced fewer barriers. Weak infrastructure, a lack of electricity supply, and computer import restrictions proved problematic for nascent software firms. As a result, corporate strategy in both the public and private sector shifted towards the manufacture of hardware. SCL benefitted from stronger state support in the public sector. In the private sector, the preference for hardware is best demonstrated by the rise of the Tata-Burroughs

Corporation, which displaced Tata Consultancy Services as the primary Tata computing investment/company (Ramadorai 2011). Software firms faced an uphill battle. Hardware was quite simply much more profitable in that era (Athreye 2005). From a domestic market perspective, hardware seemed to be the better avenue of investment because India's abundance in unskilled labour seemed better suited for manufacturing. And from an international market perspective, neighbouring countries like Japan, South Korea, and Taiwan were making incredible developmental strides in manufacturing, with computer hardware being one of handful of outperforming sectors (Sridharan 1996). The preference for hardware development seemed to be reinforced at both a domestic and international level.

Despite expectations that hardware firms would become more competitive, software firms continued to outperform. In both the public and private domain, software firms outperformed their sister hardware firms. In the private sector, for example, TCS reacquired Tata-Burroughs despite the Tata Group deciding to invest in the Tata-Burroughs joint venture and leaving the TCS team to fend for themselves (Ramadorai 2011). Similarly, in the public sector, CMC outperformed SCL despite SCL receiving considerably greater subsidies (see figures 5.1 and 5.2). The sustained success of the software sector despite resources being allocated to the hardware sector forced a reconsideration of policy by Rajiv Gandhi. The competitive forces of the market kept pulling away from manufacturing and towards software. Rajiv's efforts to enable easier access to computing technology, however, proved to be controversial because hardware manufacturers were keen to retain protection from foreign competition. Software firms instead preferred to have access to modern computing equipment which would be enabled only through a relaxation of import quotas (Saxenian 2002; Sridharan 1996). The new policies favoured software and reinforced a software renaissance in the IT sector in pre-liberalisation India.

Figure 5.1: CMC Revenues vs. State Subsidies for CMC (1975-2002)

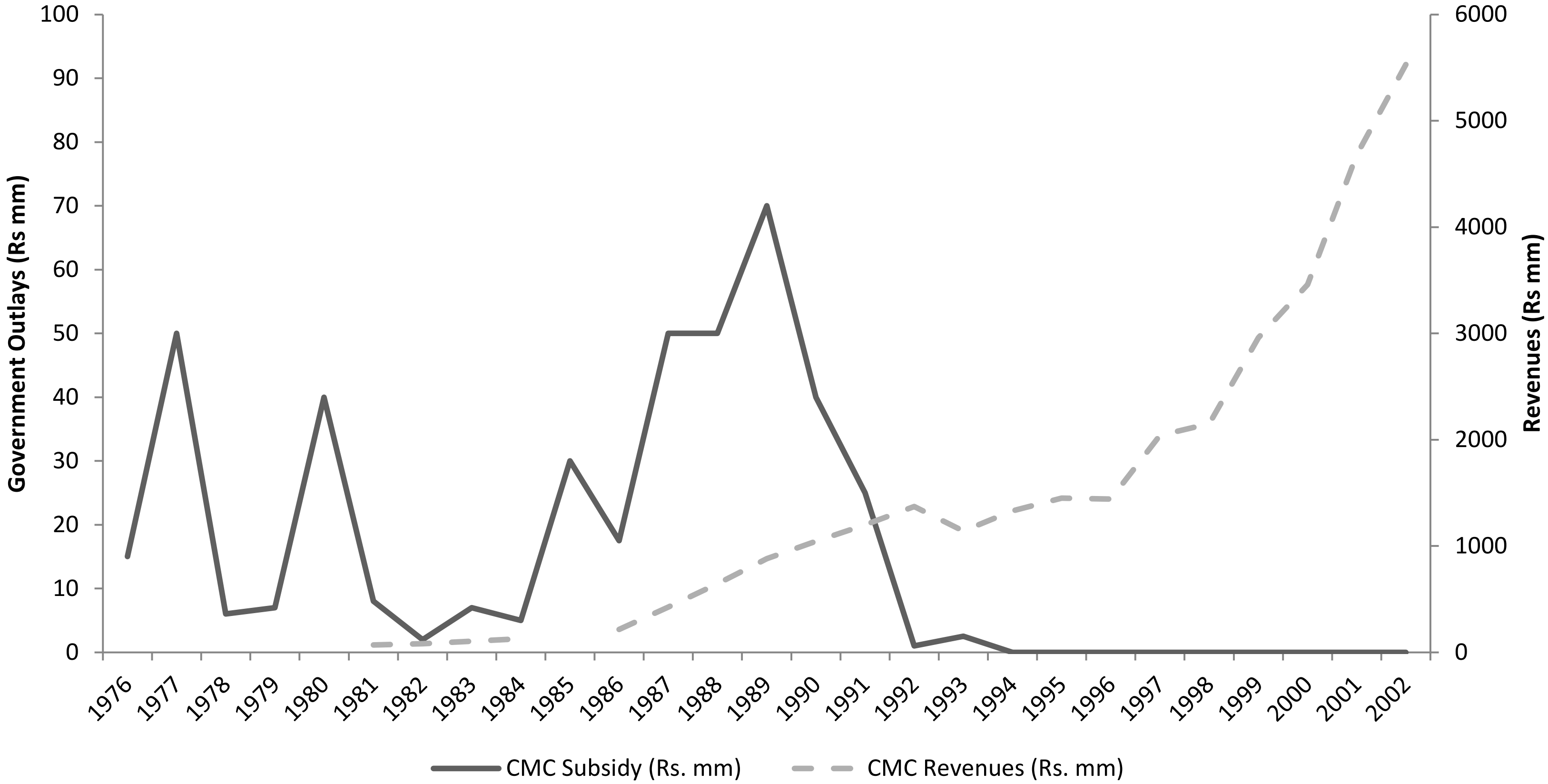

Figure 5.1 shows CMC Subsidies on the left hand axis and CMC Revenues on the right hand access. Note the difference in scale. CMC revenues took off after liberalisation and sale to the private sector. CMC subsidies fell to 0 after liberalisation. Source: DoE Annual Reports

Figure 5.2: CMC Revenues vs. SCL Revenues (1976-2003)

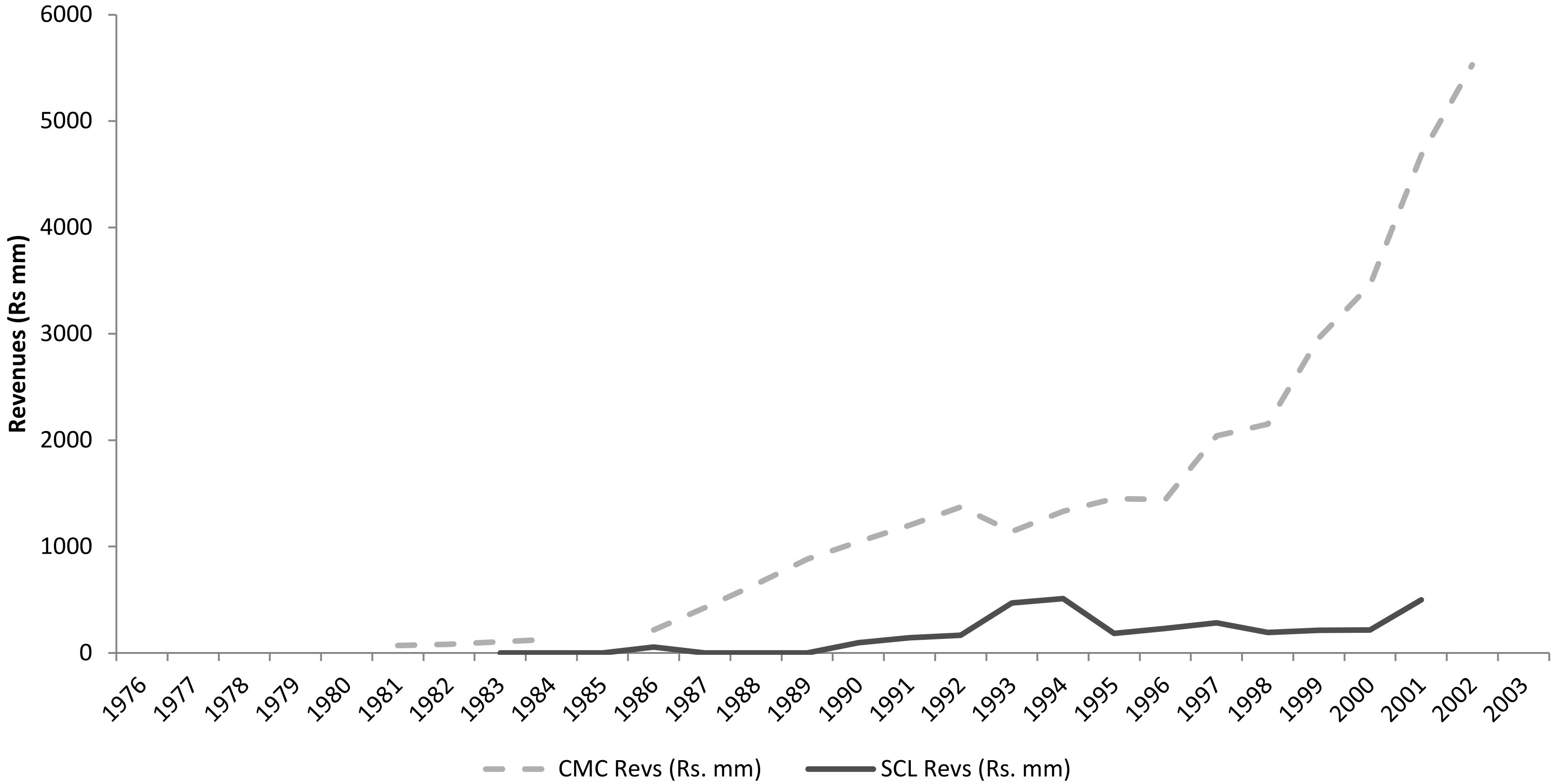

Figure 5.2 shows CMC revenues relative to SCL revenues. Meanwhile SCL subsidies remained high, with the firm receiving up to 10x the amount of CMC and continuing to receive subsidies after liberalisation until the firm was finally dissolved and turned into a public research body. Source: DoE Annual Reports

Figures 5.2 and 5.3 are a very interesting insight into how the software sector outperformed the hardware sector. Note that CMC improved its revenues throughout its existence while receiving relatively less in the way of government support. CMC performance was strong, but as will be discussed later in the chapter, revenues began to grow more quickly after the firm began to privatise. SCL, on the other hand, continued to be dependent on the state and its revenues rarely exceeded the subsidies it received from the state (DoE annual reports). What is particularly interesting about SCL is that as Rajiv Gandhi liberalised the sector, the subsidies necessary to support the firm increased from an annual average of 44mm Rupees between 1974 and 1984 (before Rajiv Gandhi) to 174mm between 1984 to 1992 (DoE annual reports). The average SCL subsidies contrast CMC which never received more than 50mm Rupees in any given year and averaged 23mm Rupees per annum between 1974 and 1984 (ibid). CMC subsidies fell to 0 in 1992/3 and the firm consequently began to accelerate the growth of its revenues. The outperformance of CMC relative to SCL is a unique comparative case where a host of exogenous variables can be controlled for given the parallel foundations and sister-like relationship of the two entities. The unexpected outperformance of CMC reflects the power of market forces in the sector.

Returning to the historical discussion of the IT sector, the development of the sector was marked by an unusual entrepreneurial frenzy (at least for pre-liberalisation India). A variety of new companies entered the software space (Nilekani 2008). The companies could broadly be split into three categories. The first were those that had hardware capabilities but diversified into software: Tata, HCL (Hindustan Computers Ltd), Wipro, Larsen and Toubro, Satyam, and Birla Horizons (Choure & Shukla 2004). The key characteristic of most of these firms (HCL excluded) is that they were tied to larger diversified conglomerates and were therefore able to leverage retained earnings from their parent companies. The second type of company included software oriented start-ups: PCS, Datamatics, Infosys, and Silverline (ibid). These firms took advantage of the increasing leniency granted to the sector by state policies as well as overseas networks. The third category included SOEs: ECIL, SCL, and CMC. Unlike in other sectors of the economy, start-ups could compete directly with established conglomerate brands and conglomerate brands could compete directly against SOEs with few disadvantages. The diversity of entrants created a dynamic marketplace where a range of corporate governance models competed against each other. The firms with the liberal corporate strategies rose to the top of the sector by being disruptively innovative and creating new markets.

The continued success of the IT software sector, its dynamism, and the rise of powerful firms from the sector instigated a reconsideration of IT policies. The firms and the state were able to carve out regulations to support the private coordination critical to the sector's success. At the forefront of the new policy was the State Technology Park Initiative (STPI) programme. STPIs are a mix of special economic zone and incubator that enable firms to have access to infrastructure, reliable sources of energy, and broadband. Parks were initially opened in Bangalore, Hyderabad, and Noida, but their success meant that within a decade many more would be opened (Choure & Shukla 2004). The benefits of the STPI scheme were not exclusive to the designated parks, as any firm could specify certain offices anywhere in the country as being part of the scheme as long as all their products were export-oriented. In addition, IT firms were formally excluded from quota expectations, state bureaucracy, and inhibitive labour regulations characteristic of the Indian market. Tax breaks and targeted subsidies were also used as incentives. The policies left sufficient freedom for microeconomic actors to define a market structure while at the same time fostering sector development through incentive-based policies.

The new IT policies came from the federal government, which meant that states could decide whether or not to implement many of the policies. A comparative case study at the state level by Kumar highlights the differences between states that did and did not implement the policies. Kumar finds that states that did implement the incentive laden IT policies outperformed those that did not. Firms in Tamil Nadu and Andhra Pradesh benefitted from the supportive yet liberal STPI framework while Kerala, a late adopter, failed to stimulate a competitive IT sector (2009). Kumar uses the term competitive flexibility to describe IT policy. The DoE’s ability to be flexible and adapt policies to incentivise a dynamic marketplace differentiated the IT sector and became fundamental to firm success (2009). The state-wide comparative case study highlights the typological trajectory in action. When state policies were shaped around the typological trajectory of economic behaviour, it proved to be growth enhancing.

The involvement of the state in the Indian IT sector has varied over time. Initially, the state did not create policies to manage the IT sector and limited its involvement to promoting SOEs. SOEs enjoyed favoured access to the domestic market and benefitted from subsidies. Private firms, meanwhile, developed competencies in providing technology services. Firms actively sought to win greater access to international computing technologies to help them move up the value chain.[105] The success of the IT sector gave these firms leverage as it negotiated policy with the state who did not want to jeopardise the development of what was increasingly one of India's "leading sectors".[106] The STPI initiative continued the tradition of permitting IT firms to privately coordinate inputs while also provided key industrial supports. The state aligned policy with stakeholder preferences. The result was that Indian IT firms could more easily access key inputs and advance along the value chain. The Kumar comparative state study demonstrates the effects combining of private complements with state support to advance competitiveness. In summary, state policies in the sector were never onerous to the extent that it prevented private coordination of capital and labour, despite the fragmented nature of each but were sufficiently helpful to enable a productive and competitive marketplace. After liberalisation, IT policies were designed to support the market structures that had evolved in the sector.

[105] Indian IT firms began providing services on a labour arbitrage model and progressed to build technological sophistication from that base much like manufacturing firms did in East Asia.
[106] It firms also had bargaining leverage because of their ability to access US Dollars, a valuable asset in the Indian closed capital regime.

5.3 Competitive Landscape

Section 5.3 analyses the competitive dynamics of the IT sector in India to determine how firms compete and coordinate. The rapid growth rates, strong margins, and equity-oriented performance metrics of firms in the sector indicate market-based competition. The firms demonstrate an ability to drive growth and efficiency in their operations. Arguably the productivity is a function of their corporate strategy which emanates from corporate governance structures. The sector is not in consolidation and does not exhibit the collusive or cooperative characteristics that might be expected in a MME or CME, respectively. The evidence supports the hypothesis that the most competitive and successful firms are those following the contours of India's typological trajectory.

The Indian IT sector is dynamic and competitive. Leading players drive growth through enhanced productivity, efficiency, and disruption. Table 5.2 shows the top 10 firms in the sector over the past decade (Nasscom 2012c; Athreye 2005). Leading the market since 2010 are TCS, Infosys, Wipro, HCL, Satyam, and Tech Mahindra (NASSCOM 2012c). TCS is clearly the top company and has maintained this status throughout with Infosys and Wipro trading places for second and third. Satyam had nearly embedded itself as the fourth IT firm of India but fell after an accounting scandal. The remaining firms are highly competitive in providing niche products to foreign clients or are local subsidiaries of foreign companies. Their ability to create new markets and products are reflective of the disruptive nature of these firms. The scale of disruptive innovation continues to grow as the firms move along the value chain.

Other indicators of IT firm competitiveness include the performance of foreign players. The foreign subsidiaries in the IT space are less competitive than their Indian peers. The foreign firms are not as competitive because they are not built to drive efficiency and innovation in IT. IT services and consulting is no longer an arbitrage of labour costs. Firms have had to develop value added products and services to drive top line revenue growth. Where foreign players are better able to compete is in the BPO (Business Process Outsourcing) sector. Since BPO is a direct labour arbitrage and does not rely on either innovation or product development, it means that the operational efficiencies of foreign firms help the competitiveness of local BPO subsidiaries. The prime BPO example is Genpact, the company spun off from General Electric, which led the BPO space for some time (Nasscom 2012a).

Table 5.2: Top 10 Indian IT Firms (2000-2011)

	2000/1	2007/8	2010/11
1	Tata Consultancy Services Ltd	Tata Consultancy Services Ltd	Tata Consultancy Services Ltd
2	Wipro Ltd.	Infosys Technologies Ltd	Infosys Ltd
3	Infosys Technologies Ltd	Wipro Ltd.	Wipro Ltd
4	HCL Technologies Ltd	Satyam Computer Services Ltd	HCL Technologies Ltd
5	Satyam Computer Services Ltd	HCL Technologies Ltd	Mahindra Satyam
6	IBM India Ltd	Tech Mahindra Ltd.	Tech Mahindra Ltd
7	Cognizant Technology Solutions	Patni Computer Systems Ltd	MphasiS Ltd
8	NIIT Ltd	Oracle Financial Services Software Ltd.	Patni Computer Systems Ltd.
9	Silverline Technologies Ltd	Mphasis an EDS company	Larsen & Toubro Infotech Ltd
10	Pentasoft Technologies	Larsen & Toubro Infotech Ltd	CSC India Pvt. Limited

Source (Athreye 2005; Nasscom 2012a)

Smaller, more entrepreneurial firms have also done well and it should be noted that start-ups have a legacy that pre-date liberalisation. In the 10 years before liberalisation, an estimated 115 new firms entered the market. In the 10 years after liberalisation, 420 new firms entered the market (Athreye 2005).[107] The fact that so many firms were able to develop businesses pre-liberalisation and the fact that all of the leading firms were founded pre-liberalisation is indicative of the unique competitiveness in the sector. Indian IT companies built their leading global market positions in less than a decade. The compound annual growth rate of these firms over the past ten years along with their margin and return performances are unprecedented (see table 5.3). The statistics indicate a set of firms that operate in a competitive environment and exhibit growth trajectories and margins that are common/expected in liberal market economies. The revenue growth of these firms is indicative of disruptive innovation. Building from the Y2K event at the turn of the century (and not Indian liberalisation), Indian IT firms were able to sell a wide array of products and services beyond the Y2K fix. The enhanced product offering enabled them to further develop client accounts and relationships. Each year the services offered increase in sophistication. In a market whose growth potential continues to be strong (NASSCOM 2012a), Indian firms are well positioned to build on their competitive advantage.

[107] These figures are unimaginable in Brazil, for example.

Table 5.3: Performance Metrics of Top IT Firms (sorted by Margin)

all figures USD K unless noted as %	2002 Turnover (or earliest available)	2011 Turnover	10 Yr CAGR (or CAGR over pd)	Avg EBITDA Margin	Avg ROE	Avg P/E Ratio	2011 YE LT Debt	2011 YE Cash	LT Debt to Cash
Infosys	547,131	6,049,000	30.6%	34.6%	33.7%	24.1%	-	3,742,000	0.0%
TCS[1]	895,621	8,369,864	28.2%	28.4%	44.3%	22.2%	16,753	1,652,428	1.0%
Tech Mahindra[2]	672,004	1,157,312	14.6%	24.3%	26.3%	14.3%	273,841	59,709	458.6%
Wipro	731,856	6,959,328	28.4%	23.0%	27.8%	24.0%	442,531	2,511,355	17.6%
Patni	94,160	672,787	24.4%	23.0%	16.1%	14.8%	226	42,429	0.5%
HCL[3]	479,733	3,546,896	28.4%	21.9%	23.0%	18.1%	489,108	386,753	126.5%
Mahindra Satyam	369,487	1,159,194	13.5%	21.4%	15.6%		7,055	616,753	1.1%
Mphasis[4]	90,357	1,065,049	36.1%	21.1%	22.9%	17.2%	59,817	59,267	100.9%

[1] EBITDA, ROE margins as of 2005 and P/E ratio as of 2006

[2] Data since 2007, debt is tied to the Mahindra acquisition of Satyam and is considerably less than the cash on Satyam's balance sheet

[3] Data since 2003, P/E ratio as of 2006

[4] Data since 2003, P/E ratio as of 2006

Notes: CAGR is Cumulative Annual Growth Rate; EBITDA is Earnings before Interest, Tax, Depreciation, and Amortisation; ROE is Return on Equity; P/E is Price to Earnings; YE is Year End; LT is Long Term

Source: Orbis (2012)

Rapid growth combined with strong margin performance and high returns are an indication of a drive to maximise shareholder value. The post Y2K performance of Indian IT firms occurred because Indian IT firms were able to build on new found access to clients and develop new markets. Before the Y2K event, none of the firms had reached the $1bn revenue mark. In fact, only TCS had achieved $750mm. In less than 10 years after Y2K, the top firms had surpassed the $5bn revenue mark and nearly all firms either reached $1bn and/or had grown their revenues by a factor of at least 10. The post Y2K performance of the firms contrasts the ten years between liberalisation and Y2K as well as the twenty years that preceded liberalisation. Until Y2K, Indian IT firms had been "learning to innovate" (Amann and Cantwell 2012; Nelson and Winter 1982). When Y2K occurred, Indian IT firms were poised to take advantage and demonstrate their ability to disrupt markets.

That all eight of the top IT firms are publicly listed, despite a number of them having strong links to family-based conglomerates, reflects the liberal market bias of the sector.[108] Unlike in CME and MME markets where cross shareholding and preferred shares complicate voting structures because of the prevalence of non-voting shares, these firms only issue voting shares. The majority of client revenues come from the US, so transparency and adherence to liberal market norms is good for business. The drive for transparency, however, is motivated by business considerations: a desire by firms to detach themselves from public coordination, offer stock options to top employees to attract talent, raise capital, and drive disruptive corporate strategy.

[108] Satyam is the major exception as it was delisted when the firm succumbed to an accounting scandal, and Mahindra acquired the business. The discovery of the Satyam scandal can be attributed to the transparency in the sector that exists because of the liberal market foundations.

5.4 Firm Level Case Study

Section 5.4 begins the firm level case study in the IT sector. The findings of section 5.3 support additional inquiry into TCS and Infosys, since these two firms have led the market since the beginning and represent two different styles of corporate governance. TCS is part of the Tata Group, which is India's largest conglomerate. Tata has enough diversity and capital interests that they could facilitate cross shareholding and cross subsidisation across corporate entities. Whether or not TCS took advantage of those resources is important and interesting. Infosys is a contrast to TCS because it is publicly listed and has fragmented shareholding. Infosys was the first IT Company to execute an initial public offering (IPO), and even before the IPO, ownership was fragmented amongst a range of founders. The contrasts and similarities of TCS and Infosys will highlight any CME versus LME tendencies of firms in the market. The third firm in the case study will be CMC because of its status as a SOE and leading position in the market historically. Twenty years ago, in light of the state led control of the economy, the expectation would have been for CMC to remain a market leader whereas Infosys could hardly have expected to survive. We now know that TCS and Infosys lead the market, but the story of CMC is important to understand in the context of developing competitiveness and success. Section 5.4 traces the development of the three case firms to understand how they developed competitiveness in the face of India's rapidly changing institutions.

All three firms have origins that date back to the 1970s. The competitiveness of these firms was developed in the beginning phases of IT development in India. What we find is that TCS and Infosys sought to develop their businesses in new markets whereas CMC had a dual focus on the domestic market and the international market. The key empirical finding is that TCS and Infosys built liberal corporate governance foundations in India decades before the market liberalised. CMC relied on the state and could not sustain competitiveness in an increasingly liberal market environment. Sections 5.4 and 5.5 show that, despite different origins and market structures, the three firms converged to liberal corporate governance norms.

TCS

The story of TCS' founding must begin at the Group level. While TCS is listed on a public stock exchange, it is still majority owned by the Tata Group. Tata was one of India's leading industrialists. J.N. Tata founded the Tata Group in 1868 as a trading company in Bombay. The firm had historical links with the British as well as with the independence movement of the Indian National Congress (Guha 1983; Desai 1968). Like many family owned conglomerates, the Tata Group is owned by a key majority stakeholder, but what is exceptional is that a Trust and not the family is the key shareholder (TCS Executive, personal interview Feb 2012; Thomsen 2011). A charitable trust owns roughly two-thirds of the entire group. The charitable trust is independently managed by development experts and invests profits into programmes that support a wide range of development causes in Indian society. While the Trust may not exactly follow a LME ideal type, the transparency and ethics of the trust are more liberal than any other comparable conglomerate in India. Furthermore, the transparency of the Tata Group led the market until Infosys furthered those standards.

The Tata Computer Centre was created in the early to mid-1960s to service the various Tata companies. TCS was officially formed in 1968. The appointment of Managing Director Mr. F.C. Kohli in 1969 was a step that pushed TCS to consider procuring business from outside the Tata Group (Ramadorai 2011). TCS won its first overseas contract in 1974 from the Burroughs Corporation. The relationship between Burroughs and Tata eventually led to the creation of a joint venture, since Burroughs was looking for an Indian partner in the face of FERA. The Tata Group decided to split the computer business and create the Tata-Burroughs Company to promote hardware sales and leave TCS as a small side operation. The split made business sense, as the market seemed to indicate that future revenues would come from manufacturing computer parts. The state reinforced the expectation that hardware would outperform software by providing greater support for the hardware industry.

TCS, the newly formed software division, had to find new contracts. The impetus to find new contracts led the founders to the United States where they began to solicit new clients with newly developed products (Ramadorai 2011). While both state economic policies and the Tata Group were focused on the manufacturing aspects of computing, TCS built a sustainable business servicing foreign clients. TCS sustained its growth and eventually re-acquired the Tata-Burroughs Corporation. While the company demonstrated a capacity to seek new markets and create innovative, service-oriented products, it remained a largely conservative organisation, much like the larger "Tata" corporate culture. TCS continued to develop its business but had to readjust its strategy in the wake of market developments. TCS decided to IPO in 2004 to keep pace with its competition, respond to market pressures, and to take advantage of burgeoning Indian equity markets (TCS Executive, personal interviews Feb-Mar 2012; Ramadorai 2011). TCSs' corporate governance became more rigorous and focused on risk and growth because of the IPO as the firm was forced to increase transparency, subject itself to more timely and rigorous performance standards, and accept non-Tata shareholders (TCS 2011; TCS Executive, personal interviews Feb-Mar 2012). While the Tata Group still owns a majority of TCS shares, the firm is independently managed since it is ultimately owned by a transparent charitable trust (TCS 2011). There are few differences between TCS and public held companies in liberal market models. The transparency of the Tata Group helped TCS be prepared for liberal markets early in its formation. TCS and the Tata Group more broadly reflect the competitiveness of firms organising their businesses in line with the typological trajectory of the Indian market.

CMC Ltd.

The DoE formed CMC and the Semiconductors Complex in the mid-1970s (DoE 1978). The entities were part of a strategy by the DoE to foster the development of a computer industry in India. CMC would focus on software and SCL on hardware. CMC built its business on the back of direct government support that included interest free loans and direct subsidies (DoE annual reports[109]). CMC became a sustainable business when IBM left the country after the passage of FERA. IBM agreed to transfer management of IBM systems to CMC as long as CMC purchased spare parts from IBM and assumed

[109] DoE annual reports references a series of annual reports for CMC and SCL between 1978 and 2006. The complete list is included in the works cited. The annual reports were accessed at the Department of Electronics library archive in New Delhi in the spring of 2012.

responsibility for IBM's 200 former employees (DoE 1978). The state used this newfound capacity to promote the software business and sold contracts to the Government of Nepal, the USSR, UK, and Afghanistan (DoE 1981). CMC also won domestic contracts for electricity distribution, election monitoring, and census calculations (ibid). As a SOE, CMC had a competitive edge in the domestic market for IT services. CMC became a market leader during the late 1970s and early 1980s as new computer policies took effect in India.

The international success of competitor firms threatened CMC because it was losing its leadership position in the market (DoE 1992). To compete, CMC decided to focus on international markets and became the first Indian company to purchase a foreign company in 1991 with the acquisition Baton Rouge International, Inc. in the US (ibid). The landmark acquisition marked a historic peak for the firm. Despite the attempt to establish itself in the U.S. via acquisition, it could not keep pace with its peers.[110] The acquisition failed to give CMC the desired foothold in the American market because of post-merger complications. As a SOE, CMC was less nimble and could not adeptly handle the changes that inevitably come when firm's combine businesses and internationalise. CMC kept losing market share.

In a newly liberalised environment with greater pressure on fiscal expenditures, the government had to prioritise and decided to sell CMC. In 1992, 16.7% of CMC shares were sold to the General Insurance Corporation, who later sold the shares to the public in 1996 (DoE 2002). In 1993, CMC shares were listed on the Hyderabad stock exchange. And then, nearly a decade after liberalisation, the government identified CMC as a candidate for disinvestment and decided to sell its majority stake in 2001. The government sold a 51% equity stake to Tata Sons and distributed 6.3% of equity to employees in 2001 (DoE 2002). The remaining shares were sold in 2004. TCS, for strategic and cost reasons, left CMC as an independent subsidiary. Today, CMC does not even fall into the top 20 IT firms in India and remains a niche company in the hands of

[110] While the developmental state in India actively promoted SOEs, it did not inhibit private competition.

the Tata Group, with its brand intact (Athreye 2005; Nasscom 2012a).[111] As a SOE, CMC proved unable to respond to the competitive pressures of its peers operating in the private sector. The state links that won them contracts and facilitated their rise proved to be a barrier to efficiency as private coordination strengthened.

INFOSYS

The founding of Infosys is unexpected in the context of the highly controlled Indian economy. Narayana Murthy and a number of colleagues from PCS decided to leave PCS and start their own business (Nilekani 2008). PCS itself was a start-up that Narendra Patni founded, after spending time at MIT, to focus on providing computing technology to the Indian market.[112] Murthy and Nilekani, two eventual founders of Infosys, instead had a vision of providing services to American clients (ibid). From the beginning, Infosys had a fragmented shareholder structure with a number of founders and early employees owning equity stakes in the company. Within one year Infosys had its first client, Data Basics Corporation, and established an office in Boston within six years. Much like TCS, Infosys had to create a product offering and find new ways to access the American market (Barney 2010).

Infosys tracked the growth of TCS but faced the additional challenge of having to establish its own brand. The Tata brand, while distinctly Indian, was more credible globally because of the strength of the Tata Empire. Infosys had to establish its credibility. One of the ways it decided to do so was by adhering to American standards of transparency (Infosys Executives, personal interviews Mar 2012; Infosys 1993). The firm, already operating in with fragmented shareholding and a flexible labour force, decided to IPO. Infosys became the first Indian IT company to list on a stock market in

[111] The decline and sale of CMC contrasts the decline of SCL, which performed so poorly that it could not even be sold. The firm was dissolved in 2005 and became a publicly-funded research institute.

[112] The influence of being educated in the U.S. certainly played a role in the entrepreneurial foundations of the firm, and likely influenced the development of the sector more broadly (see discussion of application of role of ideas in Chwieroth 2010 or how epistemic communities can translate in domestic level politics in Haas 1989). The role of country level factors, however, is not diminished because the institutional structures necessary to sustain the sector needed to be in place. Corporate executives from many EMs were trained in the U.S. yet it is India where such ideas were able to lead to the development of competitive firms.

1993 (Infosys 1993). Accessing equity capital helped the firm invest in growth initiatives and reinforced the management philosophy, which centred on transparency and efficiency. By 1999, Infosys was large enough to list on NASDAQ. Additionally, the company decided to procure a rating from S&P, despite not using debt capital markets, as a way to demonstrate its high standards of transparency and corporate governance. Infosys has become a pioneer in India because of its high standards of corporate governance. Government regulators have held informal dialogues with the firm to design economic policy (Infosys Executives, personal interviews Mar 2012). Today, the firm is one of the largest IT companies in the world and the second largest in India. Infosys operated in liberal market conventions before the market was designed to accommodate such standards. As private coordination was increasingly supported by the state, Infosys was in a highly competitive position to become a market leader, a position it continues to hold.

In summary, each of the three case firms has a different origin that has an effect on their corporate governance strategies, as will be discussed in section 5.5: TCS grew out of the Tata Group, Infosys had entrepreneurial beginnings, and CMC was a SOE. Despite the differences, these firms converged towards liberal market behaviour.

5.5 Case Study Firms and VoC Dimensions

Section 5.5 measures interaction across the three case firms along the VoC dimensions. The section further investigates the trends seen in the founding of these firms to identify what kinds of corporate governance and labour relations have sustained these businesses. The key consideration is whether or not they have exhibited LME characteristics. I argue that the firms were able to take advantage of state non-interference in the IT sector to mobilise resources. As firms became more and more competitive, they were gradually integrated into the feedback loop of domestic complement bargaining. As the leading sector gained in influence, so did their preferred market structures.

Corporate Governance

When analysing a firm, corporate governance is the most relevant VoC category because it is in the board room and amongst senior executives where key decisions are made. Corporate governance extends from how firms finance themselves to how they manage operations. How firms develop strategy and how they finance themselves are closely related. Firms with a debt orientation will have a lower risk profile, relying instead on incremental innovation, since they have to pay a lower premium for their invested capital. Firms with an equity orientation and transparent ownership will have a higher risk profile and seek stronger returns through disruptive innovation to compensate investors who expect a premium as equity holders. Additionally, firms with an equity orientation have to deal with public listings, diverse shareholder bases, and more frequent performance monitoring. The stakeholders, to whom publicly listed firms are accountable, change substantially after public listing and reinforce the competitive dynamics of corporate governance so long as minority shareholders have sufficient protections (as they do in India as discussed in the previous chapter).

Despite diverse beginnings, all three firms converged to equity oriented structures of corporate governance. The point of departure in the analysis can be determined from table 5.3 in Section 5.3. TCS and Infosys, like other IT firms have almost no debt and high equity investments. CMC follows the same pattern (CMC 2012). CMC, as a SOE, only turned to equity driven corporate governance after being sold to TCS. The relative level of competitiveness depends on how well they conform to liberal market standards of management and corporate governance. Three elements of corporate governance are considered: ownership, board structure, and growth strategy.

The ownership aspect of corporate governance focuses on key shareholders, transparency, and minority shareholder rights (i.e. if the firm exhibits characteristics of a pyramid). Concentrated ownership and pyramidal structures are indicators that the firm is hiding or protecting shares and is most likely to occur in mixed markets or developmental states because of political connections and inconsistent legal standards. In some parts of the Indian economy, where public coordination and state interference continue to be the norm, firms tend to have concentrated ownership, either by a family or the state. None of the IT firms analysed exhibit such characteristics. Table 5.4 summarises the ownership situation of the three firms. TCS is the closest to having a promoter shareholder but the trust ownership of Tata Sons means that in actuality it does not have a traditional promoter. As previously discussed, Tata Sons is managed by investment and development experts, who act as a value promoting shareholder. Subsidiaries are professionally managed (Thomsen 2011; Tata Sons 2011). CMC falls under the same Tata Sons ownership scheme since it is majority owned by TCS. Finally, Infosys has fragmented ownership: 19 founding members own 16.04% of shares outstanding with no single shareholder owning more than 5%, and all employees receive stock options (over Rs. 500mm have been distributed to employees as of March 2010) (Infosys 2011). While the Infosys ownership pattern is perhaps most similar to liberal markets, the lack of promoter shareholders and fragmented ownership is consistent across all three firms.

Table 5.4: TCS, CMC, and Infosys Shareholding Structure

FIRM	Top Shareholders (top 10 or above 1%)	Comment
TCS	Tata Sons – 73.75% Life Insurance of India – 2.52% Franklin Templeton Investment Funds – 1.79%	Tata Sons is the holding company for the Tata Group and its primary shareholder is the Tata Family Charity. Tata Sons is 66% owned by charities, 18.6% owned by Mr. Pallonji Sharpooji Misty, and 2.2% owned by the Tata family
CMC	TCS – 51.12% Aberdeen Asset Managers Fund I – 6.34% HDFC Trustee Company Fund I – 6.31% Life Insurance of India – 4.09% Mathews India Fund – 3.68% Aberdeen Asset Managers Fund II – 2.97% General Insurance of India – 2.69% The New India Assurance Co – 1.68% HDFC Trustee Company Fund II – 1.56% Government Pension Fund – 1.24%	With TCS ownership, the owner remains the Tata Group and Tata Sons Charities. TCS acquired 51% of CMC for Rs 152 crore, which is the equivalent of Rs 196.26 per share and included an option to purchase a further 16.69% of shares at 281.26 per share in the future (TCS 2001). Since 2006, apart from a blip during the financial crisis, CMC shares have traded at over Rs 500 per share, reaching Rs 1000 per share in 2011. As a result, it makes little financial sense for TCS to acquire the outstanding shares given the premium that would be required to complete a tender offer.
Infosys	Life Insurance of India – 5.17% Oppenheimer Dev. Markets Fund – 2.74% Sudha Gopalakrishnan (promoter) – 2.14% Abu Dhabi Investment Authority – 2.13% ICICI Prudential Life Insurance – 1.92% Franklin Templeton Investments – 1.74% Nandan Nilekani (promoter) – 1.45% Akshata Murty (promoter) – 1.41% Rohini Nilekani (promoter) – 1.41% Rohan Murty (promoter) – 1.38%	Infosys has a fragmented ownership structure

Source: Bloomberg (2012)

The high risk nature of the industry means that equity markets are a more natural fit for capital investment. In an equity based, high risk/reward business environment, transparency and competitiveness are critical factors for success. Promoter influence can limit a firm's ability to remain competitive because of an aversion to risk taking. The pressure for TCS to IPO and the failure of CMC are prime examples of how a promoter culture and state ownership, respectively, inhibited firm development.

The board composition of the three firms follows the ownership patterns. The mix of independent and non-independent boards along with the lack of promoter presence on the boards is indicative of highly professional management. The non-independent board members are largely members of the executive team, or in the case of CMC, members of the TCS leadership team. Table 5.5 summarises the board structure of the three case firms.

Table 5.5: TCS, CMC, and Infosys Board Composition

FIRM	BOARD COMPOSITION		BOARD COMPOSITION	
	Executive	Non-executive	Independent	Non-independent
TCS	2	12	7	7
CMC	1	6	3	4
Infosys	5	10	6	9

Source: Annual Reports, TCS (2011); Infosys (2011); CMC (2011)

Professionalised management, strong board culture, and constrained promoter influence are all trends in the IT space in India. Without the state interfering in production, firms have greater freedom to innovate and develop new products. The need to be technologically sophisticated and disrupt markets means that equity markets are a more natural fit for capital investment. Bank based financing and/or promoter interference can limit a firm's ability to remain competitive because of an aversion to risk taking. CMC is a prime example of how state links and a promoter culture curbed the growth potential of the firm. The firm generates less than 3% of the revenues of its parent company TCS and 45% of its revenue are domestically based, in an industry known for exports. The company lacked the dynamism that other firms in the sector benefitted from. TCS and Infosys built their corporate strategies around competitive norms and became market leaders because of their ability to take market share and embed their services with clients. Their precedent guides complement preferences in the sector.

Inter-Firm Relations

Inter-firm relations consider two aspects of analysis relative to the IT sector. The first is how the firms compete, and the second is the nature of client relationships. The clearest indicator of how IT firms work with and against each other can be determined by their relationships in business associations, in this case NASSCOM (National Association of Software and Services Companies). NASSCOM is the foremost IT association in India, and plays a very active role in market structuring but not in arbitrating as would be common if it were an industry body. The association is structured for industry promotion, lobbying, and sector advocacy. Members do not work together or use the organisation as a forum for cooperative dialogue. The leadership team includes a mix of elected industry executives and professional staff (NASSCOM 2012c). NASSCOM has an active dialogue with the DoE, promotes the IT sector, and provides market impact advice when called upon by technocrats (A. Jee, personal interview Feb 2012). In fact, policymakers often rely on NASSCOM statistics to understand industry dynamics since the association holds the strongest database. The division, however, between policy formulation and NASSCOM is legally distinct and NASSCOM is not in the business of designing or implementing self-regulation or standards. Specific to the case firms, TCS and Infosys are leading members of NASSCOM whereas the role and influence of CMC is considerably less.[113]

The second dimension of inter-firm relations deals with client acquisition and retention. Given that the firms have differentiated ownership structures and that clients are predominately located overseas, the tendency for competition over cooperation is quite

[113] For example, TCS and Infosys, but not CMC, are represented on the executive council and have had rotations with representatives as Chairmen.

high. In fact, many of the top IT firms have the same client base. General Electric, for example, has had or has contracts with most of the top Indian software firms. The top players target fortune 500 companies and most of them have finance-specific software packages that are sold a handful of global banks. Business is won on a contractual basis via a tendering process. IT firms compete directly with one another on price and quality of services. While the top IT firms have now established long standing relationships with many clients, the nature of the relationship has changed considerably over time. Initially firms sold human capital to develop software solutions but increasingly branded products and end-to-end solutions are being sold, which reflects advancement along the value chain in LME based sectors. TCS and Infosys are at the forefront of acquiring and retaining large, international clients whereas CMC generates most of its revenues from the domestic market.

Labour Relations (Industrial Relations, Employee Relations, and Vocational Training)

The IT labour discussion will combine elements of industrial relations, employee relations, and vocation training. At the core of the labour section is the fact that Indian IT firms are locally managed and operated. IT and Business Process Outsourcing (BPO) accounts for 3 million jobs directly and 9 million more jobs indirectly which means that only 2.5% of the labour force is tied to the sector (NASSCOM 2012a). Each of the leading IT firms has management teams that are dominated by Indians (i.e. over 90%); the labour force is similarly comprised primarily by Indians (TCS 2010a, Wipro 2010, and Infosys 2010). Indian labour inputs, and therefore relations, are determined by local market structures.

Firms operate on similar models where they hire the best and brightest college students, usually engineers from top universities and train them in computer science. The competitiveness to enter the sector is high, but there is a surprising dearth of qualified technical graduates in India. To overcome the lack of specific training in the university system, firms have developed extensive training facilities to prepare students for the workplace (Rao 2011; Wadhwa et al 2008; Farrell et al 2005). The extensive investment in training is surprising given the high levels of attrition and turnover that characterise these firms. Individuals use the training to become more marketable for other positions in the IT space, which exacerbates the level of turnover. As a result, firms face risk in ascertaining stable labour inputs.

The flexibility of labour in the Indian IT sector was unique. The lack of a coherent labour movement in the IT sector reflects the fragmented structure of the market when not forcefully coordinated by the state. In providing opportunities for labour despite fragmentation, the IT sector achieved a new kind of efficiency. The liberal market structure of IT labour is viewed as a leading example in the Indian market. For example, in the 2011 Business Today Best Companies to Work for survey, nine of the top ten and nine of the top nine firms were technology companies (2012). In the previous chapter I discussed, extensively, the wide array of labour laws that govern and structure Indian labour markets. In contrast, the IT sector received exemptions early in its history to not have to abide by restrictive labour practices. In some instances the flexibility was because of benign neglect and in other instances specific efforts by state governments to loosen labour regulations within a local context (Kumar 2009; Choure & Shukla 2004). The pattern established during the formation of the sector remains in place today.

Wages in the IT space have kept pace with supply and demand, and the level of compensation for workers has risen commensurately with the changing dynamics of the sector (Aon Hewitt 2012; Athreye 2005; Farrell et al 2005). The competitiveness of the industry is also visible in the growth and attrition figures of TCS and Infosys (CMC is included in TCS figures), as seen in table 5.6. Despite a spectacular rate of growth in the number of employees, the turnover rate is even more spectacular. With tens of thousands of employees leaving the company every year and a similar number being hired, the sheer volume of turnover has regularly reached over 50,000 per firm in recent years (TCS 2011, Infosys 2011). Given the high demand for talent and ideas in the market, the high turnover rates and increasing compensation will continue.

Table 5.6: TCS and Infosys Employees and Attrition

	TCS		Infosys	
	Employees	Attrition	Employees	Attrition
2006	66480	9.90%	59831	13.70%
2007	89419	11.30%	72241	13.40%
2008	111407	12.60%	91187	13.40%
2009	143761	11.40%	104850	11.10%
2010	160429	11.80%	113796	13.40%
2011	198614	14.40%	130820	17.00%
'06-'11 CAGR	24.5%		16.9%	

Source: Annual Reports, TCS (2011, 2010, 2009, 2007); Infosys (2011, 2010, 2009, 2007)

Across the VoC dimensions, and especially in corporate governance, the market is characterised by liberal structures. Firm behaviour demonstrates that a culture of high risk and high reward drove success. None of the firms carry much debt on their balance sheets, have large cash balances, and have to respond to the outsized return expectations of equity investors. Both TCS and Infosys were start up enterprises, although Infosys was a truer entrepreneurial endeavour. TCS had the implicit backing of the Tata Group but had to battle for survival because most Tata resources were diverted to the hardware firm Tata Burroughs early in Tata's computing history. CMC was started by the government and operated as a mostly independent company but could not keep pace with its private sector peers. In mixed market economies and highly concentrated developmental states, state run enterprises tend to outperform peers. The fact that CMC became a tuck-in investment for TCS later in its history is a reflection of how much competition existed in the private sector and the inability for a SOE to keep pace. Even Wipro, a company somewhere in between TCS and Infosys in that it is publicly listed but has a promoter shareholder, conforms to patterns we see at the other top firms (Das and Puliyenthuruthel 2012). Wipro, however, is less competitive and this is potentially tied to the fact that corporate governance remains in the hands of a key promoter. Similarly, the failure of Satyam, which was briefly discussed before, can be traced to poor corporate governance as well as fraud perpetrated by the largest shareholder and founder (Rishi and Singh 2011; Joseph and Stanley 2008). TCS and Infosys lead the market and are sustainably competitive because they relied on liberal corporate governance strategies. As they became increasingly competitive and successful, more and more firms converged towards the standards set by these market makers in India's leading sector.

5.6 Case Study Conclusions

The rise of the Indian IT sector defied many expectations given the "endowments" of the Indian economy. Firms were entrepreneurial and innovative in their endeavour to create an industry where none existed. Capital interests aligned with professional interests. As firms began to outperform, their influence became an active part of the economic policy setting process, even within the developmental state. Associations like NASSCOM began to play an important role lobbying the government on behalf of the sector. While labour interests were not collectivised, net demand for jobs in the sector never faded since the compensation and training/skill development opportunities were sought after. The firms took advantage of the opportunities that came from having a supply of educated workers and growing equity markets. Through these foundations, IT firms were able to cement a more liberal economic environment to build their businesses.

A handful of Indian IT companies became globally successful and built empires in a competitive context despite the corporatist shackles that tied down most of the economy. The state needs to be given credit for enabling competition in the IT space and not imposing public coordination on the sector. Traditional policies would have included subsidies, promotion of SOEs, and indigenisation of computer hardware, which the state did try but not at the cost of private coordination. Instead the government allowed firms to freely compete and permitted carve-outs for the importation of technology. The motive for permitting freedom of interaction within the microeconomy in the sector had mixed origins. Initially, IT seemed like an inconsequential sector but after it found success, the ability for the sector to generate foreign currency, economic growth, and employment made it too big to impose public coordination for fear the sector would begin to perform like the rest of the economy. State policy became benign yet enabling (Arora et al 1999; Arora and Gambardella 2005).

The firm case study unveils the bargaining and subsequent isomorphism that occurred between top firms and regulators. As the sector continued to create its own success, the government had to react to microeconomic stakeholders to create a market structure that enabled competition and flexibility. Both leading individual firms and NASSCOM were at the forefront of the negotiation effort. The deregulation of the IT sector, while the rest of the economy remained mired in a web of regulation, was an important step that permitted capital to ascertain labour inputs through the market. Leading IT firms developed such high levels of success and competitiveness that they were able to force the government's hand in developing policy. The firms were able to ascertain carve-outs from federal economic policies and other accessions that helped create a sustainable market for capital and labour inputs. Interviews with government officials unveiled the fact that companies like Infosys and organisations like NASSCOM continue to be consulted as the government seeks to broaden the market freedoms to other sectors.

Comparing and contrasting the three case firms, conforming to liberal market norms proved to be a key factor in the success of all three firms. Infosys, with its fragmented shareholder structure and early IPO, naturally fit well into a LME economy. Larger questions emerged in determining the success of TCS and CMC. TCS, because it is part of the Tata Group of Companies, may have been a candidate for more of a CME style of corporate governance. The professional management, innovative capacities, lack of endorsing support from the state, and lack of cross shareholding all prove that despite being part of a Conglomerate, TCS espoused liberal market norms. Finally, CMC, who was a market leader early in the formation of the industry, might have been an indication of a MME. The failure of CMC to sustain the same levels of growth and remain competitive indicates that the firm failed to adjust to liberal market norms - that the firm was bought by TCS once its shares were tendered by the government is a classic LME takeover strategy.

The origins of Indian capitalist structures pre-date liberalisation. Firm competitiveness is not a direct result of liberalisation. Firms develop competitiveness over long periods of time, and, in the Indian case, by preparing themselves for competitive markets early in their founding. Table 5.7 summarises the findings of the firm level comparative case study. To further support the findings of the VoC analysis, I reference financial indicators of the three case firms in table 5.8. The empirical evidence identifies Infosys as the most competitive firm, with TCS nearly able to replicate Infosys' performance.

The performance of CMC is not at all comparable, as it is considerably less competitive. Infosys is the firm that most closely tracks LME style corporate governance, and, not surprisingly, is the firm that has the strongest profit margin and price to earnings ratio. TCS has a similar growth profile as Infosys but does not replicate the same level of profitability. The fact that the growth strategies of the case firms converged is an indication of how firms across the sector are efficiently accessing capital and labour inputs through competitive dynamics.

Table 5.7: Infosys, TCS, and CMC by VoC Dimensions, Typology Conformance, and Performance

	Corporate Governance	Inter-firm Relations	Labour Relations	Liberalisation Adjustment	Typology Conformance	Performance
Infosys	Fragmented Early IPO Set market precedent	Active member of associations International clients	Flexible, dynamic firm culture Intensive training investment	IPO in India and then on NASDAQ S&P Rating, first in IT sector	Early adopter of liberal market standards	Strongest performance of case firms since 2004 in comparison
TCS	Promoter shareholder but transparent Late IPO	Active member of associations International clients	Flexible Intensive training investment	Minimal	Professional management from Tata roots	Strong performance but not as good as Infosys over period since IPO
CMC	SOE, privatised and sold to TCS	Not as active in associations Domestic clients	Entrenched and protected until TCS acquisition	Sale to private sector	As a SOE tried to compete via international acquisition and private sector competitiveness, failed and sold	By far the weakest performance of the case firms since going private

Table 5.8: Performance Metrics of Case Firms (2005-12)

	Typology Conformance	CAGR	Profit Margin	Price to Earnings Ratio
Infosys	Early adopter of liberal norms	23.05%	32.13%	24.38
TCS	Professional management from Tata roots	23.05%	26.56%	22.05
CMC	As a SOE could not develop private sector competitiveness and was sold	6.43%	12.53%	16.06

Note: 2005 selected because it is the first full FY after TCS IPO and CMC acquisition

Source: Orbis Financial Database 2013; author's calculations

The innovative capacities of the IT sector are often downplayed because of the mundane nature of most outsourcing, but the creation of outsourcing in the first place and building client portfolios reflects disruptive tendencies. The IT firms made a market, built resources to serve that market, and continue to enhance their product offerings. Perhaps most important, the firms exhibit disruptive behaviours as they strategise to develop productive capacities and drive competitiveness.

Beyond the VoC dimensions already discussed, leading companies are investing heavily to develop innovative capacities that will place them at the top of the value chain. For example, TCS has built an innovation network with 19 labs (TCS 2010b) which have developed 68 patents (with an additional 448 applications under review) (TCS 2011). Similarly, resources like Infosys Labs have developed 22 patents (with another 357 under review) (Infosys 2011). Firms, recognising that future growth will depend on the creation of differentiated product development, are investing heavily in their disruptive capacities. All the firms feel the drive to innovate because of the push from equity markets that expect high risks and even higher returns.

In hindsight the liberal and competitive structure may seem self-explanatory, but thirty years ago such a market structure was far from obvious. The prevailing norm in the Indian developmental state was one of public coordination. The freedom granted to the IT firms has enabled them to develop efficient complements and drive coherent growth strategies. The fact that the growth strategies of the case study firms are largely similar is another indication of how firms have found efficient complement equilibriums. The cyclical reinforcement of liberal market structures is now highly evolved in the IT sector. The model is now even being promoted in other sectors of the Indian economy, including manufacturing (Ministry of Commerce 2011).[114]

[114] The Ministry of Commerce and Industry has announced the creation of National Investment and Manufacturing Zones which are modelled on the STPI initiative in the hopes of stimulating the manufacturing industry.

Chapter 6 The Typological Trajectory of the Brazilian Economy

6.1 Complements in the Brazilian Market

Chapter six details country level factors in the Brazilian context. I focus on structural indicators of the Brazilian economy in capital and labour markets. Remembering that the key hypothesis is that the rise of Brazilian firms is dependent on continued intervention of the state because of the mixed market characteristics of the economy, the case traces the negotiation of complements in Brazil. The levels of public versus private coordination as well as collective action in Brazilian labour and capital markets determine how complements organise. Most important are how incentives are propagated through the economy and how firms react to these incentives. The chapter answers the following questions: How much does the state continue to facilitate public coordination and is it sustainable? How has asset specificity (if it has) manifested itself in the creation of private complements? How coherent are privately coordinated complements? The answers to these questions set the stage for the second layer of the case study at the firm level.

Specific to the Brazilian context, I will explain how institutional mechanisms have evolved in labour and capital markets. While the re-introduction of democracy in the mid-1980s and liberalisation of the mid-1990s may have paved the way for privately negotiated complements, institutional legacies have proven difficult to overcome. Labour markets are governed by a web of legislations and laws that was developed with a view towards strategically coordinated markets. Labour is organised into "sindicatos" [115] or syndicates, which are publicly housed entities intended to anchor industry-wide bargaining. All workers are required to be members of a syndicate but not all syndicates are active and/or powerful. Some syndicates negotiate with their industrial counterparts whereas others simply exist in a nominal facility. Part of the labour force tries to negotiate collectively whereas the rest of the labour force acts individually. Additionally, unions, which still exist in a capacity distinct to the syndicates, have little bargaining power with industry and instead have only managed to drive influence through politics,

[115] Sindicatos references both labour unions and business unions. Syndicate in English is generally only associated with the former.

which is common in MMEs when labour and capital are unable to effectively bargain. The labour market is organised along multiple dimensions and demonstrates hybrid characteristics.

Likewise, capital markets are characterised by unusual dichotomies in their complement organisation. A challenging legal environment and low levels of transparency undermine shareholder rights. Equity markets are dominated by large corporations, many of which have strong ties to the state. Despite a high market capitalisation, the exchange is illiquid and concentrated. Additionally, the prevalence of non-voting shares undermines transparency. Debt capital markets are equally problematic in Brazil, with the national development bank being responsible for capital distribution. Despite underdeveloped capital markets, banks dominate the competitive landscape of firms. The chapter will ask questions to decipher the seemingly incongruent characteristics of the Brazilian market. In the labour market, how effective are syndicates in the face of fragmentation and why are unions so prevalent with the syndicate structure in place? In the capital market, how have equity markets developed, why are debt capital markets so weak, and why don't investors push for greater transparency? The answers are complex and tied to the institutional and political structures that dominate Brazil. The answers will lead to the determination of a typological trajectory.

Evidence suggests that Brazil's mixed market structures result from misaligned capital and labour interests. Along the five dimensions of VoC theory, Brazil exhibits mixed market characteristics. Table 6.1 summarises the VoC tendencies exhibited by Brazilian firms and markets. The tendency towards either LME or CME organisation is confused and distinctly mixed. The next question is to decipher Brazil's position on the z-axis by inquiring how settled are the mixed market characteristics. Put more clearly, have complements settled and is the state involved to overcome inefficiency or is the state acting in a manner like the developmental impetus seen in India?

Table 6.1: VoC Dimensions of the Brazilian Firm

	Coordinated Market Economies (CME)	Mixed Market Economies (MME)	←	Maturing MME **BRAZIL**	Liberal Market Economies (LME)
Inter-firm Relations	Strong associations	Businesses collectivisation divided by size, if consensus exists at all	←	Formalised negotiating entities, Market dominated by few firms	Not well organized
Corporate Governance	Bank based, Patient capital	State regulation perpetuates long-term inefficient equilibriums	←	State maintains equity stakes while capital market liquidity remains tight	Capital markets, Short term outlook
Employee Relations	State provision of welfare, Longer job tenure	Dualistic labour markets combine with sector based state interventions	←	Legislated protections and union strucure contrasts turnover rates	Firm provision of welfare (if any), Labour operates as a market
Industrial Relations	Strong unions, Centralised wage bargaining	Politically strong unions but fragmented and weakly articulated	←	Unions are politically strong but represent diverse of labour interests	Not well organized
Vocational Training	Specific training	Mixed forms of training lead to inefficiencies	←	Formalised institutions exist but do not meet market demands	General training

Sources: Hall and Soskice (2001); Molina and Rhodes (2007); Interviews by Author

The chapter is organised into three sections. Each section represents one of the dimensions needed to plot the Brazilian economy along its typological trajectory: section 6.2 is about labour, section 6.3 is about capital markets, and section 6.4 discusses the role of the state and public coordination to trace the equilibrium of private coordination to define a trajectory. Within labour markets, employee relations, industrial relations, and vocational training are discussed. I analyse the origins of labour law, how law is enforced in the macroeconomy, and how firm's engage with the labour market. I demonstrate how Brazilian labour laws aimed at public coordination have lost their relevance in the modern economy. The capital section discusses corporate governance and inter-firm relations. I demonstrate how the state dominates Brazilian capital markets and how firms have few incentives to develop competitiveness. The section on the role of the state in the economy offers a historical analysis to trace institutional change. Section 6.5 concludes by affirming the role of the state and mixed complement structures across the dimensions of the Brazilian economy. The institutionalisation of the state in the Brazilian economy means that Brazilian typological trajectory is different to that of India.

6.2 Brazilian Labour

Section 6.2 surveys the Brazilian labour market to trace coordination as well as complement structures. VoC theory identifies three dimensions in which complementary relationships affect the structure of the labour market. First, industrial relations reference the strength of unions in industry and the level of bargaining for wages. Second, employee relations reference the compensation and security that the employee receives from the employer. Third, vocational training, which will be discussed in the context of employee relations, relates to how employee skills are shaped. What we find in Brazil is that, on all three dimensions, a web of legal restrictions contradicts the microeconomic function of the market. Previously, I posed a question as to why syndicates and unions coexist. More importantly, we need to understand the structural foundations of the labour market do not change despite inconsistent mechanisms. The answer to this question is explicitly tied to the typological trajectory of the labour market, namely how close to equilibrium are the stakeholders in Brazil's labour market. The relative emphasis on public versus private coordination and the prospects for institutional change are outlined by Brazil's placement on the z-axis. This section outlines a brief history of Brazilian labour regulations, clarifies labour function at the firm level, and then discusses the extent to which we can expect institutional change to re-align legislation.

Historically, the state took an active role organising labour. Getulio Vargas established a labour code to pacify labour interests by giving them a stronger voice in the development of the country (French 2004; Weinstein 1996). Typical of authoritative regimes and developmental states, the new system was imposed from the top down (Weinstein 1990). Vargas' Estado Novo borrowed ideas from a number of foreign systems, but relied most heavily on Italy (French 2004; Baily 1970). In fact, Vargas' 1937 Constitution "borrowed" provisions from Mussolini's Carta del Lavoro, which had been authored a decade before (Moraes Filho in French 2004). Nazi Germany was the model for SENAI (Serviço Nacional de Aprendizagem Industrial), which was the apprenticeship system implemented in Brazil (Weinstein 1990). Vargas and his fellow leaders sought to implement a system based on the cooperative coordination model of Continental Europe.

Enacted in 1943, the Consolidação das Leis do Trabalho (CLT) was the most important and comprehensive labour legislation of the time. The CLT was "written more with an eye on Europe" rather than with consideration to the on-the-ground reality in Brazil (Barbosa de Araújo 1990). The CLT tried to create a tripartite system to enable dialogue and coordination. The legislation explicitly details labour relations, in civil law tradition. French describes the CLT as follows:

> "In scope and ambition, the CLT is a truly kaleidoscopic body of law that provides guidance on almost all important aspects of the world of work, broadly considered. In addition to setting down fundamental principles and legal norms, the CLT addresses hundreds of secondary questions, large and small...
>
> The matters covered include hours of work and the setting of wages and salaries (including minimum wages, overtime, and extraordinary pay); discipline, hiring, firing, and quitting; working papers and pensions; employment of women, minors and the foreign-born; industrial health and safety; and guaranteed job tenure based on seniority (estabilidade). The CLT also contains..." (p41)

Out of the CLT came the structures that govern labour relations in modern times. Organizations like Confederação Nacional da Indústria (CNI) and Federação das Indústrias do Estado do São Paulo (FIESP) provided the forums for negotiation between the sindicatos. The CNI is the federal organization that coordinates labour and capital relations. Each state has its own CNI subsidiary, of which the FIESP, in São Paulo, is the most important. Along with some of the aforementioned training institutes, these organizations are the backbone of the labour infrastructure in Brazil.

The system was dysfunctional from the start. The specificity of the laws meant that they had little in the way of practical function which hindered bargaining in practice. Brazil was a rapidly changing economy, and, as the economy industrialised and matured, the utility of the laws continually diminished. An even more fundamental problem existed, however, and that is the institutional underpinnings of the execution of the law. Without microeconomic roots, the protections envisioned by the CLT were never going to be useful. Corruption and avoidance of obligations undermined the law in application. Beyond the CLT, numerous federally mandated programmes awkwardly combined "the state's capacity for coercion and the private sector's preference for autonomy" (Weinstein1990). The laws mandated labour protections but permitted firms sufficient autonomy to obfuscate which rendered the programmes and institutions impotent. Even financial incentives to elicit firm cooperation to adhere to a corporatist framework were tenuous because of a more fundamental problem - inflation. Any wage bargaining or dispute would always benefit the capitalist because capitalists controlled financial resources (French 2004).[116] Finally, most importantly, the CLT's sector-based organisation of labour and capital syndicates never really functioned cohesively at the firm level (Camargo & Amadeo 1993; Lowy & Almeida 1976). Leaders of the labour movement were mostly powerless to effectuate change, since they found themselves subservient to the economic interests of the industrialists and capitalists (Alexander 2003). Without collective action at the firm level and with capitalists intentionally avoiding conformance to a rigid labour system, labour interests faced a power asymmetry.

Despite its shortcomings, the CLT survives and has been applied differently by the successive regimes. When the military regime took over in the mid-1960s, enforcement of anti-union laws enabled the regime to silence the labour movement by installing figureheads to run the syndicates (Camargo and Amadeo 1993; Almeida and Lowy 1976). Organisations like CNI and FIESP, which had been empowered through the Vargas labour relations model, were managed by elites.[117] The lack of effectiveness of the syndicate structures meant that soon employers negotiated directly with employees because of a need to communicate and establish norms. By the late 1970s, labour negotiations at the firm level had actually become the norm again (Payne 1991). As the military dictatorship weakened and newly democratic elections arrived in the mid-1980s, focus shifted on how the labour market would be organised under a new Constitution.

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[116] The real value of the wage in a dispute would be eroded away as cases languished in labour courts.

[117] Initially industrialists were not entirely opposed to the military regime because of the benefits derived from having labour repressed. Over time, however, these preferences shifted as the military rule moved further and further away from industrialist influence and closer to state control.

The negotiations for the new Constitution were intense. Generally, industrialists were happy to grant labourers certain freedoms but the proclivity of capital interests to cede to labour interests was oftentimes a result of the knowledge that the labour movement was highly fragmented in the microeconomy and would rarely, if ever, act collectively (Payne 1991). The primary considerations for industrialists were cost and flexibility. The ability to hire and fire workers is fundamental to cope with economic volatility, and out of control labour costs can wipe away margins. Labour and capital interests struck a balance to preserve market flexibility at a premium. The costs of employment rose considerably under the new Constitution. The largest costs were those of dismissal, which escalate significantly as an employee's time of employment endures (Camargo and Amadeo 1993). Overall, the 1988 Constitution details, in depth, standards of compensation and job protection (Constituição Federal 1988; Barros and Corseuil 2004). Figure 6.1 includes labour excerpts from the Constitution. What is striking is the detail provided in defining labour rights while other key social areas, such as education and healthcare, are largely ignored.

To the extent that Brazilian labour acted collectively in the Constitutional negotiations, they did so with a very short sighted view and failed to protect wider welfare concerns that would typically be discussed in a cooperatively coordinated system. The specificity of the Constitution combined with that of the CLT, which remained in the legal framework for labour, leaves little room for manoeuvre. As the Brazilian economy develops, the codes of the Constitution and CLT increasingly have become a barrier to efficient complement formation. Labour is a focus for future government reform efforts but the ability to implement change is challenged by the layers of veto players that dominate Brazilian governance and politics.

Figure 6.1: Chapter II (Articles 6-11) of the Brazilian Constitution: Defined Social Rights

CHAPTER II - SOCIAL RIGHTS

Article 6. Education, health, work, leisure, security, social security, protection of motherhood and childhood, and assistance to the destitute, are social rights, as set forth by this Constitution.

Article 7. The following are rights of urban and rural workers, among others that aim to improve their social conditions:

I. employment protected against arbitrary dismissal or against dismissal without just cause, in accordance with a supplementary law which shall establish severance-pay, among other rights;
II. unemployment insurance, in the event of involuntary unemployment;
III. severance-pay fund;
IV. nationally unified minimum wage, established by law, capable of satisfying their basic living needs and those of their families with housing, food, education, health, leisure, clothing, hygiene, transportation and social security, with periodical adjustments to maintain its purchasing power, it being forbidden to use it as an index for any purpose;
V. a salary floor in proportion to the extent and complexity of the work;
VI. irreducibility of the wages, except when established in collective agreement or covenant;
VII. guarantee of wages never below the minimum one, for those receiving variable pay;
VIII. year-end one-salary bonus based on the full pay or on the amount of the pension;
IX. payrate for night-shift work higher than that for daytime work;
X. wage protection, as provided by law, with felonious withholding c. wages being a crime;
XI. participation in the profits or results, independent of wages, and, exceptionally, participation in the management of the company, defined by law;
XII. family allowance for their dependents;
XIII. normal working hours not exceeding eight hours per day a forty-four hours per week, with the option of compensating working hours a reducing the length of the workday through an agreement or a collection bargaining covenant;
XIV. a workday of six hours for work carried out in continuous s} unless otherwise established by collective bargaining;
XV. paid weekly leave, preferably on Sundays;
XVI. rate of pay for overtime at least fifty per cent higher than that of normal work;
XVII. annual vacation with remuneration at least one third higher than the normal salary;
XVIII. maternity leave without loss of job and of salary, for a period of one hundred and twenty days;
XIX. paternity leave, under the terms established by law;
XX. protection of the labour market for women through specific incentives, as provided by law;
XXI. advance notice of dismissal in proportion to the length of service of at least thirty days, as provided by law;
XXII. reduction of employment related risks by means of health, hygiene and safety rules;
XXIII. additional remuneration for strenuous, unhealthy or dangerous work, as established by law;
XXIV. retirement pension;
XXV. free assistance for children and dependents from birth to six years of age, in day-care centres and pre-school facilities;
XXVI. recognition of collective bargaining agreements and covenants;
XXVII. protection on account of automation, as established by law;
XXVIII. occupational accident insurance, to be paid for by the employer, without excluding the employer's liability for indemnity in the event of malice or fault;
XXIX. legal action with respect to credits arising from employment relationships with a limitation of:
a. five years for urban workers, up to the limit of two years after the end of the employment contract;
b. up to two years after the end of the contract for rural workers;
XXX. prohibition of any difference in wages, in the performance of duties and in hiring criteria by reason of sex, age, colour or marital status;
XXXI. prohibition of any discrimination with respect to wages and hiring criteria of handicapped workers;
XXXII. prohibition of any distinction between manual, technical and intellectual work or among the respective professionals;
XXXIII. prohibition of night, dangerous or unhealthy work for minors under eighteen years of age, and of any work for minors under fourteen years of age, except as an apprentice;
XXXIV. equal rights for workers with a permanent employment bond and for sporadic workers.

Sole paragraph - The category of domestic servants is ensured of the rights set forth in items IV, VI, VIII, XV, XVII, XVIII, XIX, XXI and XXIV, as well as of integration in the social security system.

Article 8. Professional or union association is free, with regard for the following:

I. the law may not require authorization of the State for a union to be founded, except for authorization for registration with the competent agency. it being forbidden to the Government the interference and the intervention in the union;
II. it is forbidden to create more than one union, at any level representing a professional or economic category, in the same territorial base, which shall be defined by the workers or employers concerned, which base may not cover less than the area of one municipality;
III. it falls to the union to defend the collective or individual rights and interests of the category, including legal or administrative disputes;
IV. the general assembly shall establish the contribution which, in the case of a professional category, shall be discounted from the payroll, to support the confederative system of the respective union representation, regardless of the-contribution set forth by law;
V. no one shall be required to join or to remain a member of a union;
VI. the collective labor bargainings must be held with the participation of unions;
VII. retired members shall be entitled to vote and be voted on in unions;
VIII. the dismissal of a unionised employee is forbidden from the moment of the registration of his candidacy to a position of union direction or representation and, if elected, even if as a substitute, up to one year after the end of his term in office, unless he commits a serious fault as established by law

Sole paragraph - The provisions of this article apply to the organization of rural unions and those of fishing communities, with due regard for the conditions established by law.

Article 9. The right to strike is guaranteed, it being the competence of workers to decide on the advisability of exercising it and on the interests to defended thereby.

Paragraph 1. The law shall define the essential services or activities shall provide with respect to the satisfaction of the community's undelayable needs.

Paragraph 2. The abuses committed shall subject those responsible to penalties of the law.

Article 10. The participation of workers and employers is ensured in collegiate bodies of government agencies in which their professional or so security interests are subject of discussion and resolution.

Article 11. It is ensured, in companies with more than 200 employees, I election of a representative of the employees for the exclusive purpose furthering direct negotiations with the employers.

Source: Brazilian Constitution of 1988

While all workers are legally required to be members of syndicates, most syndicates are weak because the workers do not act collectively. The exception is among blue collar workers as they leverage these organisations to negotiate improvements in their basic wages and to establish minimum standards. The strength of unions has oscillated with the different regimes that have governed Brazil. Unions were at their strongest during the beginning of the democratic era, but even then labour in Brazil demonstrated a lack of coherence (Amadeo and Camargo 1994).[118] For a brief period in the late 1970s unions became a stronger force as democratic pressures began to mount on the military dictatorship. The union movement in the late 1970s and early 1980s was primarily political and principally represented by the Partido dos Trabalhadores. Only after the revised constitution of 1988 were unions legally allowed to organise at a national level (ibid).[119] As unions developed political power (see Boito and Marcelino 2011), the underlying, firm level union structure, so important to CME systems, failed to develop.

Amadeo and Camargo describe the Brazilian collective bargaining system as "hybrid", where some workers work collectively but most operate on an individual basis:

> "As a result of this hybrid institutional setting, the Brazilian labour relations system presents none of the benefits of the centralization of collective bargaining and union organization of Western Europe, nor those of the decentralized North American labour relations system. Capital/labour relations are very conflictual and non-cooperative, since negotiations are decentralized and union activism is very strong due to its national character." (1994, p. 20)

The net effect in the modern labour market is that blue collar workers are only able to act cohesively to raise minimum standards, but their inability to actively negotiate renders the syndicates otherwise ineffective. Firms have a preference to automate tasks, where possible, that are the responsibility of blue collar workers. On the other end of the labour market, white collar workers pay their annual syndicate fees without caring about the organisation since their compensation is so far above minimum requirements.

[118] For a broader discussion on unions and identity, see Barros 1999.

[119] Centralised movements, however, did begin to develop earlier in the 1980s. The Central Unica dos Trabalhadores (CUT), for example, was created in 1983. The CUT operated like an association of unions.

The uniqueness of labour organization in present day Brazil is a direct result of the centrally organized labour mechanisms outlined in the Constitution and CLT. The worker syndicates are required to negotiate annually with the industrialist syndicates (all of which are divided by sector) annually to establish minimum labour standards. The effectiveness of the negotiations is a function of the cohesiveness of the members. Brazil is characterised by divisions in both the horizontal and vertical dynamics of strategic cooperation (see discussion in European context in Baccaro and Simoni 2010 or in Latin American context in Schneider 2009a). Horizontal coordination references union and worker cohesiveness and the propensity for defection by a single union or worker. Vertical coordination references the extent to which the interests being negotiated by union leaders match those of the workers. The asymmetries in vertical alignments have already been discussed, as the syndicates are more bureaucratic than they are representative. The vertical dysfunction leads to horizontal complexity because union structures are then relied upon by workers to represent their interests, which adds a third layer of stakeholders competing for influence.

Reliable statistical data on unions is in short supply in Brazil but high level indicators confirm the fragmentation at the firm level and coordination at the macro-political economic level. Indicators suggest approximately 10,000 unions are officially registered with approximately 70% tied to a national federation of unions (Ministério do Trabalho e Emprego 2011). The Central Única do Trabalhadores (CUT) and Força Sindical (FS) are the two largest and comprise approximately half of the representation with 38% and 14% of worker representation, respectively (Lupi 2009). The national level union structures are federal in nature and represent swathes of labour interests from a range of sectors and regions.[120] The CUT was founded with the aim of representing and aligning labour-based ideologies, whereas the FS sought to be more focused on employee benefits (Barros 1999). In reality, however, the fragmentation of both the membership of the CUT and FS limit their ability to bring about change and collective bargaining.

[120] To provide a comparison, the equivalent organisation in Germany (Deutscher Gwerkschaftsbund) represents 8 key trade unions (DGB 2011) whereas CUT represents thousands of unions (and lists over 40 affiliates on its website) (Ministério do Trabalho e Emprego 2011; CUT 2011).

A disaggregated view of unions in Brazil demonstrates the level of fragmentation. Table 6.2 is a breakdown of the federal divisions of various union representative bodies/structures. Table 6.3 is a breakdown of trade unions and federations at the sector level. Participant organisations are divided by state, subsector, and employment level. Most unions are only able to negotiate at the firm level and for a very small membership. Where larger national associations are involved, sometimes coordinated action is possible but only for the establishment of minimum standards. As a result, most efforts are channelled politically. The comprehensive negotiations required of coordinated market economies are not feasible in Brazil given the level of fragmentation. Yet, at the same time, the political strength of unions prevents liberalisation of the labour market. The lack of coherence and cohesion in the worker movement undermines the ability for complements to settle into an efficient equilibrium.

Table 6.2: Number of Confederations, Federations, and Unions by Level of Association

	Confederation	Federation	Union	Total	Share
ASSOCIACAO COORDENACAO NACIONAL DE LUTAS	0	1	38	39	0.5%
ASSOCIACAO NACIONAL DOS SINDICATOS SOCIAL DEMOCRATA	0	5	30	35	0.4%
CENTRAL AUTONOMA DE TRABALHADORES - CAT	0	0	6	6	0.1%
CENTRAL NACIONAL DOS TRABALHADORES - CNT	0	1	1	2	0.0%
CENTRAL SINDICAL DE PROFISSIONAIS - CSP	1	5	82	88	1.0%
CGTB - CENTRAL GERAL DOS TRABALHADORES DO BRASIL	0	7	237	244	2.8%
CONFEDERACAO GERAL DOS TRABALHADORES CGT	0	8	31	39	0.5%
CTB - CENTRAL DOS TRABALHADORES E TRABALHADORAS DO BRASIL	0	15	256	271	3.2%
CUT - CENTRAL ÚNICA DOS TRABALHADORES	5	57	1636	1698	19.8%
FS - FORÇA SINDICAL	1	36	945	982	11.4%
INTERSINDICAL DA ORLA PORTUARIA DO ESPIRITO SANTO	0	0	1	1	0.0%
NCST - NOVA CENTRAL SINDICAL DE TRABALHADORES	5	67	608	680	7.9%
POLO SINDICAL DA REGIAO DE LIVRAMENTO	0	0	1	1	0.0%
UGT - UNIÃO GERAL DOS TRABALHADORES	2	28	529	559	6.5%
UNIAO NACIONAL SINDICAL - UNIDADE DO ESTADO DE MINAS GERAIS	0	0	1	1	0.0%
UNIAO SINDICAL BRASILEIRA (USB) BRASIL	0	0	1	1	0.0%
UNIAO SINDICAL DOS TRABALHADORES - UST	0	0	6	6	0.1%
UNIAO SINDICAL INDEPENDENTE	0	1	1	2	0.0%
Not Available	10	85	3846	3941	45.8%
Total	24	316	8256	8596	100.0%

Data as of 18 Feb 2009

Source: Ministerio do Trabalho e Emprego (www.sis.dieese.org.br)

Table 6.3: Industry Trade Unions/Federations

	Employer	Worker	Total	Share
FEBRAC - FED. NAC. DAS EMP. PREST. DE SERV. LIMP E CONSERV.	1	0	1	0.1%
FEBRATEL - FEDERAÇÃO BRASILEIRA DE TELECOMUNICAÇÕES	1	0	1	0.1%
FECHS-RS - FED.EMP.COM.HOT.REST.BAR E SIM DO RS	0	1	1	0.1%
FECOMERCIO SP - FEDERAÇÃO DO COMÉRCIO DO ESTADO DE SÃO PAULO	1	0	1	0.1%
FECOMERCIO-MG - FEDERAÇÃO DO COMÉRCIO DO ESTADO DE MINAS GERAIS	1	0	1	0.1%
FECOMERCIO-MT - FEDERAÇÃO DO COMÉRCIO DO ESTADO DE MATO GROSSO	2	0	2	0.2%
FECOMÉRCIO-RJ - FEDERAÇÃO DO COMÉRCIO DO ESTADO DO RIO DE JANEIRO	1	0	1	0.1%
FECOMERCIO/ES - FEDERAÇÃO DO COMERCIO DO ESTADO DO ESPIRITO SANTO	1	0	1	0.1%
FECOMERCIO/PR - FEDERAÇÃO DO COMÉRCIO DO PARANÁ	0	1	1	0.1%
FECOMERCIO/SC - FEDERAÇÃO DO COMÉRCIO DO ESTADO DE SANTA CATARINA	2	0	2	0.2%
FECOOP/SULENE	2	0	2	0.2%
FED. DOS TRABS. NAS INDS. DA CONSTR. MOB.ESTADO SP - FETICOM	0	1	1	0.1%
FEDALIM - FEDERAÇÃO DOS TRABALHADORES NAS INDUSTRIAS DE ALIMENTAÇÃO	0	25	25	2.4%
FEDERACAO DAS INDUSTRIAS DO ESTADO DE MINAS GERAIS	5	0	5	0.5%
FED DOS SIND DAS COOP DO DF E DOS EST DE GOIAS, MATO GROSSO, MATO GROSSO DO SUL E TOCANTINS	4	0	4	0.4%
FED DOS SINDICATOS E ORGANIZACOES DAS COOP DOS ESTADOS DA REGIAO NORDESTE-FECOOP/NE	1	0	1	0.1%
FEDERACAO DOS TRABALHADORES EM COOPERATIVAS NO ESTADO DO PARANA	0	2	2	0.2%
FEDERACAO NAC DOS TRABS NAS EMPRS DE REFS COLET E AFINS	0	1	1	0.1%
FEDERACAO NACIONAL TRABALHADORES INDUSTRIAS FUMO AFINS	0	5	5	0.5%
FEDERALUZ	0	1	1	0.1%
FENAVENPRO	0	2	2	0.2%
FETAEMG - FETAEMG - FEDERAÇAO TRABALHADORES ASSALARIADOS E AGRICULT	0	1	1	0.1%
FETERCESP - FEDERAÇÃO DOS TRAB. NAS EMP. REF. COLETIVAS,COZ. INDUST	0	4	4	0.4%
FETHEGO-TO - FEDERAÇÃO EMPREGADOS TURISMO HOSPITALIDE EST. GO E TO	0	1	1	0.1%
FETIABA - FED DOS TRABALHADORES NAS INDÚSTRIAS DE ALIMENTOS E AFINS NO ESTADO DA BAHIA - BA	0	4	4	0.4%
FETIAES - FED. DOS TRAB. NAS IND. DE ALIM. E AFINS NO ESTADO ES	0	1	1	0.1%
FETIAESC - FETIAESC	0	13	13	1.2%
FETIAPA - FEDERAÇÃO DOS TRAB NAS IND DE ALIMET E AFINS DO EST DO PA	0	1	1	0.1%
FETIASP - FEDERAÇÃO DOS TRABS.NAS INDS. ALIMENTAÇÃO EST. SÃO PAULO	0	47	47	4.4%
FETIEMA - FEDERAÇÃO DOS TRAB NA IND DO ESTADO DO MARANHÃO	0	1	1	0.1%
FETIEMT - FEDERAÇÃO DOS TRABALHADORES NAS INDÚSTRIAS DO EST. DE MT	0	2	2	0.2%
FETIEP - FEDERAÇÃO DOS TRABALHADORES NAS INDUSTRIAS ESTADO PARANA	0	1	1	0.1%
FETIEPI - FEDERAÇÃO DOS TRABALHADORES NA INDUSTRIA NO ESTADO DO PIAUI.	0	1	1	0.1%
FETIESC	0	2	2	0.2%
FETINAL - FEDERAÇÃO TRABALHADORES INDS. ALIMENTAÇÃO DE MATO GROSSO	0	1	1	0.1%
FETIPA - FEDERAÇÃO DOS TRABALHADORES NAS INDÚSTRIAS DO PARÁ	0	1	1	0.1%
FETRACOM - FEDERAÇÃO DOS TRABALHADORES NO COMÉRCIO DO DF	0	1	1	0.1%
FETRATUH - FED DOS TRAB EM TUR, HOSP E DE HOTÉIS, REST BAR E SIM SC	0	2	2	0.2%
FETRIANNE - FEDERAÇÃO TRAB INDUSTRIA ALIMENTAÇÃO NORTE E NORDESTE	0	12	12	1.1%
FIAP - FEDERAÇÃO DAS INDUSTRIAS DO AMAPA	5	0	5	0.5%
FIBRA - FEDERAÇÃO DAS INDUSTRIAS DO DISTRITO FEDERAL	9	0	9	0.8%
FIEA - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE ALAGOAS	14	0	14	1.3%
FIEAC - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO ACRE	7	0	7	0.7%
FIEAM - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO AMAZONAS	22	0	22	2.1%

	Employer	Worker	Total	Share
FIEB - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DA BAHIA	32	0	32	3.0%
FIEC - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO CEARÁ	28	0	28	2.6%
FIEG - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE GOIÁS	26	0	26	2.4%
FIEMA - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO MARANHÃO	6	0	6	0.6%
FIEMG - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE MINAS GERAIS	72	0	72	6.8%
FIEMS	10	0	10	0.9%
FIEMT - FEDERAÇÃO DAS INDÚSTRIAS NO ESTADO DE MATO GROSSO	27	0	27	2.5%
FIEP - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DA PARAÍBA	22	0	22	2.1%
FIEP - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO PARANÁ	71	0	71	6.7%
FIEPA - FIEPA - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO PARÁ	19	0	19	1.8%
FIEPE - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE PERNAMBUCO	29	0	29	2.7%
FIEPI - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO PIAUÍ	11	0	11	1.0%
FIER - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE RORAIMA	2	0	2	0.2%
FIERGS - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO RIO GRANDE DO SUL	67	0	67	6.3%
FIERN - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO RIO GRANDE DO NORTE	12	0	12	1.1%
FIERO - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE RONDÔNIA	12	0	12	1.1%
FIES - FEDERAÇÃO DAS INDUSTRIAS DO ESTADO DE SERGIPE	13	0	13	1.2%
FIESC - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE SANTA CATARINA	77	0	77	7.2%
FIESP - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE SÃO PAULO	91	0	91	8.6%
FIETO - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO TOCANTINS	9	0	9	0.8%
FINDES - FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DO ESPÍRITO SANTO	28	0	28	2.6%
FIRJAN	77	0	77	7.2%
FITI ALIMENTAÇÃO E AFINS DOS ESTADOS DE ALAGOAS E SERGIPE	0	3	3	0.3%
FITIRES	0	4	4	0.4%
FITRAC - FITI NOS ESTADOS DE RONDÔNIA E ACRE	0	1	1	0.1%
FITTR - FEDERAÇÃO INTERESTADUAL DOS TRAB. TRANSP. RODOVIÁRIOS	0	1	1	0.1%
FNHRBS - FEDERAÇÃO NACIONAL DE HOTÉIS, REST., BARES E SIMILARES	2	0	2	0.2%
FTI - FEDERAÇÃO DOS TRABALHADORES NAS INDÚSTRIAS DO ESTADO DO ES	0	1	1	0.1%
FTI/MS - FEDERAÇÃO DOS TRABALHADORES NAS INDÚSTRIAS DO EST. DE MS.	0	2	2	0.2%
FTI/RN - FEDERAÇÃO DOS TRABALHADORES NAS INDÚSTRIAS DO ESTADO DO RN	0	5	5	0.5%
FTIA-PB - FTIA-PB - FEDERAÇÃO TRAB. INDÚSTRIAS DE ALIMENTAÇÃO PB.	0	2	2	0.2%
FTIA-PR - FEDERAÇÃO DOS TRAB. NAS IND. DE ALIMENTAÇÃO DO EST. DO PR	0	18	18	1.7%
FTIA-RS - FED. DOS TRAB. NAS INDÚSTRIAS DA ALIMENTAÇÃO DO RS	0	26	26	2.4%
FTIAAMS - FTIAAMS	0	14	14	1.3%
FTIACE - FEDERAÇÃO DOS TRABS. NAS INDS. DE ALIMENTAÇÃO DO CEARÁ	0	5	5	0.5%
FTIAL - FEDERACAO DOS TRABALHADORES NAS IND NO ESTADO DE AL	0	1	1	0.1%
FTIAL - FTIAGOTO	0	4	4	0.4%
FTIALIMENTAÇÃOERJ - FEDERAÇÃO DOS TRAB. NA IND. ALIMENTAÇÃO ERJ	0	9	9	0.8%
FTICE - FEDERAÇÃO DOS TRABALHADORES NAS INDUSRIAS DO ESTADO DO CE	0	3	3	0.3%
FTICMEMG - FEDERAÇÃO DOS TRAB. NAS IND DA CONST E DO MOB. DO EST MG	0	1	1	0.1%
FTIEAM - FEDERAÇÃO DOS TRABALHADORES NAS INDÚSTRIAS DO ESTADO DO AM	0	1	1	0.1%
FTIEBA - FEDERAÇÃO DOS TRABALHADORES NAS INDÚSTRIAS DO ESTADO DA BA	0	1	1	0.1%
FTIEG-TO-DF - FEDERAÇÃO TRAB. NA INDÚSTRIA NOS EST. DE GO, TO E DF.	0	1	1	0.1%
FTIEMG - FTIEMG- FEDERAÇÃO DOS TRABALHADORES NAS INDÚSTRIAS EXTRATI	0	1	1	0.1%
FTIES - FEDERACAO DOS TRAB NAS INDUSTRIAS DO ESTADO DE SERGIPE	0	2	2	0.2%
TOTAL	822	241	1063	100.0%

Data as of 18 Feb 2009
Source: Ministerio do Trabalho e Emprego (www.sis.dieese.org.br)

Firms must balance aspects of the labour market that pull resources in different directions and undercut efficient labour allocation. The lack of collective action in labour is contrasted by the fact that most employees prefer to work for large corporations or the state (including SOEs) because of the generous benefit structures afforded by legal protections (Almeida & Carneiro 2007). The legal protections also dis-incentivize individuals from entrepreneurial forms of employment since small companies cannot cope with the onerous costs of labour. Labour market flexibility is, in operation, very expensive (Almeida & Carneiro 2008; Amadeo and Camargo 1995). Firms are incentivised to take one of two extreme approaches, rapid turnover[121] or hire for life. Once an employee has been employed for a few years, the costs of firing that individual can begin to become prohibitively expensive since pay-outs are tied to tenure. The problem is that after a few years on the job, it is in the employee's interest to be fired to collect the payout that he/she is entitled to. Where firms opt for the low turnover model, and seek to retain employees, they are at a high risk of a complacent organizational culture.

One way around the labour laws is to limit firm size, which can help businesses avoid inspections and reduces the costs of labour law compliance (Almeida & Carneiro 2008), but this exacerbates problems tied to the informal economy. The stringency of the labour laws dis-incentivises rapid growth. Therefore the same firms continue to dominate the corporate landscape and are not challenged by newer, more innovative firms. Even when a new firm enters the market, high labour costs incentivise the owners to sell to a larger, existing corporation. Considering the cost barrier for firms to expand their employee base and the desire for employees to work in the formal sector, human capital flows to the same large companies where pay is strong and stable.

Another distorting characteristic of the labour market is the lack of a coherent education complement. As the economy grows, a shortage of higher skilled workers is being caused by a weak educational system. Without the grassroots cooperative structures of

[121] Despite the penalties and labour infrastructure that formally exists, turnover reached nearly 17% in 2008 (Ministério do Trabalho e Emprego 2009).

coordinated economies or privately run universities[122] of liberal economies to drive improved education, educational development is left in the hands of the state. The insufficient supply of qualified labour and lack of confidence in public education systems means that firms cannot simply rely on an open market solution to find talent.

In summary, the legacy of corporatism persists in Brazil and undermines the ability for employee-employer relations to move towards coordination or flexibility. A blend of legally enshrined labour protections is overshadowed by microeconomic actors that seek to sidestep legal complexity. The ability to side step legal complexity is primarily facilitated by the ineffectiveness of syndicate structures that fail to adequately represent the collective interests of those that they are representing. Firms build the excessive labour costs into their operating models in anticipation of fees, payroll taxes, and severances tied to protective labour laws, which raise prices and impact margins across the economy. The level of protection in Brazil is unlikely to change in the near future because of the codification of labour protections in the Constitution and CLT. The layers of vetoes and stakeholders that represent labour make it extremely difficult to change laws. Characteristics exhibited by the Brazilian labour market are comparable to MMEs like France, Spain, and Italy (Menezes-Filho et al 2008; Molina and Rhodes 2007). A legacy of state-led labour policies left vacuums of coordination after state retrenchment. New forms of flexibility in the labour market that arrived after liberalisation did not fill those vacuums. Complex layers of horizontal labour representation developed when vertical coordination broke down. The result was an imbalance in the supply and cost of human capital.[123] Labour market complementarity in Brazil is optimized for neither a cooperative nor a competitive structure.

[122] Some may point out that countries like the US have very large and successful public universities, but those public universities are heavily reliant on private funding to operate.

[123] Exacerbating the case in Brazil is FDI and the entry of multinationals, which adhere to different styles of labour relations and incentivise shifts in the domestic market. Greater political representation eroded the need for organisation at the firm level (Muñoz 2002; Amadeo and Camargo 1994).

6.3 Brazilian Capital Markets & Corporate Governance

Section 6.3 is about Brazilian capital market structures and the coordination of complements. The capital section focuses on corporate governance and inter-firm relations. Corporate governance is tied to management hierarchy and firm financing decisions.[124] Inter-firm relations include both supply chain relationships and sector specific competitive dynamics. What we find in Brazil, on both dimensions, is that top firms have a dominant position in the marketplace and are not challenged by either competitive dynamics or regulatory stringency. Previously I posed the question as to how equity markets have developed in Brazil without a similar push for greater transparency. This section will explain the juxtaposition that characterises Brazilian capital markets and the extent to which we can expect institutional change to enhance efficiency.

Financial market structures indicate the kind of capitalism operated domestically, since capital markets direct incentives for corporate governance standards. The success of BOVESPA (or BM&F BOVESPA - Bolsa de Valores, Mercadorias & Futuros de São Paulo) in terms of market capitalisation might suggest strong equity capital markets, but its success masks key fundamental weaknesses in Brazilian capital markets. Microeconomic data at the firm level indicate that equity financing is not as common as the stock exchange may lead one to believe. As of 2010, only 379 companies were listed on BOVESPA, 80% of trades were concentrated in extractive industries and financial firms, 44% of trades were concentrated amongst 10 firms, and 5 companies accounted for 38% of the market capitalisation (with PetroBras alone accounting for 15%) (GuiaIMF 2011; BOVESPA 2011b). Less than 10% of corporate financing is sourced through equity capital markets (Dr. William Eid Jr., personal interviews Sep 2011; Rodrigues Júnior and Melo 1999; Zonenschain, C. 1998). Despite impressions of sophistication, equity financing in Brazil does not meet the capital needs of local firms. The concentration in BOVESPA results from the dominance of top firms in their respective sectors. Capital markets are liquid only for the largest corporations.

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[124] Capital structures signal how firms finance themselves and what kind of creditworthiness they are able to maintain given their cash flows.

The scale of equity financing in Brazil is limited by poor shareholder protections. Most shares issued by the largest Brazilian corporations are non-voting. Control of top Brazilian corporations is concentrated amongst select shareholders, normally a family or the state,[125] through complex share issuances and holding companies. Minority shareholders are unable to assert their influence through votes or free market operations (Rabelo and Vasconcelos 2002). Over time, BOVESPA has sought to gradually introduce stricter regulations and initiatives for new listings. Transparency efforts, such as Novo Mercado (a standard on the exchange that heightens the transparency requirements), have failed to improve the corporate governance standards of large corporations that were already listed on the exchange (A. de Almeida, personal interview Oct 2011). Firms continue to prefer privacy to transparency and will invest retained earnings before accessing capital markets. The theory of "pecking order", whereby firm capital structure preferences are set by information premiums and cost, holds very well in the Brazilian case[126] (Cruz et al 2008; Nakamura and Mota 2002). Weak shareholder protections cascade into other equity-based realms of influence, including venture capital and private equity.

Efforts to improve transparency have not caught momentum at a grassroots level because the investor base is almost as concentrated as the stock exchange. Where stock markets are liquid, the majority of liquidity comes from foreign and institutional investors, who account for 34% and 29% of average daily trading volume, respectively (Bovespa 2011b). Foreign investors tend to be distant from the market and unable to effectively effectuate change and influence domestic legal/regulatory structures (Dr. Rodrigo Bandeira de Mello, personal interview Sep 2011; Itaú executive, personal interview Oct 2011). The influence of foreign investors is difficult to quantify, but it is likely not very strong since the largest companies list primarily non-voting shares on exchanges. Domestic institutional investors include banks, insurers, and pension funds, the latter of

[125] The state often exerts control through pension funds that it controls. Petrobras and Banco do Brasil have the two largest pension funds in the Brazilian market and both funds could easily be categorised as activist investors.
[126] In the US market, which tends to be equity-heavy and is considered the archetype competitive LME, the pecking order theory does not hold, indicative of differentiation between the US and Brazil (Frank and Goyal 2003).

which are very important in the Brazilian case. Three state-owned pension funds account for 50% of the market: Previ (Banco do Brasil), Petros (Petrobras), and Funcef (Caixa Economica) (OECD 2008). While tied to large state-owned firms, these funds are quite politicised and leverage their investments to influence boards and corporate strategies (Lazzarini 2011). Previ, for example, holds major stakes in many of Brazil's corporations: Vale, BRF (Brasil Foods SA), Neo-energia, CPFL (Companhia Paulista de Força e Luz) Energia, Embraer, Usiminas, Oi, Petrobras, and Banco do Brasil (Previ 2011). When foreign investors are removed, the influence of Brazilian institutional investors is even more pronounced and accounts for approximately half of Bovespa's liquidity (Bovepsa 2011). The outsized influence of the state in equity capital markets is even more exaggerated in other asset classes.

The VoC alternative to robust equity markets is normally an active banking sector with strong links to industry. Brazil's banking sector is quite profitable and successful. However, their success is not driven by corporate relationships but rather retail relationships. From a capital market perspective, Brazilian banks are inefficient and expensive (Staub et al 2010). The competitive landscape in Brazilian banking is highly concentrated with the top 6 financial institutions accounting for 79% of assets, 82% of deposits, and 83% of profits. Of the top six financial institutions, the state-owned institutions drive approximately half of the assets, deposits, and profits. The influence of the state in credit distribution is not a new phenomenon. In fact, at the centre of corporate finance in Brazil is the Banco Nacional do Desenvolvimento Econômico e Social (BNDES), which is the only source of long term capital in the domestic market. When the state is not involved, domestic private banks are only willing to lend on a very short term basis because of credit risk concerns (Itaú and BV executives, personal interview Oct 2012). A number of macroeconomic factors explain the lack of market-driven long term credit: historically, high rates of inflation made long term debt untenable in the private sector (Aarstol 2000); high interest rates in the Brazilian market that have persisted for years make debt prohibitively expensive and risky (E. Buarque, personal interview Sep 2011; Goncalves et al. 2007); and, the outsized influence of the government bonds crowds out other capital. As a result, bank firm relationships are not cooperative and embedded, since firms do not rely on banks for capital.

Tracing the role of the state in credit distribution and banking through history will help demonstrate how the trajectory of capital market development is unlikely to move away from being state centric. Early in Brazil's history, state backed banks lent and subsidised farmers (especially coffee farmers) to cover cash flow volatility that resulted from price swings in international commodity markets. Vargas, who came into power as an anti-coffee farmer politician,[127] struck a new balance between public and private banking. Later, when the corporatist model of development was at its peak, during the Estado Novo and Second Republic, state backed banks entered the market to cater to "under-banked" segments, this time focusing not only on commodity-linked businesses but also on wider range of economic stakeholders. The definition of "under-banked", however, varied by presidency. The role of institutions like BNDES, over the years, kept expanding. With the statist tendencies of the military regime, the banking sector consolidated to concentrate lending power. By the 1970s nearly 60% of assets and liabilities were held in state-backed institutions (Baer and Nazmi 2000). As the political system liberalised, and the economy again became less corporatist, the banking sector shifted. In the 1980s, domestic banks profited greatly from high rates of inflation (they were able to arbitrage interest rates in the market) and poor government regulation (Studart 2000). The inflationary pressures of the 1980s continued in the 1990s despite numerous stabilisation programmes.

The Plano Real, which marked an important transition in the stabilisation of Brazil's macroeconomy in the mid-1990s, forced a new shift in how banks operate. Banks had to restructure to become profitable in a low inflation, risk-based credit regime (Baer 2000; Studart 2000). The Banco Central do Brasil was forced to intervene by providing liquidity as the sector reorganised itself. Programs like RAET (Regime de Administração

[127] Vargas was not a Paulista politician. Paulistas are synonymous with coffee farming because that was the main industry of São Paulo State. Before Vargas, the Paulistas controlled political power in Brazil. One of the reasons Vargas' rise to power brought a revolution in Brazil is because he was the first leader to come to power with differentiated regional and economic ambitions.

Especial Temporária), PROER (Programa de Estímulo à Reestruturação e ao Fortalecimento do Sistema Financeiro Nacional), and PROES (Programa de Incentivo à Redução do Setor Público Estadual na Atividade Bancária) provided incentives for the privatisation of key state banks and the restructuring of ailing private banks (Maia 1999; Baer and Nazmi 2000; Studart 2000). The healthiest Brazilian banks were able to acquire weaker banks,[128] sometimes with state support, and set themselves up for future dominance. Today, the banking sector is a major force in the Brazilian economy not only because it fills gaps[129] in Brazilian capital markets but also because it operates in a concentrated market landscape. The role of state-backed institutions remains pivotal, having clearly defined mission statement to bank "under-banked" segments of the market.

State influence in banking continues to direct how firms access capital. The heavy influence of the state means that long term capital markets in both bank debt and fixed income are underdeveloped. Given the aforementioned barriers to long term financing, the state, through BNDES, has taken an active role in providing medium to long term corporate liquidity. Firms rely on retained earnings, BNDES capital, [130] or international capital markets (for those that have access) to finance growth (Giambiagi et al 2009). Banks rarely extend loans with tenors longer than 2-3 years. The nature of banking relationships can hardly be described as cooperative. In fact, a number of heads of investment banks describe the bank-client relationship as more unstable than that of even the United States. It is more important for firms to have strong relations with BNDES than with private sector banks, and many investment banks are geared to maintaining relationships with the state development bank on behalf of their clients (anonymous bankers, personal interviews Oct 2011). Private sector banks often arrange BNDES loans for clients, and while they assume certain risk in doing so, they are only lending (subsidised capital) to the most creditworthy entities since all deals have to first be

[128] Between 1993 and 1996, the total number of banks and financial institutions in Brazil declined from 1,879 to 1,431 (Studart 2000)
[129] BNDES provides nearly all long term domestic market capital but often does so through banks, who onlend BNDES capital.
[130] BNDES outstandings comprised 17% of the total Brazilian credit market in 2008 (down from 24% in 2003). The BNDES outstandings to GDP ratio is 7% (Giambiagi et al 2009).

approved by BNDES. Banks profit from their role as a conduit for some of BNDES' long term finance distribution.

In addition to BNDES influence, the federal government distorts capital markets with an oversupply of federal bonds.[131] The federal bonds are issued because of fiscal imbalances, common in systems where the state has to finance voids left by inefficient complementary equilibriums. Federal issuances are attractive to investors because of their security and high interest rates. The bonds absorb domestic market liquidity and dis-incentivise corporate lending (Leal and Carvalhal-da-Silva 2008). As a result, the only viable long-term corporate financing in Brazil is channelled through BNDES. The state's monopoly on long term capital creates conditions ripe for political interference, especially since Brazil has weak minority shareholder and creditor rights (Lazzarini and Musacchio 2011). The government perpetuates weak shareholder protections because it is in their interest to do so, since the government holds key stakes in many of Brazil's largest corporations and controls the levers of credit distribution in the market.

Weak protection of creditor and shareholder rights is also historically grounded. Bankruptcy codes prioritised taxes owed to the government over creditors, thus scaring banks from a risk standpoint. In addition, drawn out processes to enter bankruptcy and the likelihood that arbitration would lead to delayed repayment of debt meant that the firms were largely protected from creditors since any time lapse on the repayment of credit favoured the debtor because of the high inflationary environment. In the mid-2000s, new bankruptcy laws modelled on the American system were enacted to better facilitate corporate restructurings. From a VoC perspective this could have been a transition moment for capital markets to shift away from bank based financing, but it did not happen. The new laws continued to be problematic because of provisions related to tax liabilities and inconclusive changes in the bankruptcy code (Dr. William Eid Jr, personal interview Sep 2011; Araujo and Funchal 2005). Compounding the problem is the fact that the marketplace is not structured for an American style bankruptcy process,

[131] Pension fund portfolios, for example, tend to be weighted at 70% in fixed income because of the high returns and security of Brazilian government bonds (Previ 2011, Marcos d'Agostini, personal interview Sep 2012).

as the institutional structures and mechanisms required to support corporate restructurings do not exist.

Other efforts to promote higher levels of transparency in Brazilian capital markets, largely driven by the private sector, have also failed to instigate real change because it runs counter to the interest of powerful economic stakeholders who profit from the existing system. The combination of high returns and asset quality makes it compelling for banks to hold debt on their books rather than distribute it to the market, which would be the outcome in a liberal market model. Another distortion, from an equity perspective, is the fact that firms are able to issue equity without diluting ownership control. Legally, up to half of outstanding shares can be issued as non-voting, and, in addition, an owner can control a company with only a portion of the firm's total capital (de Carvalho and Pennacchi 2011; Rabelo and Coutinho 2001). While BOVESPA offers premium listings that have higher standards of disclosure and requirements around voting shares, the improvement in corporate governance standards have been limited to new issuers (de Carvalho and Pennacchi 2011). Players already listed have no incentive to conform to Novo Mercado. Until Novo Mercado is able to capture the entire equity market, systemic change will be incomplete. Further undermining the initiative is the fact that Novo Mercado standards, when compared to US ADRs (American Depositary Receipt), are not actually as strong as might be anticipated (DiMiceli 2010d). Regulatory efforts from governmental bodies, like CVM (Commisão de Valores Mobiliários), or non-governmental organisations, like ANBIMA (Associação Brasileira das Entidades dos Mercadores Financeiro e de Capitais), fail to effectuate change. A mix of capacity constraints, moral hazard (because of the state's market investments), and political influence provide resistance to change. There exists little incentive for any of the key economic stakeholders to elicit change.

Why is the market unlikely to change? Both the top firms and the state benefit from semi-transparent markets that channel control to top shareholders. Brazilian firms have legacies of concentrated ownership structures that remained in place after liberalisation (Rabelo and Coutinho 2001). The patterns and behaviours exhibited by leading Brazilian firms, from a corporate governance perspective, are quite comparable to those witnessed in Italy and Spain - where pyramidal ownership structures ensure control by a limited number of owners and histories of state intervention create a culture of risk aversion for investors who do not have privileged access (Molina and Rhodes 2007; Rabelo and Vasconcelos 2002). The legal protections given to preferred shareholders permit a select, core group of promoter shareholders to retain power. Complicated tax liability considerations and labour market rigidity further entrench top players who have already successfully navigated the labyrinth of government regulations (Ribeiro et al. 2006). Such characteristics dis-incentivize innovation by making it exceedingly difficult for competing firms to displace top players.

The entrenched position of market leaders and the dominance they enjoy in their respective market sectors is visible in the pattern of Brazilian mergers and acquisitions. The Brazilian market saw 787 transactions in 2010 worth $64BN, with an average of deal size of $233MM and a median deal size of $143MM. Minerals, Petrochemicals, and Financial Institutions had median deal sizes of $573MM, $512MM, and $438MM, respectively, and these three sectors account for approximately 55% of the M&A market. The top 10 transactions, of which Vale executed the top 4, comprised 40% of the volume and the top 20 transactions comprised 60% of the market (PwC 2010). Of the transactions, 84% of acquisitions were to purchase stakes in companies and only 11% were mergers or joint ventures (ibid). The concentration of M&A in key segments further emphasizes the point that value is not driven through innovation (Deloitte 2006).

Firms that make acquisitions are already in market leadership positions and are consolidating market share. The fact that practically no transactions make use of capital markets but instead are paid for in cash[132] (Aguilar 2011) further emphasizes not only the strength of acquiring firms but the reliance of Brazilian firms on retained earnings to grow their businesses either through investments or purchases. The unique behaviour of private equity firms in Brazil adds further clarity to the point that the Brazilian market is focused on consolidation and not competition. Brazilian private equity firms do not

[132] 99% of transactions are paid in cash (Aguilar 2011).

depend on IPOs for exits, like their American counterparts in a LME system, but rather sell to entrenched buyers (since that is where cash is available). Private equity firms further market consolidation and increase oligopolistic rents. Private equity firms affirm the fact that their efforts are centred on segments that will consolidate, since it is difficult to create value through direct competition and taking of market share (GVCEPE 2011). While Brazil may appear to have an active M&A market, the incentives and driving forces of that market inconsistent with a LME.

If market consolidation is the central focus, then Brazil would require an active anti-trust regulator to protect against monopolistic and oligopolistic rents. The Conselho Administrativo de Defensa Econômico (CADE), Brazil's anti-trust body, was created in the wake of liberalisation in the 1990s. The anti-trust powers of CADE and associated bodies were expanded in 2000. Despite the presence of CADE, the level of market concentration amongst top players in a wide range of Brazilian sectors is high. CADE is institutionally weak. All the leaders are politically appointed and for very short tenures. Additionally, the department does not have a critical mass of regular staff as many CADE employees are contracted labourers (OECD 2010). Legally, CADE decisions can be reviewed in a court of law, and, given the structure of the Brazilian legal system, few cases reach final resolution in the court system (OECD 2010; 2005). While CADE is developing some ability to curb collusion and cartel-like behaviour, the additional regulatory capacity is insufficient and unable to compete with embedded interests. Many sectors are already consolidated and introducing competition would require CADE to force certain firms to sell long held assets.

Politically, state ownership of key firms and the activist lending of BNDES complicates anti-trust regulation, oversight, and enforcement in the market (Grando and Agostini 2011). The position of the government is reinforced by the interests of leading domestic corporations who benefit greatly from the lack of vigour of CADE. In fact, one of the paths to internationalisation for Brazilian companies that do not operate in commoditised industries is by leveraging earnings generated from being a monopolistic/oligopolistic player in the domestic market. In many instances, CADE has turned a blind eye to domestic anti-trust issues in favour of creating national champion firms. The reality is that by selectively choosing where to assert its authority, regulatory agencies become conduits of political influence which further adds to the mixed market complexity in Brazil.

The dominance of powerful firms and the underlying influence of the state preclude categorisation of the market as competitive. Firms drive profitability on market share and, as a result, do not have to focus as much on productivity. Domestic firms are characterised by concentrated ownership structures and tend to be risk averse, preferring to invest and grow through retained earnings. Capital market development is both undesired and elusive: most firms prefer to keep accounts in-house to avoid transparency and the remainder find it difficult to access domestic capital markets because of the prohibitive cost. Furthermore, the influence of the state indirectly, directly, and historically creates market conditions that inhibit the natural formation of complements. Brazil has a history of both privileged and state-controlled capital, which has limited the ability for private capital to accumulate and be deployed in the domestic market (Staub et al 2009; Rabelo and Coutinho 2001). On a range of dimensions, it becomes visible that capital markets have not formed a foundation upon which complements can be built.

6.4 Mapping Complements and Institutional Change

Section 6.4 considers the development of complements over time by discussing the historical impetus for public coordination and how private coordination has entered the market. The discussion of labour and capital markets in sections 6.2 and 6.3, respectively, included some discussion of institutional change. Section 6.4 considers the developmental state more in the context of the politics of coordination and collective action. Brazil's mixed characteristics need to be verified through an analysis of how much state intervention is driven by a developmental state and how much by negotiated equilibrium.

In the Brazilian case, state intervention fills the void of inefficient complement structures. While capital interests have dominated Brazil's economic history, labour played a significant role negotiating the current market structures because of their influence in designing Brazil's Constitution. The financing mechanism that enables the state to promote national champions is capitalised through a worker's payroll tax (discussed in greater depth in the subsequent chapter). Third, labour is fragmented and unable to collectively bargain despite state mandated institutional apparati intended to facilitate such dialogue. Fourth, institutional barriers to flexible labour markets are usually overcome by capital interests through buy outs. The current complement structure is not built as it is because of a lack of stakeholder negotiation, and state intervention is firmly institutionalised in capital and labour markets. The remainder of the section traces the institutional development of the Brazilian economy. The role and persistence of public coordination is scrutinised.

The state played an active role in the economy from early in Brazil's history. Initially the state intervened to help farmers manage the volatility of key exports like rubber and coffee. Over time, the state became a bailout mechanism supporting farms and companies that had lost profitability. First in 1930 and then in 1951, Vargas redirected state finances to under-served sectors to stimulate industrialisation (Hilton 1975). Vargas sought to implement a corporatist model of development and built institutions accordingly (Hilton 1975; Schneider 2004). The newly created labour and capital organisations formed the base of the economic power structure in Brazil, although decision making rested principally with Vargas (Erickson 1981; Gomes 1986).

The corporatist foundations helped pave the way for the state to drive industrialisation. President Kubitschek, in the late 1950s, ushered in a more concentrated developmental programme and executed it by consolidating state power. He declared a goal of 50 years of development in 5 years and allocated BRC (Brazilian Cruzeiros) 355.8bn to the cause, of which 93.4% was to be spent on energy, transport, and base industries (de Souza 2007). It should be noted that much of the funding for growth would come from foreign capital, which saw Brazil as a major investment target because of its leading market position in Latin America (de Souza 2007; Baer 2008). Policies of import substitution industrialisation helped spur domestic demand. The plan was directed and organised centrally through state-owned entities and BNDES (Evans 1979). Gross fixed capital investment by the state reached nearly 50% by the end of the 1950s, rising from 25% five years before (ECLA 1964). The investment programme went largely to plan and economic indicators demonstrate the pick-up in industrialisation within the Brazilian market. The downside of the Kubitscheck developmental programme is that it led to fiscal deficits, which are common when corporatist models are imposed on systems that do not exhibit underlying complement efficiency. Corporatist developmental efforts in non-CMEs are only able to promote economic growth via inefficient allocation of resources and oftentimes require direct subsidies or pay-outs to incentivise cooperation with the envisioned plan. To finance the ensuing fiscal deficits, the government had to print money. By 1964 inflation had reached unsustainable levels.[133] In 1964, amidst economic turmoil, the military led a coup. The military would not cede power for roughly 20 years.

When the military seized control of the economy, they moved to stabilize Brazilian monetary policy by creating new institutions to better monitor the economic environment, the domestic distribution of credit, and fiscal imbalances (Bresser-Pereira 1984; Brito

[133] Approximately 90% depending on the source. Data from De Souza indicates 91.8% (2007), whereas data from Baer indicates 89.9% (2008).

2004). The policies stabilised the domestic market and growth returned (Baer 2008; de Souza 2007). From a political standpoint, the exclusion of political participation during the regime stifled complementary relationships (Schneider 2004; Almeida and Lowy 1976). Business interests were in an awkward position because while they disapproved of the regime, their survival depended on political connections (Burneau and Faucher 1981). The military "coordinated" economic policy from the top much as Kubitschek had done. By the 1980s, political and economic stagnation had returned and were becoming unsustainable. Brazil's foreign debt peaked in 1982 and the IMF intervened.[134] The need for IMF intervention kicked off a decade of political and economic reform in the Brazilian market.

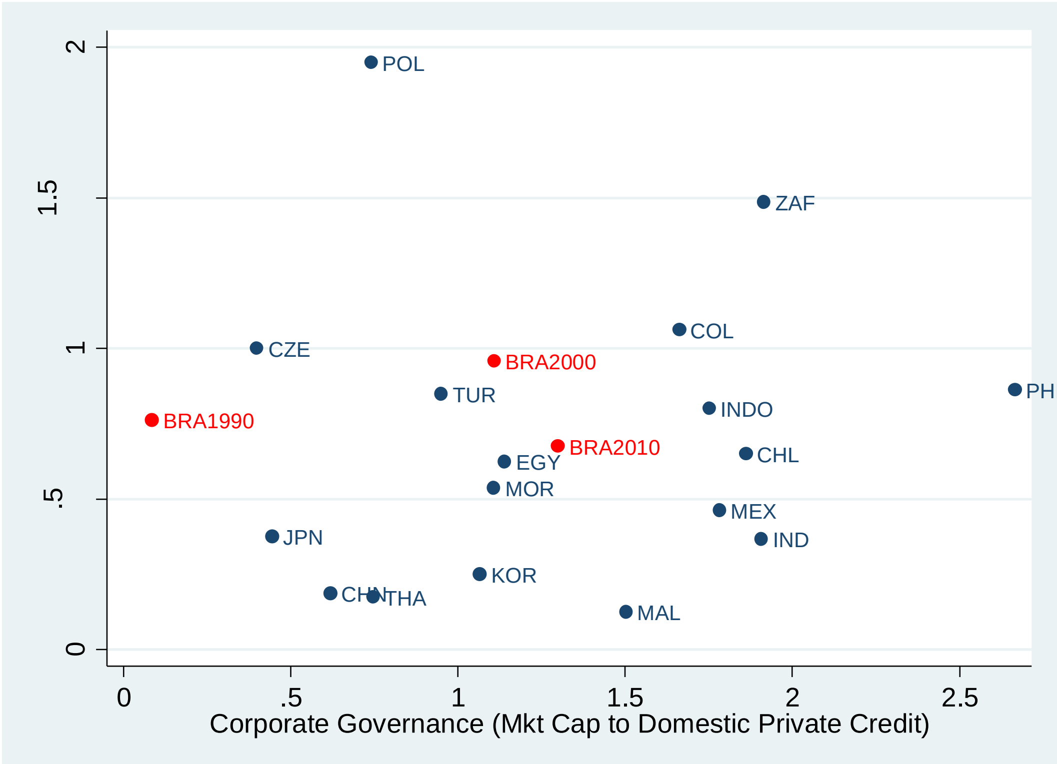
Pressure in civil society helped bring about the restoration of democracy. In the newly democratic Republic, the top priority was to stabilise the economy. The first of approximately five plans was implemented in 1986. On average, each plan lasted no longer than one to two years and if it was successful at all, it was successful only in the short term because inflation would return with a vengeance after a few months (Brito 2004: Font 2004). After numerous failed attempts, the Real Stabilisation Plan proved to be the solution. Formulated by Fernando Henrique Cardoso, the plan differed from previous efforts because it created both short and long term goals to combat inflationary pressures. The plan required liberalisation and removal of the state from microeconomic management. Liberalisation marked an opportunity for new complementary relationships to organise, but the discord and asymmetries persisted because legacy institutions remained in place after the democratic negotiation of 1988. A prime example of inefficient complement structures is visible in the process of privatising state enterprises: unable to align single buyers because of insufficient capital and unwillingness to take risk, the state had to sell to alliances of local companies, pension funds, banks, and investors (Rabelo and Vasconcelos 2002). The inability for private actors to organise would become a constant theme in the future progress of the Brazilian economy.

[134] Growth rates in Brazil were -4.5% in 1981, 0.5% in 1982, and -3.5% in 1983.

When Brazil liberalised, the key structural changes included a reduction of public coordination of complements and taming of inflationary pressures by stabilising the country's balance of payments (Baer 2008). The inability of interests and politicians to find consensus, however, meant that the negotiation process was drawn out. First with the implementation of the Real Plan and then with subsequent fiscal crises in the late 1990s and 2000s, the negotiation of the state budget was mired in conflict. While the federal government has made substantive progress balancing the budget and relinquishing control of formal complement development to the private sector, the state continues to have indirect influence in the economy. As noted in section 6.3 and will be discussed in greater depth in the next chapter, BNDES controls many of the key levers that determine firm access to critical capital inputs in the domestic economy. BNDES's power and influence has risen as it is increasingly relied upon to help drive firm competitiveness in the face of dysfunctional complement structures that have settled in the microeconomy.

In the discussion of typological trajectories in chapter 3, I noted how transitions in typology can be deciphered if an economy is measured at intervals over time. Since advanced economies are in equilibrium, change is considerably slower than that which is visible in recently liberalised EMs. Figure 6.2 measures the institutional change of the Brazilian economy over time. The figure maps corporate governance coordination relative to labour market coordination. The figure is the same measurement as figure 1.3. Brazil has made moves to increase the transparency of its capital, but the persistence of pyramidal ownership schemes, concentration of capital, and influence of the state demonstrate how Brazilian capital markets remain mixed. Similarly, the fluidity of Brazilian labour markets is contrasted by legally enforced corporatist bargaining institutional arrangements. Figure 6.2 reinforces Brazil's mixed market status. The influence of the state in Brazil barely shifted after liberalisation. The argument presented at the beginning of section 6.4 that the Brazil's mixed market characteristics are formally institutionalised is confirmed by the typological trajectory of the economy.

Figure 6.2: Brazilian Institutions across Sub-spheres of the Political Economy over Time



Source: See Table 2.2

The prospects for institutional change in Brazil are poor because of institutional barriers, some of which have been previously mentioned: first, Brazil's hybrid parliamentarian and presidential governance structure compound vetoes and make change difficult (Schneider and Soskice 2009); second, the culture of patronage that exists in Brazil doubles the legislative inertia (Ames 2001); third, the Constitution is complicated and written in a civil legal tradition for a system that exhibits many common law characteristics (Zimmerman 2008); fourth, the Constitution ensures that almost any court case can be appealed to the highest court which enables nearly all changes to be contested (Zimmerman 2008); fifth, the federal-state power relationship adds a layer of complexity (Souza 1997).[135] The sclerotic system of government reinforces the inefficiency that plagues microeconomic interaction.

[135] Although from a fiscal standpoint the conflict of interest was simplified after reforms in the wake of a Minas Gerais default.

6.5 Complementarities and typology

The chapter has explained and analysed both institutional construction and institutional change in Brazilian labour and capital markets. Brazilian labour interests have had opportunities to take a more central role negotiating complements, most notably when the modern Brazilian Constitution was formed. Rather than engender an active dialogue with capital interests, labour fought for protections. Consequently, by codifying protections in the legal system, the labour movement restricted their ability to offer flexibility to capital interests. The labour movement further ceded bargaining power to capital interests and the state by not taking control of pension plans. Brazil's largest pension funds are tied to state owned enterprises. These factors have led to a politicisation of labour interests. Firms have few incentives to work with labour because the cost of labour is delineated in corporatist laws. Furthermore, lack of change in minority shareholder rights leaves owners in a strong position.

In Brazil we find that a complementary equilibrium has settled around mixed, unstructured complements. The empirical evidence and historical development of the Brazilian economy demonstrates that market actors have been and continue to be unwilling to move into competitive directions because of their ability to extract great protections from the system either through oligopolies or state protection. Repeatedly, as the economy or political system faced turmoil, labour and capital interests settled on a mixed market complement structures. Liberalisation and reform failed to advance private forms of coordination. Labour was not prepared to cede protections while capital was not prepared to cede block shareholding. Institutional structures and legal frameworks evolved around a coordinated system when the underlying actors did not act collectively.

The state maintains a role in the economy through stakes in key corporations and influence of capital allocation. BNDES and state-owned pension funds are semi-public institutions that work to overcome the inefficiencies of private coordination but end up controlling the market. That key pension funds are state-owned undermines the ability of labour to coherently organise a strategy of stakeholder negotiation. The publicly owned pension funds push labour interests further towards the political sphere where fragmentation becomes increasingly likely. Furthermore, without minority shareholder protections, capital gains an advantageous bargaining position vis-a-vis a fragmented workforce.

On the labour market side, Brazil has very rigid and formalised market structures. The Brazilian syndicate structures, which were reinforced by labour interests just before liberalisation, ensure that workers can ascertain legal protections. The protections ensure that workers have an incentive to operate in the formal economy. Brazilian labour, however, operating within the framework of the syndicate structure has failed to drive coherent bargaining power as would be expected with an efficient coordinated system (see for example the discussion of Germany in Chapter 3). Rather than negotiate with a divided labour class, firms either circumnavigate labour market restrictions through technology or pay a "labour tax". In contrast, the rigidity of Indian labour markets exists for different reasons and solicits different responses. Firms operate directly in the informal economy, achieve special dispensation from the state, as was the case in India's leading sector, or create their own, firm-specific labour relation frameworks to bargain with labour. The rigid labour market restrictions in India are most closely tied to the public sector and SOEs.

Capital market development in Brazil reflects an alignment of the state with strong capital interests, which has persisted through multiple economic transitions in Brazil's history. Despite nominal efforts to shift Brazil's capital markets towards liberal market norms, underlying structures remain firmly in place. Shareholder blocks have neither been broken nor made transparent. The state is firmly entrenched in capital distribution through both pension fund management and BNDES, both of which are actively funded through labour taxes that were approved by labour interests. Capital market structures in Brazil contrast sharply relative to Indian capital markets where minority shareholder rights have fostered the development of robust equity capital markets. Similarly, while a greater portion of Indian banks are publicly owned, the government is much less in the business of picking winners and losers. BNDES plays a central role in determining capital allocation, while the Industrial Development Bank of India has a modicum of the influence of BNDES. Publicly owned banks in India are highly fragmented across states and sectors. The contrast of capital markets in India is the clearest differentiation of how distinct paths these two economies since liberalisation. That banking is one of Brazil's leading sectors reflects the power that has accrued to the holders of capital both through defence of interests and ceding of control by labour interests.

The market structure of Brazil contrasts that of India. While Brazil's developmental state legacies cannot be contested, it is also apparent that the role of the state outlasted industrialisation. Brazil's complements were reinforced with the advent of a new constitution, whereas India's complements keep moving away from the state as deregulation and liberalisation take hold. Labour interests in Brazil are much more coordinated than in India, both politically and through the syndicate structures. Labour interests were able to negotiate strong protections. On the capital market side, the role of the state in Brazil is much more entrenched. The existence of golden shares and block shareholding in Brazil contrasts the liberalisation efforts of the Indian government in the SOE space. Indian equity markets exhibit much more financial asset specificity than Brazilian equity markets, where weak minority shareholder rights undermine a broadening of the asset class. Bank capital markets exhibit a similar dichotomy where the Indian banking sector is more heavily state controlled but capital allocation is more heavily directed in Brazil. While both countries may exhibit characteristics of informality in the labour market and family and/or block shareholding in large firms, the typological trajectories of each market is distinct. The direction of complement organisation is very different in each market. The motivation for the centrality of the state is also very different in each market.

As Brazil’s economy continues to drive forward, mostly a result of commodities, infrastructure development and foreign investment, these underlying structural deficiencies are masked. When foreign capital dries up, demand for commodities taper, and the Brazilian market is forced to be self-reliant, structural problems in fiscal policy, innovation, and competitiveness become apparent. The fiscal resources of the state are finite and government consumption weighs heavily on economic output (Adrogue et al.

2010). A key difference with India, however, is that Brazil's institutional structures are not conducive to change, as the governance system includes both first past the post (presidential) and proportional representation (Chamber of Deputies) which only multiplies potential formal vetoes. Furthermore, institutional structures were negotiated to reinforce disagreement, as labour sought to reinforce syndicate structures (despite an inability to act collectively) as it negotiated a Constitution coming out of the military dictatorship. Figure 6.2 showed that once the corporatist power structure of the state was released, capital and labour markets settled in a mixed market equilibrium and have found a stasis. The lack of complements in Brazil is not a result of institutional decisions made early in Brazil's nascent democracy. The next chapter, which is the case study on Brazilian banks, will delve further into Brazil's market structure and test if these typological conclusions are mirrored in the microeconomy.

Chapter 7 Brazilian Banks and Micro-economic Foundations

7.1: What is Unique about Brazilian Banking

Chapter one established the Banking sector as a leading sector. The core research question asked how firms are able to drive success and competitiveness in the face of institutional shortcomings. I hypothesised that the firms that were most successful were those best able to follow the contours of capitalism in a market. I established in both chapters 3 and 6 the MME characteristics of the Brazilian market. Chapter seven conducts firm level case studies to test the hypothesis. The case firms are selected by a combination of market indicators and corporate governance models as discussed in Chapter 1. The case study follows the same method as the Indian firm-level case study. Three corporate governance models are considered: state-owned, conglomerate owned, and shareholder owned. Firms from the same sector in a liberalised market face arguably have the most comparable access to capital and labour inputs, which means that differences in corporate governance and strategy will be most visible in differences across performance.

The three case firms are Banco Votorantim, Banco do Brasil, and Itaú[136] which are or were recently conglomerate owned, state-owned, and publicly listed, respectively. I should note that while Itaú is publicly listed, it is not shareholder owned as promoters control a majority of voting shares. No Brazilian banks have fragmented shareholding, which means that Itaú is the closest alternative and most closely approximates a shareholder owned firm. Each of the three firms, despite differentiated corporate governance origins and efforts to disrupt the market by taking a different path, converged towards a hybrid corporate governance structure. Such a corporate governance structure enabled the firms to best compete in a mixed market environment.

The Brazilian banking sector is deceptively successful. Brazilian banks are highly profitable, surprisingly sophisticated, and are easily distinguished when compared to regional peers (América Economía 2011). The impetus for Brazil's sophistication in the

[136] Itaú and Bradesco have similar shareholding structures. Itaú is selected because of its size and strength according to league table indicators (see section 7.2).

banking sector stems from an era of hyperinflation where banks had to develop very strong transaction efficiencies to remain profitable. After currency stabilisation and liberalisation, the banks redirected their operational and innovative capacities. Despite competition from some of the most powerful international banks that entered Brazil in the 1990s, the top players continue to be domestic firms. Foreign firms were unable to compete directly with entrenched players. Today, the Brazilian banking sector reaches every corner of the domestic market, has a diversified product offering, and its top firms are synonymous with Brazilian corporate culture. Surprisingly though, many aspects of Brazilian capital markets, particularly tied to bank efficiency (Staub et al. 2010) remain underdeveloped. Debt capital markets are insufficiently liquid, Brazilian bank profits remain stubbornly tied to domestically-based retail operations, and assets are heavily concentrated across a handful of banks (for discussion see Urdapilleta and Stephanou 2009). The competitive dynamics of the sector are stagnant. The dichotomy between firm level achievement and market immaturity is at the core of the chapter.

The patterns in Brazilian banking closely approximate those in Italy, another MME. The concentration of financial resources and a heavily influential state, as is seen in Brazil's banking sector, is common to Italy. Mediobanca, the centre of Italian banking for many years, exhibits characteristics reminiscent of Banco do Brasil and BNDES: publicly funded, relatively autonomous, and the only institution historically able to provide long term financing (Simoni 2012; Molina and Rhodes 2007; Segreto 1997). Prior to privatisation of the banking sector, which is the period most comparable to the current state of Brazilian banking, 59.6% of assets were held in public institutions and the top 9 public banks accounted for 33.0% of assets (Fiorentino et al. 2009). The structure of the banking sector in Italy contrasts that of the U.S. and Germany: the U.S. is a classically liberal market where banks function as financial intermediaries and are subject to highly regulated markets; Germany is a classically coordinated market where bank-client relationships are at the heart of lending (Gourevitch and Shinn 2005; Gourevitch 2003). The top 10 banks in the U.S., in 1990 (to compare with the Italian statistics presented earlier) accounted for 25.5% of assets and none of the banks were public institutions

(Jones and Oshinsky 2007).[137] Germany's banking sector, in contrast, was heavily fragmented in 1990 and remains so today (Fiorentino et al. 2009; Vitols 2004). The influence of public banks and concentration of assets in Italy are equally problematic in Brazil.

The remainder of the chapter is organised as follows: in section 7.2 I survey the competitive dynamics of the banking sector, paying particular attention to the role of the state in the development of capital markets; section 7.3 introduces the case firms, which are Itaú, Banco do Brasil, and Banco Votorantim (BV); section 7.4 tests the behaviour of the three case firms along the five VoC dimensions, with particular emphasis on corporate governance since that is the primary driver of firm management; section 7.5 concludes.

[137] The U.S. banking sector has since consolidated, with the top 10 banks in 2005 accounted for 55.2% of assets (Jones and Oshinksy 2007). The impetus behind the consolidation is M&A activity (Davis 2007). Italy has also seen an increase in M&A activity but this is due to the privatisation of state banks and redistribution of credit functions to the private sector (Fiorentino et al. 2009; Davis 2007). U.S. banks, however, while consolidating, continue to drive profits from asset specific (in the financial sense) products (for example, banks have consistently lowered their holds in term loans and invited nonbank financial companies to take over the assets) (Bord and Santos 2012).

7.2 The State and Competitive Dynamics of the Brazilian Banking Sector

Section 7.2 analyses the competitive dynamics of the Banking sector in Brazil to determine how firms compete and coordinate. The relative lack of competition and the prevalence of state backed institutions indicate an inefficient market. The sector is in consolidation and exhibits collusive characteristics but does not enjoy close banking relationships with clients, which suggests a MME market structure. In a CME market structure we would expect a highly fragmented banking system with evolved bank-client relationships.[138] In a LME market the expectation would be for banks to emphasise investment banking functions and trading of securities. Neither CME nor LME characteristics are apparent in the Brazilian banking sector. The lack of dynamism and the heavy influence of BNDES and state-backed banks support the hypothesis that Brazilian banks operate in an inefficient market and are responding to incentives determined by the mixed market foundations of Brazil's capitalism.

The Brazilian banking sector has been and continues to be defined by a mix of public and private banks. The same banks have held leadership positions for decades. One of the interesting considerations about the Brazilian market is how the leading banks have been able to remain at the top for so long. Size, in Brazilian banking, has always mattered. In the 1980s, during a period of hyperinflation, banks created very advanced clearing systems to profit from the inflation (Cepeda et al 2001).[139] Only the largest, privately owned banks had the resources to sufficiently invest in technology and held a competitive advantage (Frischtak 1992). Size also mattered because larger banks could better shore up their capital position since they could access inflation-indexed bonds (Baer and Nazmi 2000). Public sector banks were largely excluded from market instability because they were protected by links to state fiscal resources and political outlets. These historical

[138] For example, in Germany, the banking sector is highly fragmented because the strength of bank-client relationships enables smaller banks to fend off acquisitions and develops a strong business network/relationship between creditor and borrower. The top 4 German banks account for 10.8% of the market. The largest sub-segment of the market are the savings banks, where 430 institutions account for 23.6% of the market (Deutsche Bundesbank Bankenstatistik 2012; Statistiches Bundesamt Deutschland 2011).

[139] Operating a bank in an inflationary environment is extremely challenging because every minute the real value of your balance sheet is shrinking. Private sector banks had to have extremely sophisticated technologies to survive.

influences set the precedent for corporate strategy post-liberalisation, when banks found themselves in a new competitive environment. Facing the threat of a dysfunctional banking system after shock liberalisation, the central bank had to intervene. Forty-three financial institutions, including Banco do Brasil, received intermediation. Lines of credit were provided, through federal institutions, for healthy banks to acquire weaker banks, including a number of state-owned banks that were auctioned off (Baer and Nazmi 2000). Many banks had become over-reliant on inflation arbitrage for profits and were unable to transition towards competitive business models. State intervention favoured large banks and helped them enhance their competitive positions.

Consolidation would be a theme for the next two decades as the largest banks absorbed both smaller Brazilian banks as well as the banks tied to the failed investments of foreign financial institutions[140] (e.g. HSBC, BBVA, Fleet Financial/Bank of America and ABN Amro). Consolidation came to an apex nearly a decade after liberalisation. First, the transformational merger of Itaú and Unibanco saw the creation of the largest private bank in Brazil. Banco do Brasil, subsequently, took advantage of its strong capital position during the financial crisis to acquire the troubled Nosso Caixa and then to take a 49.99% equity stake and 50.01% capital stake in Banco Votorantim. Market rumours suggest that Banco do Brasil was threatened by the Itaú-Unibanco merger and sought to concretely re-establish itself as the largest domestic bank. The transactions marked an unprecedented consolidation that met little in the way of anti-trust supervision.[141] Banks have been able to achieve such scale is partly due to regulatory weakness, namely the lack of jurisdiction and enforcement by CADE and the Central Bank of Brazil (OECD 2010).

Table 7.1 presents the top 10 banks in the sector. The top three banks control 48% of assets and the top 6 banks control 78.5% of assets. Profits are heavily concentrated amongst the top four banks (71.6%), three of which are traditional and the fourth of which is BNDES, the national development bank. The fifth and sixth banks also have

[140] Foreign banks were unable to remain competitive because of the entrenched position of existing players. Those that did manage some level of critical mass were weary of political uncertainty and a regulatory culture that is heavily influenced by the top domestic banks.
[141] Comments around the mergers were verified by interviews with senior executives and market experts in São Paulo in October 2011.

considerable profits but after that profitability is miniscule, accounting for less than 18% of the market. The banking sector is divided primarily between Itaú, Bradesco, and Banco do Brasil, but some niche players hold leading positions in investment banking functions. Figure 7.1 below indicates league table standings across a range of measures and products. What we find is that in functions tied to credit allocation and retail banking, there is little competition outside the top domestic financial institutions. In retail banking, 86% of branches and 82% of consumer credit is in the hands of five banks. In the corporate debt market, 85% of loans are from the top 6 players. Where the market departs from the norm is in more complex investment banking functions as Brazilian banks fare much worse in these categories, arguably because of the risk and innovative financing structures associated with the sub-segment. The competitive dynamics indicate heavy concentration amongst a few top banks and the remainder of the market is divided amongst weaker, less competitive banks.

Table 7.1: Top 10 Brazilian Banks by Assets (incl. BNDES)

Bank	Assets	%	Deposits	%	Profit	%	Employees	Branches	Status
Banco do Brasil	467,713,326	18.2	226,531,319	25.9	3,977,259	18.6	126,426	5,088	State-owned
Itau-Unibanco	432,309,367	16.8	129,019,559	14.7	4,174,591	19.6	120,985	3,767	Private Domestic
Bradesco	337,655,402	13.1	116,690,110	13.3	3,317,033	15.6	86,187	3,636	Private Domestic
BNDES	312,600,027	12.2	12,947,969	1.5	3,806,683	17.8	2,787	1	State-owned
Caixa Economica	240,914,950	9.4	129,149,563	14.8	1,258,388	5.9	107,731	2,209	State-owned
Santander (Brasil)	225,700,489	8.8	70,602,683	8.1	1,130,547	5.3	54,319	2,395	Private Intl
HSBC Brasil	74,832,602	2.9	46,132,698	5.3	394,867	1.9	29,928	866	Private Intl
Banco Votorantim	66,463,340	2.6	14,163,039	1.6	322,725	1.5	1,744	27	Private Domestic
Safra	45,791,031	1.8	8,765,025	1.0	321,596	1.5	5,588	100	Private Domestic
Banco Citibank SA	32,652,751	1.3	9,263,090	1.1	119,171	0.6	5,807	128	Private Intl
BTG Pactual	29,182,886	1.1	6,427,356	0.7	284,860	1.3	828	5	Private Domestic

*Assets, Deposits, and Profits are in USD (K)

Source: Banco Central do Brasil 2012

Figure 7.1: 2011/12 League Table Indicators of Brazilian Banking

General Bank Indicators

Assets	$mm	%	Deposits	$k	%	Net Profit	$k	%
1. Banco do Brasil	467,713	17.8%	1. Banco do Brasil	226,531	25.3%	1. Itaú	4,175	18.8%
2. Itaú	432,309	16.4%	2. Itaú	129,020	14.4%	2. Banco do Brasil	3,977	17.9%
3. Bradesco	337,655	12.8%	3. Bradesco	116,690	13.0%	3. Bradesco	3,317	14.9%
Total	2,632,234		Total	895,034		Total	22,263	
Source Banco Central do Brasil			*Source Banco Central do Brasil*			*Source Banco Central do Brasil*		

Retail Bank Indicators

Consumer Credit	R$mm		Consumer Credit	R$mm	
1. Banco do Brasil	143,397	27.2%	1. Banco do Brasil	143,397	47.0%
2. Itaú	134,284	25.5%	2. Itaú	134,284	44.0%
3. Bradesco	53,225	10.1%	3. Bradesco	53,225	17.4%
Total top 15	526,487		Total top 15	305,394	
Source Valor			*Source Valor*		

Commercial Bank Indicator

Medium Firm Cred	R$mm	
1. Itaú	89,143	29.2%
2. Bradesco	67,472	22.1%
3. Banco do Brasil	50,916	16.7%
Total top 15	305,394	
Source Valor		

Corporate Banking Indicators

Large Firm Lending	R$mm		Bond Origination	R$ k		Bond Distribution	R$ k	
1. Banco do Brasil	135,646	29.8%	1. Bradesco	38,642	19.3%	1. Banco do Brasil	76,164	52.2%
2. Itaú	112,049	24.6%	2. Itaú	37,020	18.5%	2. Itaú	17,459	12.0%
3. Bradesco	54,245	11.9%	3. Santander*	23,772	11.9%	3. Bradesco	10,184	7.0%
Total top 15	455,568		Total	200,411		Total	145,822	
Source Valor			*Source ANBIMA (LTM Aug '11)*			*Source ANBIMA (LTM Aug '11)*		

Investment Banking Indicators

M&A	R$mm		IPO	R$mm		Derivatives	Volume R$bn	
1. Morgan Stanley*	34,695	15.5%	1. Credit Suisse*	2,271	21.8%	1. Credit Suisse*	352,815	16.6%
2. BoA Merrill*	25,541	11.4%	2. BTG Pactual	1,848	17.7%	2. Itaú	204,209	9.6%
3. JP Morgan*	19,852	8.9%	3. Itau	1,610	15.4%	3. Morgan Stanley*	198,637	9.4%
Total top 15	223,509		Total	10,434		Total top 15	2,120,089	
Source Valor			*Source Valor*			*Source Valor*		
*foreign owned			*foreign owned			*foreign owned		

The division between retail and corporate banking as a generator of revenues is indicative of the lack of coherent complementarity in the market. Retail banking services are the primary driver of revenues in Brazil. Nearly one half of banking revenues in the Brazilian market come from retail operations, which is particularly impressive since only 38% of balance sheet assets are allocated to the sector (Banco Central 2011). The retail sector contrasts the corporate sector, where 29% of balance sheet assets generate 13% of revenues (ibid). Return rates in the retail sector are triple that of the corporate sector[142] (Urdapileta and Stephenou 2009). Furthermore, corporate banking revenues are driven primarily by transaction services rather than advisory services, which is a stark contrast from more liberal market economies (Urdapileta and Stephanou 2009; Stiroh and Rumble 2006; Stiroh 2002). At a more complex level, reliance on retail banking and transaction services is a reflection of risk aversion, since corporate and/or investment banking functions generally require higher levels of risk capital.

Another structural indicator is the lack of foreign banks operating in Brazilian credit markets. The Brazilian banking sector was liberalised during the wave of reforms in the 1990s. A number of foreign players tried to enter the market but most have failed to maintain a lasting presence (Fachada 2008). The domestic banking market is saturated. To make an entry, acquisition is the best strategy but finding a bank to buy is extremely challenging because of the concentrated ownership structures that can deflect takeovers. Banking in Brazil requires local relationships with not only clients but also associations and regulators. When foreign banks decided to exit the market, the top domestic banks were able to further consolidate their positions, as table 7.2 demonstrates.

Table 7.2: Domicile of Domestic Brazilian Banks (2011)

	Financial Institution	% Assets
1.	Domestic Private	52.7%
2.	Domestic Public	27.8%
3.	Foreign Private	17.9%
4.	Credit Union	1.6%
		100.0%
Source	*Banco Central do Brasil*	

[142] Retail ROA (Return on Assets) is 3.0% versus a Corporate ROA of 1.3%. Retail ROC (Return on Capital) is 39% versus a Corporate ROC of 16%.

The one bank that did manage to establish itself fairly successfully in Brazil is Santander.[143] Santender's presence in the market began in 1957 but did not become significant until the 1990s with liberalisation. The bank made a series of acquisitions beginning in 1997 to build its retail franchise. The transformational acquisition for Santander came in 2000 when they purchased Banespa (Banco do Estado de São Paulo S.A.). The firm would later acquire Banco Real, another bank with critical mass in Brazil. Santander navigated the Brazilian market better than HSBC, Citi, Bank of America (BankBoston), and many other foreign players. The reason why requires an in depth case study, but analysis by Perkins et al suggests that it has to do with Santander's superior comfort of doing business in a MME (Spain):

> "the [data] shows substantially lower hazard rates [in markets with pyramids] for parent firms whose home countries' big business sectors are more fully controlled by wealthy families, something virtually always accomplished via extensive pyramiding...at the other extreme, those from countries whose families control less than a quarter of the big business sector have the highest hazard rate [when entering a market with a pyramid]." (2008, 23)

Beyond pyramids, another key consideration is the influence of the state. The influence of the state in the banking sector is rooted in the political economic make-up of the Brazilian economy. Molina and Rhodes note that in mixed market economies, the state does not play a traditionally corporatist function but rather finds alternative means to influence market structuring (2007). In Brazil the effect of the state is multi-dimensional. The way that the state regulates the market is unstructured and relies on significant dialogue with the top players (more on this is discussed later in the chapter). What affects competitive policy more directly are state-owned banks. Owning nearly ½ of assets in the market, state run banks play a determining role in the distribution of credit.

[143] HSBC also has a significant presence but it is far from being a market leader. HSBC, when compared to Santander, has 1/3 the balance sheet, 2/3 deposits, and 1/3 the profit, and Santander is considered a second tier player. HSBC is very far from being compared to the likes of Itaú and Bradesco – something that Santander can claim more successfully. Nevertheless, HSBC has run into the same growth challenges noted above about Santander.

The most influential bank in Brazil is not a retail institution but rather the national development bank, BNDES, which is the mechanism through which the state channels capital. BNDES decides which firms should receive capital and can sponsor national champions. BNDES is the 4th largest bank in the country by assets and the most profitable. According to data from the Banco Central do Brasil, BNDES generates 17% of market profits on a mere 1.4% of national deposits (see Figure 7.2), an extremely lucrative business with outsized returns.[144] BNDES is the number one provider of credit in the corporate and commercial markets. BNDES lends both directly to companies and through conduit banks. BNDES distributes capital in an effort to overcome capital market inefficiencies and drives substantial returns in the process.

Figure 7.2: Brazilian Bank Indicators (2011)

Assets	$mm	%
1. Banco do Brasil	467,713	17.8%
2. Itaú	432,309	16.4%
3. Bradesco	337,655	12.8%
4. BNDES	312,600	11.9%
Total	2,632,234	
Source Banco Central do Brasil		

Deposits	$k	%
1. Banco do Brasil	226,531	25.3%
2. Itaú	129,020	14.4%
3. Bradesco	116,690	13.0%
8. BNDES	12,948	1.4%
Total	895,034	
Source Banco Central do Brasil		

Net Profit	$k	%
1. Itaú	4,175	18.8%
2. Banco do Brasil	3,977	17.9%
3. BNDES	3,807	17.1%
4. Bradesco	3,317	14.9%
Total	22,263	
Source Banco Central do Brasil		

[144] The statistics provided above are conservative given the fact that it only includes BNDES loan portfolio and not the other forms of capital (including equity via BNDESPAR) that it provides to large corporates.

As figure 7.3 indicates, credit origination and distribution is highly contingent on BNDES. Figure 7.3 is conservative because a portion of the lending from Itaú, Bradesco, and Banco do Brasil is actually on lending from BNDES. The reliance on BNDES for long dated capital in debt capital markets becomes even more apparent after close inspection of credit distribution. The fact that 57% of BNDES credit has a maturity of longer than 5 years is an anomaly in the Brazilian credit market, since most banks are unable to lend with tenors beyond 2 years. Brazilian banks are only able to lend long-dated maturities when the source of the credit is BNDES.[145] Many of the firms which use BNDES funds are considered "national champions". [146] In fact, 40% of the banks resources are allocated to the 10 largest domestic corporations (BNDES 2011a). The focus on financing national champions is an ironic outcome given the corporatist goals of the founding of BNDES.

Figure 7.3: Commercial and Corporate Bank Indicators for Medium to Large Firms (incl. BNDES)

Credit Origination	R$mm	%
1. BNDES*	310,357	33.9%
2. Itaú	169,576	18.5%
3. Banco do Brasil	159,583	17.4%
4. Bradesco	95,336	10.4%
Total top 15 + BNDES	916,760	
Source Exame, BNDES Financial Statements		

*Includes direct credit and onlending

Credit Distribution	R$mm	%
1. Itaú	201,192	21.9%
2. Banco do Brasil	186,561	20.4%
3. BNDES*	155,799	17.0%
4. Bradesco	121,718	13.3%
Total top 15 + BNDES	916,760	
Source Exame, BNDES Financial Statements		

*Includes direct credit, onlending allocated to individual banks

Historically the bank was primarily funded by the Fundo de Amparo ao Trabalhador (FAT), or workers assistance fund. The FAT is a mandatory worker's tax mechanism, defined and protected in the Brazilian constitution that is supposed to protect the welfare interests of workers. Sixty percent of the fund is allocated to unemployment insurance and forty percent goes to the BNDES to invest in the economic development, broadly defined. Today, while FAT funds continue to be used by BNDES, the national treasury has become an even larger source of funding, contributing nearly half of the bank's

[145] While the banks do assume credit risk when parlaying BNDES backed loans, the reality of that risk is quite minimal. Such credit is only extended to the largest, most dominant firms in the market and all lending must be pre-approved by BNDES, which suggests an implicit state guarantee. Information gathered from Annual Reports of the top banks as well as interviews conducted in October 2011.

[146] Often operating in oligopolistic markets with little competition and oftentimes being sufficiently large to access international capital markets as well

capital (BNDES 2011b, BNDES 2010). The reality is that the average Brazilian does not even realise their tax dollars finance BNDES and few understand that the bank was intended to be a democratic institution to direct the distribution of capital. While BNDES operates on somewhat transparent foundations, the outsized influence of the bank in directing firm culture and perpetuating poor standards of corporate governance is a not always grasped (Lazzarini 2011). The irony of the FAT is that it entrenches and institutionalises the state as an allocator of capital, captured by capital interests, yet agreed upon by labour interests.

BNDES is a clear force in the trajectory of corporate governance domestically because it defines market standards and incentives for transparency and lending relationships. According to an analysis by Di Miceli, BNDES distributions accounted for 76% of the capital in the market in 2009 (partially a result of the financial crisis), up from an average of 55% between 2000 and 2008 (2010a). As the primary long term lender in the market, market standards for debt covenants and transparency considerations are determined by BNDES. Firms react to BNDES. Since BNDES does not require clients to adhere to especially high standards of transparency, other efforts to improve corporate governance (such as Novo Mercado) fail to gain traction. For example, of the top 30 recipients of BNDES loans, Di Miceli finds that just over half, 16, are listed in the stock exchange and only 5 adhere to Bovespa's heightened Novo Mercado standards (2010d).[147] While BNDES may be creating national champions, it is not incentivising advancements in corporate governance.

The role and influence of BNDES extends beyond debt capital markets. BNDES also plays an influential role in equity capital markets, with investments in 183 Brazilian companies (BNDES 2011b). The holding company that executes BNDES investments is BNDES Participações S.A. (BNDESPAR). Investments are made with the intention of helping to capitalise firms that would not otherwise be able to have efficient capital structures because of the lack of liquidity in long term capital markets (BNDES 2010).

[147] Novo Mercado standards are lower than those of the NYSE ADR market (Di Miceli 2010d). NYSE ADR standards are the weakest for listed firms in the U.S. and are typically used by foreign corporations to avoid full disclosure.

Major BNDESPAR investments include PetroBras and Vale, two of Brazil's largest corporations that regularly access international capital markets. BNDES investments are also tied to most all of Brazil's major non-financial firms, part of the banks support for national champions.[148] The balance sheet and portfolio of investments have grown considerably, with disbursements, revenues, and assets all more than tripling since 2003 (BNDES 2011b, BNDES 2010). In fact, the bank is now larger (and more profitable) than the World Bank and more than three times the size of the Inter-American Development Bank (BNDES 2011b). The exploits of BNDES are ironic since it is primarily funded by a payroll tax: "BNDES makes subsidised loans through contributions from National Treasury and FAT...but the principal beneficiaries of the lending are large companies, generally those with the lowest credit risk (Di Miceli 2010b)."[149]

The distorting effects of state backed banking are visible in an analysis of bank profitability. Figure 7.4 provides high level indicators on bank profitability and efficiency. BNDES' profitability and cost to income ratio are unrealistic and demonstrate its absolute dominant control of credit distribution in the domestic economy. The oversized profits of BNDES (profit margin and cost to income ratio) contrast the inefficiency of the retail banks Banco do Brasil and Caixa Economica (return on assets). Banco do Brasil and Caixa Economica, despite having a leading competitive position in the marketplace, drive insufficient returns to merit their leading market position. Contrasting the performance of the state run banks, two of the leading banks in terms of profit margin, BTG Pactual and Banco Votorantim, have seen changes in ownership and faced challenges breaking into a leadership position in the market. The top players in the market are able to defend their positions through concentrated ownership and face few competitive threats, enabling them to drive outsized profits. An exaggerated presence of state-backed institutions only reinforces the lack of competitive behaviour exhibited by firms.

[148] Other examples include JBS Friboi, Embraer, etc…
[149] Translation from Portuguese by author.

Figure 7.4: 10 Year Trend Performance of the top 10 Brazilian Banks by Assets

Profit margin %		Return on Assets %		Cost to Income Ratio %	
BNDES	58.51	BTG Pactual	3.48	BNDES	18.26
BTG Pactual	57.31	Itau-Unibanco	3.39	Banco Votorantim	41.08
Banco Votorantim	46.11	Banco Citibank SA	2.60	BTG Pactual	48.01
Safra	43.81	BNDES	2.51	Safra	50.27
Itau-Unibanco	28.21	Bradesco	2.33	Itau-Unibanco	52.67
Bradesco	25.72	Banco Votorantim	2.23	Bradesco	57.54
Santander (Brasil)*	24.68	Safra	2.15	Santander (Brasil)*	57.75
Banco do Brasil	23.35	Santander (Brasil)*	1.91	Banco do Brasil	63.19
Banco Citibank SA	19.38	Banco do Brasil	1.88	HSBC Brasil	70.67
HSBC Brasil	11.12	HSBC Brasil	1.28	Caixa Economica*	76.55
Caixa Economica*	9.54	Caixa Economica*	0.58	Banco Citibank SA	94.91

Note: 2001-2011 unless otherwise noted. Includes BNDES.

***Indicates less than 10 years of data. 2 years of data available for Caixa Economica and 5 years of data available for Santander (Brasil), the latter of which was formed from the legacy Santander and Banespa merger in 2006.**

Source: Orbis 2012

The continued consolidation, over-sized profits, and lack of competition in Brazilian banking indicate a lack of sector competitiveness. The strength and influence of state backed banks reflects an inability for banks to effectively serve the market. Brazilian banks exhibit oligopolistic tendencies and have low levels of corporate governance and transparency standards. The difficulty for foreign banks to compete is a result of the entrenched network that directs the Banking market. The only innovative capacity of Brazilian banks derives from an era when hyperinflation forced them to efficiently manage cash flows. Since the stabilisation of the Brazilian macroeconomy, Brazilian banks have been slow to readjust because of the lack of competitive pressure. The sector exhibits none of the characteristics we would expect of a dynamic and competitive finance industry.

7.3 Firm Level Case Study

Three banks are discussed. Itaú, Banco do Brasil, and Banco Votorantim represent a publicly listed bank (albeit not in a fragmented shareholding model, which does not exist in Brazil), a state linked bank, and a bank tied to a conglomerate. Molina and Rhodes note that in mixed markets, the micro-foundations for constructing positive sum coordination are not present, so we can expect an awkward mix of competition and collusion amongst business interests (2007). Indeed such characteristics are visible across the cross section of Brazilian banks. Section 7.3 traces the founding and development of the three case firms to see how they compete and what effect differences in corporate governance had on the performance of each bank.

Itaú-Unibanco.

While Itaú-Unibanco is publicly listed, its shares are tangled in a complex distribution of preferred and non-preferred shares (Itaú 2012)[150]. The shareholding structure is a result of family promoters who do not want to relinquish control of the company. Itaú and Unibanco were founded by prominent businessmen who were very well connected politically. When Itaú merged with Unibanco in 2008, it represented a marriage between powerful Brazilian banking families (Itaú 2009).

The Banco Central de Crédito, Itaú's predecessor, was founded in 1943 by Alfredo Egydio de Souza Aranha, with the first branch opening in São Paulo in 1945 (Itaú 2012 b). Alfredo was the son of Olavio Egídio de Sousa Aranha, a prominent politician and aristocrat in the state of São Paulo.[151] The name Itaú arrived in 1964 via an acquisition (ibid). The family actively managed the bank for all but 19 years since founding. Between 1975 and 1994, Olavo Egydio Setubal relinquished the CEO post to become first, the mayor of São Paulo, and later the Minister of Foreign Relations (ibid). In 1994,

[150] Additional analysis was conducted through Bloomberg in 2012 where key shareholding entities were queried as well as the ownership structure of shareholding shells.

[151] The family was descendent of Maria Luzia de Sousa Aranha, who was the first viscountess of Campinas, a key economic centre outside of São Paulo. Many members of the family went on to be powerful members of the Brazilian aristocracy. For example, her great grandson, Osvaldo Aranha, was the Governor of Rio Grande do Sul, Minister of Agriculture, and Brazil's first mission leader to the United Nations.

Olavo's son, Roberto Egydio Setubal became the executive director of Itaú, a position he has since held (Itaú 2011; Folha 2008). The family influence on the board of directors, however, has never been relinquished.

In 1924 João Moreira Salles founded a bank that would later become Unibanco. João's son, Walter Moreira Salles, managed most of the initial expansion. Similar to Olavo Egydio Setubal, Walter Moreira Salles was politically connected, having served as the Ambassador to the United States and Minister of Agriculture (a very powerful position in Brazil) in the 1950s and 1960s (Itaú 2012 c). Also, similar to Itaú, the name Unibanco would derive from an acquisition made in 1967, although the brand Unibanco was not marketed until 1975 (ibid). Management was professionalised by the 1970s, but in 2004 Pedro Moreira Salles, another family member, took control. Salles had been the Chairman of the Board before becoming CEO, reflective of the fact that the family had never relinquished board level decision making power (Itaú 2012).

The decision to merge Itaú and Unibanco resulted from competitive dynamics and familial considerations. Rumours in the market suggest that the Unibanco succession was under threat and joining forces with Itaú would be an optimal strategy to protect the firm (anonymous field interview). Whether or not the family-linked rumours are true, a merger provided an opportunity to consolidate market share. In a market where size matters, the efficiencies of consolidation are oftentimes the best way to grow, especially when corporate culture is focused on protecting assets for future generations. In merging the two banks, the families were careful to retain control of key voting shares to perpetuate the pyramidal shareholding structure. The corporate development of the firm does not indicate a clear cut strategy but rather a mix competition and collusion to remain competitive in Brazil's mixed market.

Votorantim

Votorantim, in Brazil, carries a strong reputation because it is the name of one of the largest and strongest family run conglomerates in Brazil. The Votorantim Group has been a leading domestic firm since early in Brazilian corporate history. António Periera

Ignácio founded the firm in 1918 when he bought the assets of a bankrupt company in the city of Votorantim (Votorantim 2012). José Ermírio de Moraes,[152] António's son-in-law, would soon take over the company and build an industrial conglomerate. Similar to the leaders of Itaú and Unibanco, Moraes was involved in public affairs, being a founder of CIESP (Centro das Indústrias do Estado de São Paulo) in 1928, FIESP (Federação das Indústrias do Estado de São Paulo) in 1952 and then as the Minister of Agriculture in 1962 (ibid). Upon the death of José Ermírio de Moraes, the various industry lines were separated to be managed by his children.[153] Of the children, Jose Ermírio de Moraes Neto,[154] one of the brothers of the second generation, became the leading figure as President of Hejoassu Administração Ltda, which is the family company that controls the Votorantim Group of Companies (Votorantim Participacões or VPar).[155]

BV was founded in 1988 and became a universal bank in 1991 (Banco Votorantim 2012). The Chairman of the bank is Jose Ermírio de Moraes Neto (Banco Votorantim 2012 b). BV was originally founded to focus on treasury operations and large corporations but has since expanded into asset management, private banking, investment banking, and consumer finance (BV and VPar executives, personal interview, Sep. and Oct. 2011; Banco Votorantim 2010). The bank is best known in the market for its auto insurance segment. The rise of the firm was built on the back of an aggressive financing strategy that helped the bank rapidly build market share. The thin capitalisation of the bank, however, did not sit well with the market (BV and VPar executives, BCG consultant and Banco do Brasil executive, personal interviews, Sep. and Oct. 2011; Robitaille 2011; FT 2010). And despite aggressive financing methods that would be more common in liberal markets, it was concern about the firm's corporate governance that proved to be the downfall of the bank.

[152] In addition, Moraes was involved in public affairs, being a founder of CIESP in 1928, FIESP in 1952 and the Minister of Agriculture in 1962.
[153] José Ermírio de Moraes Filho took over the cement business, Antônio de Morais in the metal business, Ermírio Pereira de Moraes the chemical business, and Clóvis Ermírio de Moraes Scripilliti managed operations of business in the Northeast.
[154] He was also involved in organisations tied to market structuring, serving in CIESP and SNIC (Sindicator Nacional da Indústria do Cimento).
[155] Annual reports and Bloomberg were used to locate owernship of holding companies.

The Votorantim Group and Bank would be the corporate entities most likely to exhibit cross shareholding and internal subsidisation of businesses in the Brazilian Banking sector. The rise and fall of BV demonstrates an unusual mix of strategic cooperation/coordination and fierce competition. BV is not allowed to lend to Votorantim entities, both from a legal standpoint and from an internal corporate governance standpoint (BV and VPar executives, personal interview Sep and Oct 2011). Nevertheless, the lack of transparency into BV finances led to corporate contagion and adversely affected BV when the Votorantim Group took major losses on currency positions in its industrials business. The speculation erupted when the Votorantim Group had to seek equity infusions to cover a potential R$6 billion loss in foreign exchange trades (Robitaille 2011; FT 2010). [156] The market viewed the size of the exposure as large enough to threaten the equity positions of the holding family and, subsequently, BV.

In the face of the crisis, BV senior management approached Banco do Brasil to secure a partnership that would insulate the bank from further speculation. Executives from both banks viewed a joint venture as a strategic decision. BV never publicly put itself on the market and negotiated the deal behind closed doors. The offer was appealing for Banco do Brasil because they lacked a brokerage arm, a strong presence in investment banking/capital markets, and wanted to build on BV's auto finance division. BV received an injection of R$4.2bn of capital without having to relinquish ownership control (Alves and Solani 2009). The newly structured company was split such that 50.01% of control remained with BV despite only holding 49.99% of the capital (Banco do Brasil 2009). Banco do Brasil, as a state-owned entity, had no desire to take equity control of the company because BV would then have to be consolidated into Banco do Brasil. Leaders of Banco do Brasil did not want a unified banking entity because such a move would impair BV's competitiveness. As a consolidated entity BV would have to

[156] VPar was exposed to an estimated R$6bn loss because of foreign exchange derivatives in the wake of the crisis after the BRL (Brazilian Real) unexpectedly depreciated (FT 2010). Since the Real had been appreciating for years, many Brazilian companies used derivative positions to bet on the Real and drive profits. The lack of transparency in the family owned firms left many investors in the dark and they feared the worst (Robitaille 2011). To calm the market, the family unwound all of its foreign exchange derivative positions at a cost of R$2.2bn in a single transaction rather than risk any further losses or speculation.

adhere to state restrictions in corporate governance and employee relations. The merger is a prime example of how firms maintain competitiveness in the Brazilian banking sector as well as the influence and incentives created by the state.

Today, the two banks support each other where appropriate but continue to operate as two separate entities, sometimes each competing directly against the other for corporate clients (Banco do Brasil and BV executives, personal interviews Sep and Oct 2011). The management of BV has been savvy and positioned the bank very well. The executive team and board were well aware of the importance of size in the sector and sought a relationship with the largest bank in the market. With the resources of Banco do Brasil, BV only enhanced their competitive position and did not have to take risk to achieve that. What originally seemed like an unfortunate demise for a bank that had an insufficient capital base to fend off speculation turned into an opportunistic outcome.

From a VoC perspective, BV had to conform to a mixed market paradigm to remain competitive and satisfy the market. BV, despite the cross shareholding, took aggressive positions in the domestic market (see table 7.5 Capital Ratio and Profit Margin). The positions were viewed as overtly risky, especially when combined with the exposures at the larger Votorantim Group. Rather than shift corporate governance or consolidate the cross shareholding, BV executed an astute MME strategy - merge with a pivotal SOE (Banco do Brasil). The merger's structure would not work in a CME or LME market. The firm discretely, if not secretly, negotiated a joint venture with the state to sell a majority of capital while maintaining a majority of ownership.

Banco do Brasil

Banco do Brasil was founded in 1808 by the Portuguese Crown, makings its legacy longer than that of the nation. Banco do Brasil is the epitome of a state-centred bank with a mix of social, political, and economic goals. To respond to the changing market, the bank has adapted its structure and governance throughout the years as the political economy evolves. Early in Brazil’s history, Banco do Brasil oversaw a very wide range of functions, including, at times, printing money. Gradually, the bank began to take on fewer responsibilities traditionally associated with central banks and focused on commercial lending. The issuance of currency was separated in 1893 with the creation of a national treasury. The bank publicly issued common shares for the first time in 1906 (with a formal listing on the São Paulo Stock Exchange in 1921). In 1953 its import-export function for the country was separated into a new agency.[157] By 1964, monetary powers were concentrated in a newly formed Central Bank. Finally, with liberalisation in 1992, the modern Banco do Brasil took shape when it was restructured and officially designated an exclusively commercial bank.

Despite a focus on commercial banking, fiscal links to the state have remained present throughout the banks history. As early as 1936 (when the Agricultural and Industrial Loan Division of the Banco do Brasil was created) the bank became a conduit to provide liquidity to "priority" sectors of the market and this has continued in after liberalisation. Similar to the BNDES financing structure that would follow years later, the federal government leveraged both capital markets and public pension funds to issue debt securities. The funds were used to subsidize agricultural investments. Today Banco do Brasil continues to channel a portion of BNDES funding. Additionally, the bank remains the financial agent of the National Treasury (Banco do Brasil 2011).[158] For example, Banco do Brasil is the focal agency for implementing federal programmes like Fome Zero and is sometimes used to execute/implement economic policies in the market. From a market typology standpoint, state links with Banco do Brasil in the domestic banking sector is a clear indication of the active, but indirect role that the state has in the market.

In summary, the three case firms share some similarities and some differences. The private banks were founded by politically connected individuals and have demonstrated a propensity for mergers to consolidate market share. The differences are in how their corporate governance strategy evolved through the years, although they are all similar in that they now rely on mixed market behaviours to remain competitive. Itaú, despite being publicly listed, has promoter shareholding and did well to consolidate market share.

[157] The new agency was called Carteira de Comércio Exterior (Cacex), whose operation was short-lived
[158] The expansion of BNDES means that it finances larger ticket items

BV attempted to create a new, competitive model of baking but failed when questions arose about the bank's financial position because of a lack of transparency. Rather than open its accounts, BV opted to merge with a SOE. And, finally, Banco do Brasil is the epitome of an entrenched SOE with considerable market share. The firms all exhibit characteristics one would expect in a mixed market.

7.4 Case Study Firms and VoC Dimensions

Section 7.4 measures interaction across the three case firms along the VoC dimensions. The section further investigates the consistency with which the banks exhibit MME characteristics.

Corporate Governance

Corporate governance considerations are critical because it is in the board room and amongst senior executives where key firm decisions are made. Corporate governance extends from how firms finance themselves to how they manage operations. All three banks have what is effectively a pyramidal ownership scheme but have very different management styles (Itaú 2012; Votoranim 2012; Banco do Brasil 2011).[159] How firms develop strategy and how they finance themselves are closely related. As noted before, firms with an equity orientation and transparent ownership will have a higher risk profile and seek stronger returns through disruptive innovation to compensate investors who expect a premium as equity holders. Similarly, firms with a debt orientation will have a lower risk profile, relying instead on incremental innovation, since they have to pay a lower premium for their invested capital.

Two of the three firms, Itaú and Banco do Brasil, are publicly listed but preferred and majority shares remain in the hands of the family and government, respectively (Itaú 2012; Banco do Brasil 2011). The third firm, BV, is a family owned enterprise that is not publicly listed (BancoVotorantim 2011). What is surprising is that despite somewhat diverse beginnings, all three banks exhibit a mix of competitive and collusive behaviours in their corporate governance and strategy. The section will consider three elements of corporate governance: ownership, board structure, and growth strategy.

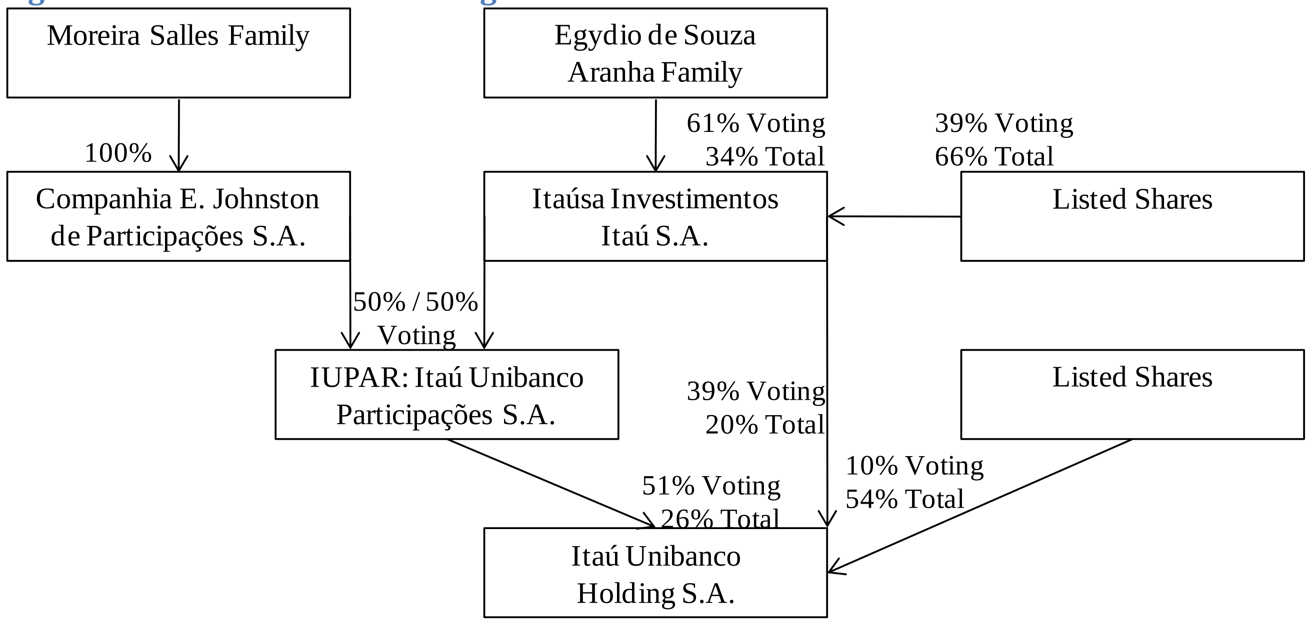
The ownership aspect of corporate governance focuses on key shareholders, transparency, and minority shareholder rights (i.e. if the firm exhibits characteristics of a pyramid). Concentrated ownership and pyramidal structures are indicators that the firm is hiding or protecting shares and is most likely to occur in mixed markets or

[159] Bloomberg shareholder information was also accessed to verify ownership structures.

developmental states because of political connections and inconsistent legal standards. In the Brazilian economy, as noted in section 6.3, concentrated ownership is a common occurrence and that firms rely on retained earnings as a means for financing to avoid transparency. While some firms have listed shares, the non-voting nature and exclusionary minority shareholder protections undermine the transparency requirements that traditionally are associated with equity markets. The same pattern is evident in all of the banks. Itaú Unibanco has a complicated ownership scheme that concentrates control in the hands of the two legacy families, as demonstrated by Figure 7.5. Non-voting shares are used as a means to raise capital without relinquishing control. As noted before, BV is currently owned by the Votorantim Group although 49.99% of shares lie with Banco do Brasil. As a private company, shareholder disclosure is not required. Banco do Brasil is publicly listed but the government maintains a 70% stake.[160] The irony of Banco do Brasil is that while it is likely the most transparent bank in the Brazilian market because of its listing in Bovespa's Novo Mercado, it is the least responsive to shareholder interests from a performance standpoint (see figure 7.4).

[160] The 70% includes the National Treasury (51%), Previ (10.4%), BNDESPar (.01%), Federally guaranteed funds (7.31%)

Figure 7.5: Itaú-Unibanco Holding Structure



Source: Itaú Annual Report 2011

The board composition of the three banks follows the ownership patterns. The mix of independent and non-independent board members along with the strength of promoters is indicative of highly concentrated ownership. In both family linked businesses a central family member is in CEO and/or Chairman Roles. Furthermore, the independent board members are heavily connected politically and include former Presidents of Central Bank and former Ministers of Finance (Itaú 2011). The only board that has a substantive share of non-independent members is that of Banco do Brasil but the 70% shareholding by the state undermines the independence that the board can exert.[161] Instead, the Ministry of Finance leverages a separate but influential Board of Auditors to manage the firm by maintaining a majority of directors on that board. Table 7.3 summarises the Board composition of the three banks.

Table 7.3: Itaú, Banco do Brasil, and BV Board Composition

FIRM	BOARD COMPOSITION		BOARD COMPOSITION		BOARD COMPOSITION	
	Executive	Non-exec	Independent	Non-Ind	Promoter Link	No Link
Itaú	8 (62%)	5 (38%)	2 (15%)	11 (85%)	6 (46%)	7 (54%)
BV*	2 (33%)	4 (67%)	0 (0%)	6 (100%)	1 (17%)	5 (83%)
Banco do Brasil	1 (14%)	6 (86%)	3 (43%)	4 (56%)	3 (43%)	4 (56%)

***50% owned by Banco do Brasil, board seats are evenly split between VPar and Banco do Brasil. Sources Banco Itaú 2011; Banco Votorantim 2011; Banco do Brasil 2011.**

The presence of promoter shareholders as well as non-independent board members on the board alters risk incentives for the firm. On the one hand, promoters can facilitate a longer term view of profitability than would be possible in a shareholder driven system. On the other hand, decision making is likely to be risk adverse and can be captured by politically or personally motivated interests. Promoters are principally interested in protecting their assets and since the top Brazilian banks are all held by promoters, it is in

[161] Colloquially, according to interviews of market actors conducted in São Paulo in October 2011, it is not uncommon to see politicians "walking the halls" of the bank's headquarters. One market expert described the management teams as operating on a rotational schedule – where bosses and subordinates routinely swap places depending on the political party in power.

their interest to maintain an oligopolistic competitive landscape because that minimises risk. Without minority shareholder rights, there are few alternatives to the existing model.

Through a series of interviews with high ranking senior banking executives conducted in São Paulo, I found that corporate growth strategies were relatively conservative given the size and scale of Brazilian banks (both within the domestic market and amongst its Latin neighbours). Itaú is known as being one of the most opportunistic banks, selectively acquiring key competitors to consolidate its market share. The Itaú-Unibanco merger would not be considered a risky venture because of the ensuing market share and concurrent product offerings. Similarly, rather than take risk to build underdeveloped segments, the bank prefers to rely on consolidation to drive profits from its core competency, the consumer segment – with 46% of the bank's credit, consumer-based finance generates 85% of revenues (Itaú 2011). The firm has demonstrated little ambition to diversify its product offerings[162] or aggressively enter new markets.[163] Defence, in their view, is the best offense given the strong profits they are able to drive from the rapidly expanding Brazilian economy.[164]

BV demonstrates similar hesitations under its new ownership scheme, although prior to the Banco do Brasil merger the firm was much more aggressive. BV originally developed its business with an aggressive marketing strategy that focused on large corporate clients. BV has since grown its balance sheet by building its presence in the middle market and consumer segments (Moodys 2011). The bank has had an incredible rise in the Brazilian marketplace, where it went from being the 34th largest bank in 1994 to the 7th largest bank in 2011 (Relatório Anual). BV's growth strategy, however, was challenged in the previously noted incident when the Votorantim Group faced an R$6bn exposure. The speculation on BV was exacerbated because the bank had financed its

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[162] Diversification is not an active strategy of the bank because of the risk associated with new financial products (Former Head of Banking Division at Itaú, personal interview Sep 2011).

[163] The bank has not reached 100 branches in any other country, made a transformational acquisition abroad, or leveraged its domestic capital position to drive foreign growth.

[164] To grow beyond the ceiling imposed by the domestic market without taking undue risk, the owners will have to increase transparency, sell shares, improve minority shareholder rights, or do all three.

growth without a commiserate rise in deposits. The market permitted the innovative financing model because it assumed that the bank was backstopped by the Votorantim Group. With the exposure at the Votorantim Group and without transparency into financial accounts and uncertainty of how much exposure BV had to VPar, markets assumed the worst. The bank did not conform to Brazilian standard and took risks uncommon the sector. The bank had to eventually find a mixed market solution.

The previously discussed Banco do Brasil share purchase helped stabilize the BV balance sheet (Moody's 2009). BV, because it did not have a strong retail presence, could not leverage a deposit base to grow. The firm's higher risk financing strategy to invest in growth succumbed to market speculation. The management team had to find an alternative growth model that was stable and low risk. The challenge was finding a deposit base inorganically since the bank could not build one independently in the saturated Brazilian banking sector. Banco do Brasil proved to be an optimal solution in the market circumstances. Similar to Itaú-Unibanco, the BV-Banco do Brasil JV has re-aligned its strategy to take less risk.

Similar to the other banks, Banco do Brasil also relies heavily on retail and consumer banking. The Bank has an underdeveloped investment bank and trading division. The bank's heavy reliance on credit to drive revenues is visible in its market position in various segments of credit: 61% of agricultural lending, 33% of payroll credit, roughly 33% of the import-export credit market, and 19% of BNDES on-lending (Banco do Brasil 2011). Furthermore, the bank also has the largest branch network, operating 26% of all bank branches in Brazil and having 35% more branches than its nearest competitor (Banco Central do Brasil 2011). The bank drives 93% of its revenue from core banking activities, of which over half is generated from activity tied to loans and leases (Banco do Brasil 2011). Rather than take undue risk in financial product development, the firm has sought to make tuck-in acquisitions and consolidate its domestic strengths.[165] Internationally, the bank has been slightly more aggressive than Itaú by purchasing

[165] The BV JV has already been discussed. Prior to BV, the Bank also acquired Banco Nosso Caixa and created a partnership with Banco Postal (Moodys 2011; Banco do Brasil 2011).

Banco Patagonia in Argentina and making a small acquisition in the US. The acquisitions, however, have been gradual and focused in retail banking rather than corporate and investment functions.

Firms generally have three growth options: new product development, increase market share, or find new markets. First, Brazilian banks demonstrate an aversion to new product development and diversification. Where, for example, BV tried to use a higher risk funding model, it failed. Meanwhile, Banco do Brasil and Itaú continues to depend on retail banking to drive revenues and growth. The second growth option, taking market share, is challenging because of the concentration in the sector and barriers to entry. The weak positions of international banks operating in Brazil and the experience of BV are great examples of how difficult it is for new entrants. Third, for Brazilian banks to find new markets for growth means taking elevated risk. Domestically, Itaú and Banco do Brasil have the capacity to develop their investment banking expertise but resources remain focused on retail banking. BV, meanwhile, is looking to access clients via newfound links with Banco do Brasil's retail network. Internationally, Itaú and Banco do Brasil are the only two firms from the domestic market actively exploring opportunities abroad yet their behaviour has been very conservative. Brazilian banks are heavily concentrated on domestic banking and rely on credit expansion to grow because of unwillingness to take risk. Tightly held firm ownership and conservative corporate governance guide the growth strategies.

All three of the banks demonstrate an aversion to risk. Market share is built through consolidation, offering little incentive for banks to drive aggressive growth strategies. Itaú is the most competitive of the three banks and benefits from its ability to manoeuvre in the private sector. Banco do Brasil, while not as profitable or versatile, is competitive because of the support it receives from the state. BV's model inadequately managed the traditional Brazilian banking formula and to right size the firm and re-establish competitiveness, the firm created a JV with Banco do Brasil to extract the maximum equity infusion without relinquishing control.

Inter-Firm Relations[166]

Inter-firm relations encompass two aspects of analysis relative to the banking sector. The first is how banks compete, and the second is the nature of client relationships. The clearest indicator of how banks work with and against each other can be determined by their relationships in business associations. All three of the banks are active members of FEBRABAN (Federação Brasileira de Bancos), which is an association of banks that has a very tight relationship with the central bank. Representing over 90% of the market, the organisation has a function much more involved than a typical business association in a LME. FEBRABAN's relationship with the banking regulator has been described as amicable, cooperative, and influential (personal interviews with Banking industry expert and Senior Executives at the three case banks, Sep and Oct 2011). The central bank uses the organisation as an intermediary to test the market's reception to regulatory changes and advancements. The interests and goals of FEBRABAN are clear and consistent because the top banks are owned and operated by families who tend to have largely similar interests. The organisation is somewhere between an association and a forum for industry-wide arbitration. FEBRABAN contrasts NASSCOM in India because it is less active in lobbying, smaller, and has less relative influence. The contrast reflects the fact that FEBREBAN is neither a key lobbyer nor a key corporatist negotiator for the sector.

A second influential business association is ANBIMA, which is a self-regulatory body run by financial institutions. ANBIMA's efforts are meant to be additional to those provided by the CVM, which is the securities supervisory body. ANBIMA has a relationship with CVM similar to that of FEBRABAN to the central bank. While ANBIMA works to incentivise the development of Brazilian capital markets, it does little to unwind the strong base of pyramidal ownership structures that currently exist within the largest Brazilian corporations. Both FEBRABAN and ANBIMA operate outside the usual scope for a traditional liberal market association, which suggests that they are used as agents of non-market coordination. All three firms are active participants in both the associations.

[166] This section is heavily based on fieldwork conducted in Brasil in 2011.

The second dimension of inter-firm relations is less a reflection of the banking sector and more important to reinforce our understanding bank-firm dynamics in Brazil. Executives at multiple banks clearly indicated that the bank-firm relationship is far from developed. Some even noted that bank-firm relationships were more developed in LME markets than even in Brazil (Banco do Brasil and BV senior executives Sep and Oct 2011). Nevertheless, Itaú and Banco do Brasil demonstrate a greater capacity to drive important relationships with large firms (see Figure 7.1 and 7.3). Given what we understand of the dynamics of Brazilian capital markets, the entrenched position of Itaú and Banco do Brasil are easily defended because of the small coterie of banks that can compete for the business of medium to large corporations.

Another key reason that Brazilian banks are not able to develop the cohesiveness common to CME markets is because most banks have underdeveloped investment arms. The lack of liquidity in Brazilian capital markets undermines the bank's ability to sustain corporate relationships. Without debt, bonds or equity structuring, banks are left with little other than transaction services to drive client relationships. Firms, as already noted, have a preference to rely on retained earnings or federally subsidized financing (BNDES) to invest in long term growth. Underdeveloped capital markets and the strength of retail banking indicate the structural inefficiency of the market and the inability of firms to efficiently organise.

Labour Relations (Industrial Relations, Employee Relations, and Vocational Training)

The discussion of labour relations in the banking sector will combine elements of industrial relations, employee relations, and vocation training. The banks operate on very different models. The only levelling characteristic is that they all must abide by comprehensive labour laws that govern Brazilian labour markets. Private sector banks generally have a clearly defined division between basic (in-branch and back office) and professional workers (Bradesco and Itaú executives, personal interviews, Sep. and Oct. 2012). Public sector banks also have a similar split between employee skill levels, except all benefit from enhanced employee welfare provisions (Banco do Brasil Executives, personal interviews, Sep. and Oct. 2011). The hybrid employee structure is a clear indication of the varied ways in which firms relate to employees.

Itaú and Banco Votorantim employee relations are considered aggressive in the Brazilian market. Table 7.4 below indicates some of the employee figures for the top firms. Itaú has high turnover levels relative to Banco do Brasil, with a very high propensity to dismiss workers in any given year. In addition to the hiring/firing in 2010, 9% of the Itaú workforce was moved internally which heightened the level of job specific turnover. While Votorantim does not disclose exact statistics, the firm is much closer to Itaú than Banco do Brasil. Banco do Brasil has a much lower dismissal rate because government employees enjoy greater labour protections than non-government employees.

Table 7.4: Itaú, Banco do Brasil, and BV Employee Statistics (2009-10)

	Itau*		Banco Votorantim	Banco do Brasil	
2009 Employees	101640		7488	103971	
Hires	7999	7.9%		14999	14.4%
Dismissals	14386	14.2%		2786	2.7%
2010 Employees	108000		9070	109026	
Hires	17102	15.8%		10048	9.2%
Dismissals	10742	9.9%		4505	4.1%
'09-'10 Change	6.3%		21.1%	4.9%	

*Dismissal figure calculated

Source: Annual Reports: Itaú 2011; BV 2011; Banco do Brasil 2011

In all private sector firms, professional staff operates on a flexible labour model. Employee benefits are tied to employment status. Professional level employees are not active in their syndicates. Training is limited to specialized sessions and workers are expected to learn primarily on the job. Alternatively, workers at the retail level and in the back office are organised quite differently. Most of these employees are active in their syndicate structures. Annually the banks negotiate wages with the appropriate representatives. Strikes are very common during the third quarter of each year when the negotiations take place (Itaú and Banco do Brasil executives, personal interviews, Sep and Oct 2011). The leading banks, reflective of their attempt to circumvent labour dissonance, are actually very well prepared for the strikes because most of the functions performed by those that strike can be done with automated machines.

Banco do Brasil and other public sector entities contrast the private firms. It is no secret in Brazil that government workers benefit from very lucrative protections and Banco do Brasil workers are technically government employees. Before being hired, candidates must undergo a rigorous examination process that is open to the public. Once hired, most employees have very long careers with the bank (Banco do Brasil executive, personal interview, Sep. and Oct. 2011). Resources are allocated to employee development and employees are allowed to transfer within the bank to broaden their experience. Welfare benefits for employees are tied to tenure (ibid). The mix of benefits and job protections changes the competitive dynamics at the bank. The strength of the bank is in operational aspects of the business because they lack the expertise to drive business related to more complex financial engineering and higher end investment banking functions.

Across the VoC dimensions, and especially in corporate governance, the market is characterised by an awkward mix of competition and collusion. The banks compete against one another but are careful to make sure that the market in which they compete does not challenge the status quo. Firm behaviour demonstrates that a culture of consolidation and indifference to inefficient markets enable high profitability for the leading banks. BV's conglomerate links undermined its growth trajectory. The lack of transparency across the sector and in other Brazilian sectors meant that BV could not overcome suspicion of CME style firm operations. The intricacies of Votorantim shareholding structure remain opaque. BV turned to the state, and more specifically Banco do Brasil, as a resource to regain competitiveness. Banco do Brasil is competitive because of its state ownership and strong presence in retail banking. Itaú, while strong in retail banking, demonstrates a greater proficiency in corporate and investment banking functions. Itaú is the most dynamic bank but it is able to achieve its competitiveness because it astutely consolidated its position while successfully arbitrating state support - the bank carefully challenges yet respects the state's influence.

Any desire to move towards liberal market structures is constrained by inefficient markets and institutionalised state intervention. In labour, for example, Itaú tries its best to operate in on competitive principles but can only do so in certain dimensions of its workforce. BV is in the same position and, in fact, one of the key reasons the Banco do

Brasil JV was structured as such was to avoid the labour regulations that Banco do Brasil has to deal with as a public employer. Banco do Brasil has almost no labour flexibility and a lower employee cost base, which contrasts the private dimensions of the market. The relative success and competitiveness of the firms exactly follow the incentives defined by the mixed market. Table 7.1, figure 7.2, and figure 7.4 empirically demonstrate that Banco do Brasil is the largest bank by assets while Itaú is more profitable. The strong performance of Itaú and Banco do Brasil as well as the failure of the riskier strategy at BV reinforced the mixed market characteristics macro political economy.

7.5 Case Study Conclusions

The strength of Brazilian banking is unsurprising since the Brazilian economy exhibits mixed market characteristics. Banks play outsized roles in inefficiently organised economies. The leading Brazilian banks, while competitive domestically, have failed to translate that competitiveness to an international level. The firms are as competitive as they need to be given the structure of the domestic market. Concentration in both market share and firm ownership means that firms are weary to risk aggressive international growth strategies. The banks are responding to incentives that promote risk aversion. The state is complicit in the model.[167] The state facilitates the cartel like characteristics by actively engaging with market function through credit distribution. Furthermore, SOEs compete fiercely against private enterprises. The dynamics of the sector are further complicated by the heavy regulatory influence that top banks have on designing and enforcing policies. The heavy influence of the state and structural inefficiencies are institutionally grounded and have been reinforced in a post-liberalisation era. All three case firms converged in their corporate governance strategies to compete in a MME.

Table 7.4 summarises the findings of the firm level case study. Top banks manage to remain competitive by being strategic in their market operations and hedging competitive behaviours with collusive behaviours. Table 7.5 summarises the financial performance of the three firms. Itaú, as the largest bank and dominated by family ownership, exhibits strength in its capitalisation and risk aversion in its profitability. The firm's principle focus is balance sheet growth, to maintain its position as Brasil's leading private bank. With a ROA above 3.0x, the firm is leveraging its size to drive profits. Banco do Brasil is the weakest bank from a cost and profitability standpoint but its far-reaching presence, because it is supported by the state, will not be challenged. BV demonstrated a capacity to drive strong profits but it had the weakest growth rate in its balance sheet, which reflects the challenge of competing against entrenched players. BV's operational performance is weaker after the JV but its revenue and asset growth is stronger, which reflects an increasing conformance to the strategies espoused by other leading banks.

[167] For example, Banco do Brasil announced in 2012 a desire to increase market share by buying a stake in Banco Santander (Jelmayer 2012). The lack of a regulatory response and the openness with which a SOE can consolidate in a saturated sector demonstrates the lack of competitive dynamics in the sector.

Table 7.5: Itaú, Banco do Brasil, BV by VoC Dimension, Typology Conformance, and Performance

	Corporate Governance	Inter-firm Relations	Labour Relations	Liberalisation Adjustment	Typology Conformance	Performance
Itaú	Family controlled through preferred shares Maximise equity with minimal ownership distribution	Retail oriented Inconsistent strengths in corporate relationships Active in associations with political and regulatory influence	Hybrid, dual labour structure with blue collar and white collar divisions	Consolidate position in market through strategic acquisitions	Strong to MME	Strength in building Balance Sheet and return on assets from largest base in the market
Banco do Brasil	SOE	Retail oriented Limited corporate relationships Active in associations	State protected	Consolidate position in the market through strategic acquisitions and implementation of state programmes	Medium, state maintains control of bank but not as strong as private sector competitors	Not as competitive as Itaú but maintains considerable market influence
BV	Family owned, no distribution of shares until JV Maximise equity while minimising equity distribution	Limited Corporate relationships Active in associations	Hard to tell because of lack of transparency, likely more liberal than competitors	None	Poor, fear of CME style corporate governance led to speculation on fears of contagion and eventual sale	Strongest profit margin but weak capitalisation reflects challenge in building market share; lowest return on assets over period

Table 7.6: Performance Metrics of Case Firms (2004-11 & 2004-08)

	Typology Conformance		CAGR Revs	CAGR Assets	Profit Margin	Capital Ratio	Cost to Income	Return on Assets
Itaú	Strong to MME	*2004-11*	*25.2%*	*37.6%*	*28.7%*	*17.2%*	*51.4%*	*3.21*
		2004-08	17.1%	53.5%	27.5%	17.8%	53.1%	3.57
Banco do Brasil	Medium, state maintains control of bank	*2004-11*	*21.2%*	*28.7%*	*25.9%*	*15.3%*	*59.1%*	*2.02*
		2004-08	17.3%	25.5%	24.0%	16.1%	60.5%	2.07
BV	Poor, fear of CME style corporate governance led to speculation and sale	*2004-11*	*25.4%*	*23.5%*	*34.6%*	*14.8%*	*45.6%*	*1.64*
		2004-08	22.4%	22.0%	47.9%	15.6%	41.3%	2.21

Note: 2004 to 2011 selected because it is the first year of operations after the Itaú-Unibanco merger and last year of full data available. 2004 to 2008 selected because 2008 is the last full year before BV created the JV with Banco do Brasil

Source: Orbis Financial Database 2013; author's calculations.

The characteristics and risk profile of Brazil's leading banks is a sharp contrast to India's leading IT firms. In banking and across segments of the Brazilian economy, consolidation is the principle focus of growth strategies (GVCEPE 2011). Firms are not incentivised to develop innovative capacities (Amann 2009; Amann 2000) because of the opportunities that come from subsidies that flow to the top business in the Brazilian economy. While consolidation is a consideration in liberal market investment models, rarely is it the principle goal. Innovative capacities and product offerings are traditionally the focal points for investment decision making - characteristic of the firms explored in India's leading sector, IT. In Brazil, innovative capacities[168] are not focused on product development or process efficiency but rather navigation of the domestic political economy. Firms rely on market positioning and acquisitions to solidify their domestic position. The most successful Brazilian banks are focused on protecting market share to guarantee profitability and extract rents.

The characteristics of Brazil’s most successful banks are visible in other sectors of the market. The inefficiency in the banking sector flows to other sectors of the economy. For example, conventional market indicators point to Petrobras, Vale, Embraer, JBS-Friboi, and BRF Foods as archetype examples of globally successful “private” Brazilian firms, yet we find the same dysfunction in the corporate governance of these firms as we do in the banking sector. Petrobras is openly owned by the federal government. The government has a “golden share” in Vale and Embraer that enables the state to veto key decisions of the board. The remaining two, JBS Friboi and BRF Foods, are heavily financed by government-linked entities, leaving the state as the most influential creditor.[169] The active government ownership of Brazil's largest firms stands in stark contrast to the slow-moving privatisation and equity share floating efforts of Indian SOEs and private ownership of India's leading firms. Anachronistic laws reinforce the dominance of the state and/or funding families by curbing minority shareholder rights.

[168] The most successful Brazilian banks developed their most innovative products in response to macroeconomic instability before liberalisation. Since liberalisation, Brazilian banks have not demonstrated a capacity to innovate or compete internationally.

[169] Through stakes owned by BNDES and pension funds tied to state-owned enterprises, the government is able to influence corporate decision making in many of Brazil’s top firms (Lazzarini 2011; Lazzarini and Musacchio 2011; Rabelo and Coutinho 2001).

Chapter 8 Conclusions

8.1 Answering how EM Firms Achieve Success and Drive Competitiveness

The thesis began with the question of how EM firms achieve success and drive competitiveness despite the institutional challenges of the domestic economy in which they originate. The first step was to determine the role played by national systems of capitalism. A key challenge is deciphering links between the micro and macro economy. Within the VoC framework, macroeconomic complement development is closely tied to micro-economic stakeholder interaction. Complements develop within the context of an institutional framework that defines incentives for firms. As economies develop and development states withdraw from directing complement structures, market forces take a more central role determining complement equilibria. Firms adapt and operate within this typological trajectory. The most competitive firms emerge from sectors that have comparative advantages within the emergent typology of capitalism in the economy. Firms play a role as both a market participant and, in the case of firms from leading sectors, as a market maker. The finding challenges conventional economic explanations of development and firm competitiveness that argue forces of globalisation or liberalisation disjoint leading EM firms from their domestic markets. The thesis argues that market structures define firm-level incentive sets.

In the first level case studies of the Indian and Brazilian economies, the thesis demonstrated the importance of capitalist typology. The typological trajectory indicated the likelihood of the formation of either a coordinated, mixed, or liberal market economy.[170] Capital owners and labourers also affect institutional outcomes, either through active dialogue and bargaining or passively through decision making and engagement with the market. The path taken by an economy depends on the propensity of actors in the microeconomy to act collectively. Where economic stakeholders demonstrate a preference for strategic coordination in capital and labour allocation based

[170] Coordinated and Liberal market economies are the archetype capitalist structures in VoC. Mixed market economies are those that equilibrate with contradictory complement structures.

on cooperation (i.e. high collective action), EM firms are more likely to develop competitiveness in incremental innovation. Conversely, where economic stakeholders demonstrate a preference for competitive allocation of capital and labour resources, EM firms are more likely to develop competitiveness in disruptive innovation. As markets become more competitive, the transition from public coordination of complements to private coordination of complements is challenging. The state must also adapt and the importance of an effective regulatory capacity becomes critical.

The second level cases focus on top firms from leading sectors to better understand the dynamics of VoC incentives in India and Brazil. Through process tracing, the cases identified if and how firms change their behaviour to adapt to national systems of capitalism as they maximise profits. I compared three firms from a leading domestic sector with varied corporate governance structures. In India, firms with liberal forms of corporate governance performed the best (and other firms converged to LME style corporate governance). In Brazil, firms with a distinctly MME corporate governance structure performed the best (and other firms converged to MME style corporate governance). The finding demonstrates the reinforcing link between macroeconomic market structures and microeconomic stakeholder interaction. The most competitive firms align themselves with the contours of capitalism in the domestic political economy.

The findings of the thesis have important implications for the advancement of both VoC theory and theories tied to developmental political economy. The thesis answered a series of questions about the relevance of VoC theory in an EM context: VoC theory contributes to our understanding of comparative advantage; states follow a typological trajectory as complements move from public to private coordination; typological trajectories enable processes of institutional change to be tracked; and firms from leading sectors react to the incentives set by the form of domestic capitalism. Specific to India, a distinct typological trajectory towards a LME is discernible and explains the rise of disruptively innovative sectors. In Brazil, the formation of mixed market equilibrium in capital and labour markets explained the country's dependence on exporting commoditised products and the failure for banking or other sectors to develop innovative competencies. The remainder of the chapter builds on these findings: section 8.2 compares findings in Brazil and India to evaluate how these differences have contributed to our theoretical understanding; section 8.3 discusses theoretical contributions to VoC literature; section 8.4 discusses contributions to concepts in developmental political economy as well as how economic development policies are affected by these findings; section 8.5 identifies avenues for future research and concludes.

8.2 Brazil and India in a Comparative Analysis

Section 8.2 brings together the findings of Chapters 4 through 7. Despite similarities as recently liberalised democratic EMs with legacies of state activism, the domestic political economies of India and Brazil have followed different typological trajectories. India's economy is characterised by a developmental state in transition towards a LME while Brazil's economy is characterised by a developmental state come institutionalised interventionist state or MME. The patterns of firm success in the Indian and Brazilian market, in a comparative context, confirm the hypothesis that firms react to incentives set by the market's typology. India's most successful firms exhibit convergence towards corporate governance patterns that are liberal by construction. Brazil's most successful firms balance complex and sometimes divergent incentive sets. Differences in typological trajectory (and consequently complement development) directed divergent outcomes in the success and competitiveness of firms in the microeconomy. While firms from leading sectors do influence the typological trajectory of the market through bargaining, the thesis found that firms from the same sector with differentiated corporate governance strategies converged. Fundamentally, firms derive their comparative advantages by adhering to the contours of capitalism.

To test my theory of typological trajectories and the impact of national systems of capitalism on firm competitiveness, I executed multi-level case studies. India and Brazil are compared in a most similar case study design. Both India and Brazil are leading EMs with a strong brand, have a legacy of an activist developmental state with numerous SOEs, and liberalised in the early 1990s. Yet, the firms from India that are most competitive are disruptively innovative and are global, whereas the firms from Brazil that are most competitive do not exhibit innovative tendencies and have not developed a truly global presence. I argue that the inconsistency in the sectors that outperform in these two markets is because of the difference in their VoC typological trajectory.

The case studies first define the typological trajectory at a macroeconomic, country level before moving into a microeconomic case study on a leading sector at the firm level. In India, IT firms pre-empted the transition to liberal markets. The developmental state continues to play an influential role in the organisation of complements in India, but as capital and labour markets transition, they move towards liberal market norms. IT firm success is helping overturn the static regime implemented by decades of public coordination. Infosys, the firm with the strongest financial performance in India, was the most aggressively liberal firm in terms of corporate governance and corporate strategy. Meanwhile, in Brazil, the influence of the developmental state has been institutionally fixed through the national development bank, BNDES, and the syndicate structures that govern labour markets (which were entrenched in the Constitution post-liberalisation). Firms recognise the inability for political consensus to overcome veto stakes and upend settled institutions, so they conform to the mixed market structures. Itaú proved to be the strongest firm because of its ability to consolidate market share and leverage its assets to drive the highest returns. The competitiveness of firms varied according to the level of conformance to each market's typological trajectory.

India is still early in its industrialisation and has been experiencing gradual institutional change since liberalisation in the early 1990s. IT firms, however, were able to establish liberal market strategies before liberalisation through sector-specific carve-outs. Public coordination reigned in the macroeconomy until a fiscal crisis fostered sufficient political consensus to enable basic reforms. The pace of liberalisation is slow because of the developmental challenges facing India's poorest citizens. Nevertheless, as India continues to face fiscal crises, the push for further improvements to capital market efficiency increases. The prospects for change are enhanced by the relatively fewer veto players in the system of government and the fact that both capital and labour stakeholders are coordinating along liberal market norms. The barrier to change in India is not institutional but rather developmental. The empirical evidence supports the claim that India's typological trajectory is towards a LME.

Brazil, in contrast, industrialised in the 1950s, experienced volatility in the 1960s and early 1970s, and stagnation in the 1980s and early 1990s. Brazil had a unique opportunity to negotiate complement structures after the exit from the military regime and Constitutional negotiations in the late 1980s. A second negotiation opportunity came in the early 1990s with liberalisation. Rather than create new bargains, economic stakeholders opted to build on existing foundations. The continuation of market structures and legalisation of worker provisos through the Constitution and adoption of the CLT perpetuated distorted incentives. Capital markets followed suit with weak legal protections and regulatory, anti-trust regimes. The state remained actively involved in the economy, and the veto rich system of government reinforces mixed market institutional complements. Consequently, Brazil will be less likely than India to react efficiently to a deteriorating balance of payments.

Fundamental differences separate labour and capital markets in each country. Brazilian labour markets are constitutionally codified with highly specific corporatist foundations. The prerequisite collective bargaining necessary for such laws to be functional, however, are largely absent. Rather than engage in collective bargaining with business interests, *sindicatos*, where active, tend to organise around strikes and/or political methods to drive change. The Indian case is similar in that labour movements tend to be highly politicised and striking is not uncommon. Key differences, however, are present in the organisation of labour and fluidity of labour markets. Indian labour is heavily fragmented across not only firms but also states. Flexibility is the norm, as highly skilled labour is excluded from many labour laws while unskilled labour, more frequently than not, operates in the informal economy as workers and companies seek to avoid government regulations. Brazilian labour laws, in contrast, legally require pseudo unionisation through syndicate membership. The most highly skilled workers ignore the syndicate structures but professional workers leverage it inefficiently. Furthermore, in Brazil, while informality is high, there are very clear incentives (that workers respond to) to remain formally employed. The codification of Brazilian labour laws is institutionally embedded and distorts incentives. In contrast, while Indian labour laws are complex, they are tied to impositions posed by the state and are commonly and easily avoided. Most importantly, India has set a precedent of excluding certain sectors from dirigiste labour programmes and has a system of government that can extend these amnesties to other sectors or unwind the laws that enforce public coordination. While both systems have corporatist origins, microeconomic coordination and function varies dramatically.

Differences in capital markets are more pronounced. Brazil is the country that has liberalised its capital account but it is India that has the greater depth and liquidity in its capital markets. BOVESPA, the primary stock exchange, is highly concentrated amongst a select set of key firms and has major deficits in corporate governance standards. Weak minority shareholder protections exacerbate the problem of equity investment in Brazil. India has two stock markets that are nearly the size of BOVESPA and many more regionally. Indian laws and regulations also do a better job ensuring rights for minority stakeholders and transparency, respectively. The Indian banking sector is mostly in the domain of public sector entities but the market is highly fragmented as a variety of private, federal, and state banks compete. Conversely, Brazilian banking is highly concentrated. Four key banks dominate the consumer market and the Brazilian development bank dominates the distribution of corporate credit. The differences across capital markets affect how firms finance and govern themselves.

The distinctions flow to the strategic orientation of firms. Brazilian firms have demonstrated an inability to be competitive in innovation-based sectors and instead commodity-linked businesses, banks, and national champions characterise success in the Brazilian context. The common theme of internationally successful firms in Brazil is that of government support both implicitly and explicitly. A lack of anti-trust enforcement and weak minority shareholder rights enable firms to develop substantive market shares at home and use those earnings as a platform to internationalise once domestic returns are exhausted. AmBev, Itaú, Bradesco, and Votorantim/Aracruz all benefitted from oligopolistic shares of their respective sectors. AmBev merged to internationalise, while Itaú and Bradesco are beginning to look abroad only because the domestic banking market is almost fully consolidated. The fact that Brazilian private equity investors focus on consolidation within industries rather than driving growth and efficiency provides insight into how little competitiveness relies on innovative capacities. Brazilian private equity contrasts Indian private equity, which is much more focused on traditional strategic investment.[171] Reliance on non-competitive forms of market structuring means

[171] Conclusions are based on evidence collected and discussed in the thesis through Private Equity research in Brazil, the Indian PE Association, behaviour of firms in capital market analysis, and through a range of

that Brazilian firms find it difficult to be exceptionally innovative, either incrementally or disruptively.

The firms that have fared best with regard to innovation in Brazil are the commodity-linked firms like Vale and PetroBras who compete in an international playing field. Operating in commodities, as already discussed, enables dollar based revenues and access to international technologies. More interesting, from a VoC perspective, with regard to Brazil's largest commodity based firms, is their status as quasi-SOEs. Brazilian SOEs in commodity-linked industries face limited competition and are beneficiaries of state support through BNDES. The relative success of Brazilian SOEs contrasts Indian SOEs. SOEs in India fare much worse than their private sector competitors (where they have private sector competitors). State ownership of firms in India is motivated by developmental needs more so than a need to fill gaps left by inefficient complements. India's SOE structure is highly fragmented and inefficient, with hundreds of overlapping federal and state level public sector entities (Department of Public Enterprises 2011).[172] As Brazilian SOEs are in commodity-linked industries, have limited competition, and benefit from state support through BNDES, they have become much more competitive globally relative to their Indian peers. Indian SOEs have a domestic orientation. Indian SOEs do not benefit from explicit state support, and as the market liberalises, ever greater equity stakes of SOEs are sold to the market to drive productivity. India's SOEs are not intended to be "national champions" as are SOEs in Brazil.

India has yet to fully transition from a corporatist state to a regulatory state, so firms are often constrained in their ability to organise privately. But in the sectors where Indian firms have exclusions from public coordination, competitive complements developed. These firms have the capacity to be disruptively innovative. Companies like TCS and

interviews including with Mahendra Swarup Feb 2012, a range of executives and finance professors in Brazil between Sep and Oct 2011.

[172] The IT and Oil and Gas sector clearly show the superior performance of private sector firms. Mohan's study of privatisation in India demonstrates the same result across a panel set of firms (2005). The concept of a Public Sector Undertaking is unique to India and it comes from a legacy of socialist principles whereby the state sought to ensure that firms contributed to the public good. As of 2011, there are 248 central public sector entities and potentially 1000 more state level companies (Department Public Enterprises 2011; Gupta 2008).

Infosys found clients in the United States and convinced them of the value of their services - they had to make a market. They developed client relationships, built trust, and created solutions for unexpected problems like the Y2K. The same trend is apparent in the Indian market in other sectors. Domestic firms seek to innovative and cater to domestic demand for new products and services (e.g. sanitary sachets and e-commerce). Many call the trend reverse innovation (Radjou et al. 2012; Govindarajan and Ramamurti 2011) but the act of making a market by introducing new products is all part of disruption.

The centrality of the government in Brazilian business moves beyond developmental state considerations and corporatist policy, a characteristic common to mixed markets. Directed state influence/intervention infiltrates both public and private stakeholders. The political influence in regulatory affairs is difficult to measure empirically but direct links have been established through financing mechanisms, namely via BNDES. Nearly all long term capital in the Brazilian market is channelled through BNDES which gives the development bank considerable control over disbursements (Arbix and Caseiro 2012; Lazzarini 2011; Di Miceli 2010b; Di Miceli 2010c). Additionally, the relationship between market actors and regulators is hazy. Regulatory agencies, like CADE, are unable to restrain anti-competitive behaviours in the market. Reliance on non-market mechanisms is a result of dysfunction between microeconomic stakeholder constructions and macro political economic bargaining. The Brazilian complement dystopia requires state intervention to enable firm growth via non-market mechanisms. Brazil relies on the creation of national champions, supported by the state, to create internationally competitive firms.

From a distance, many of the similarities between Brazil and India – prevalence of SOEs, labour laws, underdeveloped capital markets, and institutional instability – suggest commonalities, characteristic of developing countries. However, when the details are highlighted in a comparative context, we see how different these two markets are. There are differences in how firms drive productivity in the microeconomy, how complements are and are not formed, and how typological trajectories may not always converge to liberal market norms. The need to understand market dynamics from both a microeconomic and macroeconomic level is critical to understanding the structures of an economy. The contrasts of Brazil and India are important because they highlight how much of an effect VoC typology has on the competitiveness of firms and economic development. Table 8.2 summarises India's superior GDP performance compared to Brazil since liberalisation. India has developed globally competitive sectors based on disruptive innovation these sectors are positively influencing institutional change domestically and enhancing economic growth. India's LME typological trajectory enhances growth. Brazil's inability to drive innovative capacities at the firm level means that their success, internationally, is tied to national champions and commodity-linked businesses. Brazil's mixed market structure hampers economic growth.

Table 8.1: GDP Growth Performance of India and Brazil since Liberalisation

	CAGR of GDP	Min GDP Growth	Max GDP Growth	GDP at beginning (2005 USD)	GDP at end (2005 USD)
India (1992-2013)	6.7%	3.9%	10.3%	$373 BN	$1,459 BN
Brazil (1995-2013)	2.9%	-0.3%	7.5%	$696BN	$1,167 BN

Source: IMF

8.3 Contributions to VoC Theory

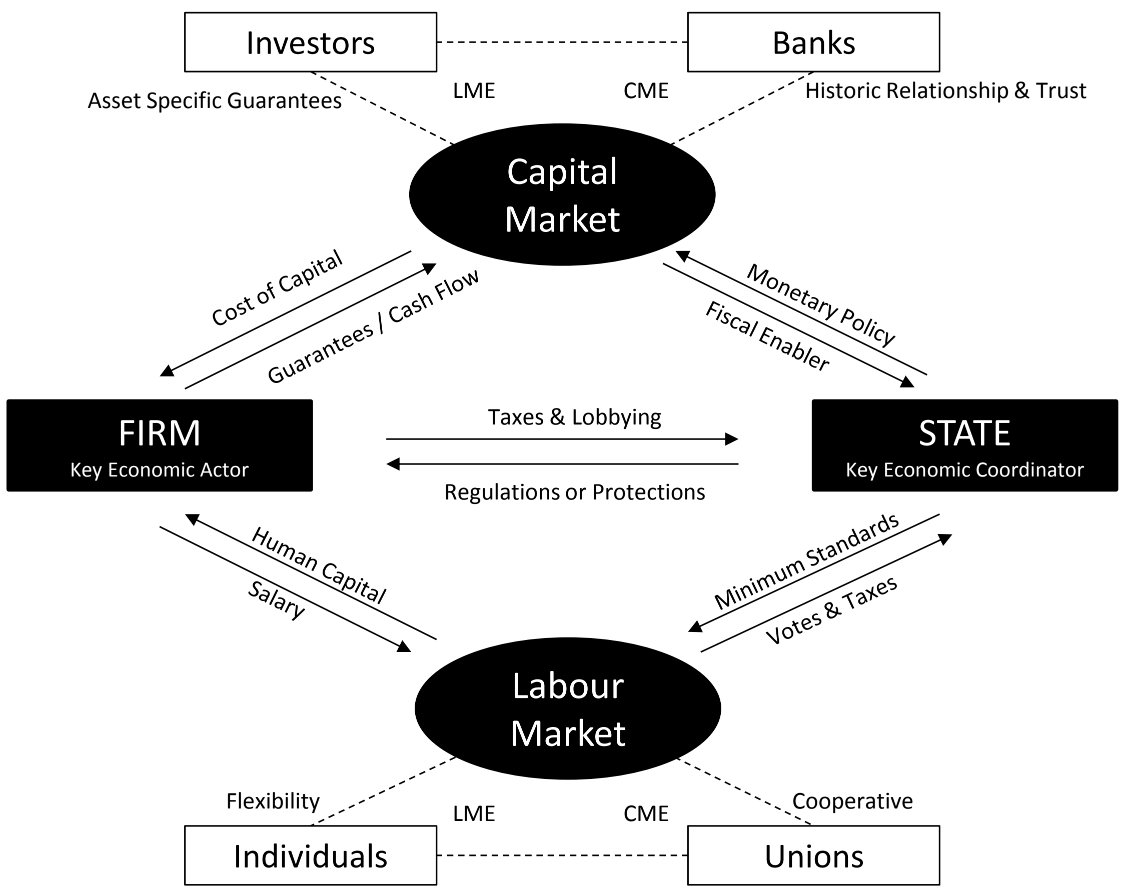
The thesis demonstrated variation in capitalist typology across markets. Consequently, the variation in market structures across Brazil and India meant that different kinds of firms become leaders in each economy. Fundamentally firms had to follow the contours of capitalism defined by the domestic political economy to remain competitive. The differences in section 8.2 highlight the importance of defining a typological trajectory. The conclusions drawn in Brazil and India are part of a broader theoretical contribution made by the thesis.

The primary research question focused on how EM firms developed competitiveness in the face of weak domestic market instituions. The framing of the research question led to four specific VoC based lines of inquiry: first, what role do domestic institutions play in the formation of comparative advantage; second, how does collective action and tri-partite agreements affect complement formation; third, how do complement structures change as institutions develop; and fourth, do leading sectors and firms follow the capitalist typology of the market? These lines of inquiry formed the base of the empirical research, which is summarised in section 8.2. The theoretical implication of the empirical findings are three-fold: first, the relative level of development matters when contemplating institutional equilibria; second, institutions do not converge to liberal market norms and, from a development perspective, may not always pursue a coordinated export-oriented model; and third, firms react to the contours of domestic capitalism.

Institutional change and typological trajectories are an important element of a VoC application in an EM. As noted in chapter two, one major criticisms of VoC theory is that it is static and does not account for institutional change. The evidence from India and Brazil indicate that processes of complement negotiation and setting can lead to institutional change, especially as markets liberalise and/or are released from state oversight. The direction that markets take is a function of the relative level of domestic collectivity across capital and labour markets. The rapidity of change is a function of relative levels of development, veto players, and relative divergences between underlying complement structures from developmental state structures.

Microeconomic stakeholders are in constant negotiation as they seek to become ever more efficient and productive to remain competitive. Decisions that firms make, in accessing capital and labour inputs, aggregate to a market structure. As capital and labour work both with and against each other, complements are formed that define the market's VoC typology. When firms or sectors develop high levels of competitiveness, they create an impetus at the macroeconomic level to build regulatory structures that reinforce the organisation of the market. The system creates a feedback loop. The feedback loop is settled in advanced economies and appears static because microeconomic stakeholders repeatedly make the same decisions to ascertain capital and labour inputs. Therefore the strength of either a LME or CME is actively reinforced. Figure 8.1 is a replication of figure 2.1, which is a visualisation of the above processes.

Figure 8.1: Interaction of Economic Stakeholders



EM analysis supports a theoretical refutation of the claim that VoC is static as the shaping of market structures is more immediate and dynamic relative to the pace of change in developed markets. In developing countries labour and capital markets are inefficiently organised, and it is difficult for firms to access inputs. As a result, the state intervenes to organise markets in an attempt to catalyse the organisation of complements. The precedent for state intervention, or public coordination, is also visible in the historical development of advanced economies, as public coordination facilitated the formation of efficient private coordination. Developmental states by definition seek to stimulate development of markets. As economic stakeholders interact under the protection of state mechanisms, they begin to create preferences in how they ascertain capital and labour inputs. The shifts in EM market structures are rapid and therefore more easily visible in EMs. VoC should not be labelled as static given the processes demonstrated in figure 8.1. The interactions between the levels of the economy are dynamic because stakeholders have yet to settle on equilibrium.

By more precisely measuring institutional change, empirical evidence contradicts expectations of financial and economic theory where convergence of capitalism is expected. Processes of complement structuring pre-date liberalisation and are historically grounded. Liberalisation is not the catalyst for firm development though it can support the progress of institutional change and firm competitiveness. Firm competitiveness is developed in the context of domestic market complement structures and stakeholder bargaining. As public coordination gives way to private coordination, the organisation of complements determines whether firms will be better able to develop incrementally or disruptively innovative capabilities. In the cases of India and Brazil, the pace of institutional change quickened when public coordination became unsustainable. Fiscal imbalances built in the face of inefficient economic organisation. Fiscal imbalances led to crises. Liberalisation became an outlet for the state because it enabled the economy to rebalance. The state is then forced to withdraw public funding for subsidies and coordination costs. As a consequence, the state exerts less control over complement formation.

Liberalisation frees economic stakeholders to negotiate and organise privately coordinated complements that have already begun to pressure existing structures. In cases where markets espouse strategic coordination and complements organise cooperatively, liberalisation is more gradual (see empirical evidence in chapter three and discussion of Korean typological trajectory in appendix B). What we see in the cases of Brazil and India is a more sudden liberalisation process after balance of payments and/or fiscally induced crises. In India, liberal forms of coordination in the microeconomy accelerated after liberalisation. In Brazil, liberalisation could do little to change the embedded complement structures, especially as BNDES and state firms remained central to the economic landscape. Differences in the processes of development and the formation of complements are a function of collective action in capital and labour markets. The different typological paths of EMs are paralleled by equally distinct sector-based patterns of successful firms. India is competitive in the technology sector, Korea in manufacturing, and Brazil in Banking. The sectors align with those predicted by VoC theory. The variation of typological trajectories demonstrates the lack of convergence.

The lack of convergence at a macroeconomic level across countries contrasts a pattern of convergence at a microeconomic level within countries. Convergence of corporate governance in the firm cases of India and Brazil challenges conventional expectations of both economic and political theory. Economically it demonstrates that to maximise profits, firms do not simply circumnavigate domestic markets and institutions. Politically, it demonstrates that the role of the state changes when the transition from developmental state to market based economy takes place. From a VoC perspective, the findings at the firm level provide empirical evidence of the importance of capitalist structures to firm competitiveness. The theoretical dimensions of the thesis provide a template to both broaden VoC analysis across a wider range of EMs and deepen the application to firm level behaviour.

8.4 Contributions to the Development Literature

The role of the state in processes of economic development is widely debated in the literature. The standard economic argument is that industry promotion by the state is a futile endeavour. The evidence presented in the thesis, however, demonstrates how state directed industrial policy does not necessarily have to include "picking winners" at the firm level. The importance of the state-firm relationship requires that development economics move beyond standard economic theories and consider factors tied to the political economy. What is most important is the way in which public coordination enables private coordination. Section 8.4 summarises the contributions of the thesis to development literature: first, the role of the state in economic development and how VoC contributes to our understanding of the transition from public to private coordination and, second, the importance of developing sustainable complements to enable the international competitiveness of firms.

A variety of approaches have been taken in the development literature to explain the role of the state. In one argument, Kohli makes an argument that state authority can be divided into one of three categories: neo-patrimonial, cohesive-capitalist states, and fragmented multiclass (2004). Kohli concludes that cohesive-capitalist states are best able to mobilise resources for industrialisation and development. He points to the successes of Korea and Brazil during the Park Regime and Estado Novo as empirical examples of success, in contrast to the fragmented multiclass system of India and the neo-patrimonial culture in Nigeria. The classification of cohesive-capital and fragmented multiclass are somewhat similar to the VoC archetypes delineated in this thesis because Kohli is also referencing the ability for states to coordinate economic stakeholders to enable development. Kohli's focus, however, is on the state as a promoter of economic policy and not on implications at the firm level. Furthermore, he stops his analysis at the point of liberalisation (2004).

A second argument is made in Chibber's account of Korean development relative to the development of India. Chibber is able to fill in some of the gaps left at the firm level by Kohli's explanation. Chibber argues that the Korean state, while holding considerable influence in the chaebols, did not coerce the coordination of all domestic level firms (2003). He empirically demonstrates that Park had to work in cooperation with microeconomic stakeholders to drive economic policy change. The Korean government directed a transition towards export orientation by supporting industry through the mitigation of risk tied to competing internationally. In contrast, the Indian government provided no such support in its economic directives (ibid). The differences between Korea and India are highlighted by Chibber, who demonstrates divergent outcomes in the structuring of complements in each country in his analysis of the interaction of stakeholders in the micro and macro economy. Dutt and Kim support Chibber's claims with their political analysis of how cohesion, or collectivity, was achieved in Korea and not in India (1994). Specifically, Dutt and Kim identify the construction of a Weberian bureaucracy in Korea as the factor that facilitated a strategically coordinated network of complements (ibid). Chibber and Dutt and Kim identify an insight similar to that of Kohli, whereby the relative success of state engagement depends on the state supporting (rather than imposing) a sustainable complement structure.

A third argument, and perhaps the best known comparison of Brazil, India, and Korea, is by Peter Evans, who argues that state intervention is sine qua non (1995). Evan's work, in many ways set the stage for the afore-discussed literature. As discussed in the theoretical chapter, Evans classifies a range of behaviours that developmental states can espouse to drive development. Again, like other political economic studies that focus on country level effects, he emphasises that state-society and state-firm relations are critical to explaining divergent outcomes. Specific to the case countries, Evans examines the delicate balance of state intervention relative to historical and sociological contexts that are manifest in industrial transformation. Evan's argument, which the thesis builds upon, is that difference is at the core of the understanding of processes of economic development: "States are not generic. They vary dramatically in their internal structures and relations to society. Different kinds of state structures create different capacities for action. Structures define the range of roles that the state is capable of playing. Outcomes depend both on whether the roles fit the context and on how well they are executed (1995 p11)." In the thesis, I move beyond Evans' explanation of state intervention to empirically connect the microeconomy to the macro political economy through an explanation of the structuring of complements.

The VoC approach and typological trajectories advance the debate in the development literature by concretely linking public coordination to processes of economic development in the microeconomy. Markets organise complements according to the preferences of microeconomic stakeholders, who are influenced by market structures, history, and political interests. In India, economic stakeholders organise around liberal market norms. In Brazil economic stakeholders have failed to organise efficiently and are left with mixed market structures. And, in Korea, economic stakeholders organise around strategic cooperation.[173] Individual firms operate within the VoC of the domestic economy. To understand comparative advantage at the firm level requires an analysis of the comparative advantages created by the VoC.

To provide a basic application of my argument in a policy context, I challenge the widely accepted development approach of Export-oriented Industrialisation (EOI). Economists argue that states can foster EOI and enable firms to develop international competitiveness by taking a laissez-faire approach in economic policy making (Kreuger 1990). On the surface many indicators suggest that such an argument is plausible, namely because of the higher levels of efficiency that are achieved by private sector firms than SOEs (Chen and Tang 1987). But the role of the state does not always equate to an exact dichotomy of private versus public firms.

Markets evolve, which means that the nature of the state and the depth of public coordination are not static. The key empirical problem is deciphering the role of the state (Park 1990) because consideration of the state-firm dynamic requires an in depth political economic framework which is absent from economic approaches. As Rodrik carefully illustrates in his analysis of EOI policies, the state has a critical role to play to support investments in the economy to allow microeconomic stakeholders sufficient time and ability to “internalize coordination externalities” (1995). The EOI argument assumes that

[173] See empirical evidence in chapter 1 and discussion of typological trajectory in appendix B.

all markets are the same and that economies will develop competitiveness based on their factor endowments. Few if any consideration is given to political economic factors and innovative capacities. Many countries have tried to stimulate export industries either on their own volition or on the advice of foreign advisors, yet little attention is paid as to whether or not the export sectors being promoted align with the innovative capacities of domestic firms. The futility of the theory is most visible in India, whose government has spent over fifty years promoting and protecting its labour endowment through national manufacturing policies. Efforts to drive manufacturing based export success in India fail time and again because of the fragmented, non-collectivised tendencies of the market.[174] Indian firms have demonstrated an aptitude for disruptive innovation not incremental innovation. And even where Indian firms successfully achieved economies of scale in low value manufacturing (like textiles or leather), the "innovative" advancements necessary to move up the value chain have been lacking.

The extension of the findings of the thesis would suggest that many of the problems faced by countries stuck in a value trap or at "growth walls", as suggested by Eichengreen et al, is because of a misalignment of complements. State interference and advocacy of export orientation distorts complement structures, like it has done in India. EOI is an important development paradigm that should not be ignored, especially early in a country's development process where industry is almost exclusively focused on labour arbitrage to drive competitiveness. But as a country develops and moves up the value chain, a more important question is what an economy should export and what kinds of innovation processes should drive those exports. I do not contest that exports are a critical part of the development process, but I have demonstrated how factor endowments are not always immediately indicative of where an economy will develop comparative advantage. VoC theory clearly shows that in the modern economy, comparative advantage is function of BOTH factor endowments and market typology.

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[174] India can achieve success manufacturing basic goods by taking advantage of low labour costs (at least until it achieves a higher level of development), but it will not achieve sustainable competitiveness in advanced manufacturing without considerable changes in market structures.

The lessons of VoC theory are not limited to advanced countries, as has been demonstrated by the case studies in India and Brazil. Deciphering a typological trajectory enables economic policy makers to understand the impact of public coordination on the formation of private complements. The profile of comparative innovative advantage of firms depends on the market structure, LME, CME, or MME, of the domestic economy. Sustainable competitiveness at the firm level relies on efficient complement development. Development policy needs to take account for how complements are organised in the microeconomy. Macroeconomic policy is only effective if it translates into enhanced microeconomic productivity and firm competitiveness.

8.5 A Policy Perspective

The thesis extends a VoC approach to EMs by emphasising the link between complement formation and economic performance. The iteration between microeconomic stakeholders and macro political economic structures define how each reinforces the other. Firms, as the primary mechanism through which the productive capacities of an economy are channelled, should be central to empirical investigations of economic development. Creating the incentives for firms and then enabling stakeholders to negotiate efficiency into their economic relationships is what enables economic growth. Firms, individually, respond to the incentives defined in the macro political economy. Leading firms in leading sectors can have an influential role in the complement negotiation process, but ultimately those firms are also subject to the typological trajectory. Whether the form of capitalism espoused is liberal or coordinated, it makes no difference. What matters is a market structure that can sustainably support privately coordinated complements. Economic policies that recognise these considerations will stimulate stronger growth and firm competitiveness.

In the case studies of India and Brazil, it is evident that firms become competitive because they follow the contours of capitalism characteristic of their domestic economy. Leading Indian firms benefit from liberal market norms. IT firms, for example, made use of India's flexible, yet highly skilled, labour to thrive in an industry that was not capital intensive. Where increased capital was required, it took the form of equity which is riskier. With these labour and capital inputs, IT firms created new products, changed market paradigms in IT services, and successfully competed in international markets. The success of software companies like Tata Consultancy Services (TCS), Infosys, and Wipro, to name the largest, has spawned a new generation of firms competing in the e-commerce and IT space. The rise of Indian software IT firms contradicts the expectation that an economy as labour-endowed as India should compete in manufacturing.

Comparatively, leading Brazilian firms have not been able to achieve the same level of competitiveness internationally. In Brazil, banks and natural resource companies dominate the competitive landscape domestically, and only firms that operate in dollarised commodity markets have developed international competitiveness.[175] On the whole, Brazilian firms lack innovative capacities. They cannot easily access talented labour because of the costs. Capital is equally costly, as firms find it difficult to access debt and equity because of poor minority shareholder rights and illiquid domestic capital markets. Firms instead rely on retained earnings which further entrenches existing firms as well as those that are politically connected since the state controls a considerable share of capital allocation domestically. State support (directly and indirectly) complicates the domestic corporate landscape. I argue that the lack of competitiveness of Brazilian firms is due to the mixed market institutional structures that shape the domestic political economy.

Successful industrial policy is about setting the right incentives and ensuring a sustainable market structure. History has demonstrated to us that excessive public coordination is inefficient and that markets are best able to harness the productive capacities of an economy. Incentive setting requires apt and able institutional structures, both formal and informal. Important from an institutional perspective are the historical foundations as well as the mechanisms through which standards and expectations are negotiated by economic agents. In analysing the feedback processes between economic stakeholders and between firms and states, we can decipher the construction of institutions and understand the driving forces of stakeholder bargaining, whether it is collectivisation of labour interests, capital interests, both, or neither. The ability for an economy to drive growth depends on the ability for consistent incentives to be set by the institutions that govern the market. Neoliberal economic models are appealing because of their precision and simplicity, yet as this thesis demonstrates, the complexities of implementing such policies are many. Differentiated market structures that exist across a variety of capitalisms make it difficult to apply formulaic models.

[175] Countries that rely on natural resources have poor long-run economic growth and underdeveloped domestic institutions (Frankel 2010; Sala-i-Martin and Subramanian 2003; Sachs and Warner 2001). The competitiveness of firms that operate in commodity-linked industries is explicitly tied to global markets and requires minimal indigenous innovative capacity, which means that too great a national dependence on national resources undermines sustainable economic growth in the domestic economy. The creation of comparative advantages requires firms to innovate and add value by leveraging domestic factors of production.

The goal of this thesis was to explain how certain companies overcame institutional deficiencies to become competitive. That firms from leading sectors converged to a single form of corporate governance despite differentiated starting points demonstrates the need for firms to conform to the contours of capitalism in the domestic political economy. The typological trajectory explains why EM firms exhibit sector-based pattern of success. The typological trajectory of EMs lead to differentiated incentive sets, innovative capacities, and, consequently, comparative advantages.

Appendices

Appendix A: Sector Drivers in India and Brazil

Understanding Sector Drivers in India

The top 6 sectors in India are natural resources, banking/financial services, infrastructure/engineering, construction/real estate, IT and pharmaceuticals. Of those sectors, IT and pharmaceuticals immediately stand out because they are export-oriented and rely on innovation.

Akin to many developing countries, commodity-linked businesses dominate the list of top corporations. Indian commodity firms, however, unlike their Brazilian counterparts, have not demonstrated an ability to compete internationally. Reliance Industries is a partial exception because they export petrochemical products, but Reliance is not a leading firm in the global market. Commodity-linked firms in India are characterised by domestic demand and state ownership. The state plays a considerable role controlling these sectors not only by dominating through SOEs but also by using price controls. Of the top 25 firms in India, roughly half in any given index are tied to commodities, of which the vast majority are SOEs. Unlike in a MME where the state actively promotes national champions, India's has multiple SOEs in many sectors and they all compete against each other and against private sector entities, operating primarily on market principles with the exception that they benefit from subsidies (KPMG 2011; Mohan 2005; Dr. Yash Vir Bhalla, personal interviews Feb 2012).[176] Additionally, to promote corporate governance, the state has begun to list shares of many SOEs (while not making use of preferred shares or controlling golden shares). Indian SOEs are moving towards equity oriented operating standards in corporate governance and transparency (KPMG 2010).

Most of the banking sector is state-owned. Indira Gandhi nationalised all banking in the country as recently as 1969. The issuance of private banking licenses has been limited.[177]

[176] For example, Coal India, the largest PSU enlisted the help of Transparency International to help root out corruption and clean up its business before going public (Layak 2011).

[177] The composition of the banking sector depends on India's developmental progress and the rate of urbanisation. The RBI and SEBI use the banking system to stabilise food prices and extend credit to underserved parts of the economy. Branch licensing and rural servicing requirements meant to help the

As of 2011, the government controlled approximately 75% of the banking sector (Adhikari 2011; Shah et al. 2008) but does so via hundreds of financial institutions that compete against one another. Approximately 75% of the top 20 largest banks are state-owned with a higher rate of private banks amongst the smaller players. Amongst the top public sector banks, no one bank plays a disproportionate role in distributing capital.[178]

The infrastructure and engineering sectors are focused on the physical development of India. The rate of growth in India is the primary driver of business in the sector. Infrastructure and engineering spend is heavily determined by the state. Private sector firms that have managed success have done so within the context of a highly controlled and protected market where capital equipment is usually sourced from SOEs (Dr. Yash Vir Bhalla, personal interview Feb 2012; Paul 2011; Rajan 2011). In these sectors, one interesting exception to the dominance of SOEs and family based conglomerates is Larsen & Toubro, which is the most successful private infrastructure/engineering company in the market. What is interesting about Larsen & Toubro is that it is one of the only publicly held, fragmented ownership companies in the market. Overall, the role of the state in managing the most complex aspects of these sectors and the intrinsically domestic focus of infrastructure development make this sector uninteresting from a case selection perspective.

The final domestically oriented, highly ranked sectors are construction and real estate. Again, the key driver for businesses in these sectors is the rapidly growing domestic economy. The sectors are highly corrupt because firms need to gain competitive advantages in a sector that does not rely on technology or innovation. Low entry barriers have heightened calls for standardisation and regulatory oversight for safety and legal considerations (Gupta 2011, Paul 2011). In addition, these firms operate in an

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distribution of capital to rural areas create barriers for new entrants and obstacles for the expansion of embedded banks (Mohan 2011).

[178] The largest bank in India is the State Bank of India, which accounts for roughly 20% of assets in the sector but does not distort bank capital markets as would a development bank because it does not have a monopoly of public sector credit distribution to the market. After the State Bank of India, no other player has more than 5% of the market, with ICICI, a private sector bank, being the second largest financial institution and holds approximately a 5% share of the market (Businessworld 2011; author analysis).

exclusively domestic context. The simple business model and explicitly local service offerings of these sectors exclude them from being an interesting VoC case.

Information technology and Pharmaceuticals are the first two highly sophisticated, globally competitive sectors in the rankings. Neither sector would be expected to be competitive given the endowments and relative stage of development of the Indian economy. Nevertheless, both are core sectors in the corporate hierarchy and information technology, particularly, as the most infamous sector in the domestic market. Both sectors rely heavily on highly educated human capital, technological sophistication, and require innovation to maintain global competitiveness.

Just as interesting as the sectors that make up the top of the list are the sectors that do not. Indicator sectors like electronics, manufacturing, and automobiles barely even factor in the Indian economy. All three sectors are traditionally associated with CME economies because of their reliance on process engineering and incremental innovation to be competitive. Of typical CME sectors, automobiles is the most successful in the Indian economy because of the leadership position of Tata Motors, Maruti-Suzuki, Hero-Honda, Bajaj auto, and Mahindra & Mahindra. The success of the firms, however, is undermined by the fact that there is a tariff barrier in India for automobiles (Narayanan and Vashist 2008). Furthermore, of the top five firms, two acquired technologies from foreign players that need a JV partner to enter the protected Indian market. The firms also are only dominant in specific niches in which they have considerable market share (e.g. passenger cars, motorcycles/three wheelers, or SUVs). The leading firm, Tata Motors, exhibits more LME behaviours than CME behaviours, relying on disruptive innovation (Tata Nano) and acquisitions (Land Rover Jaguar) to grow. The manufacturing and electronics sectors in India are quite uncompetitive despite repeated efforts by the state to subsidise the sectors. Both sectors have languished in post-reform India, despite efforts by the state to stimulate development.[179] The lack of successful CME linked sectors despite the incredible labour endowment of the Indian economy is surprising and just as

[179] The state leveraged the same post-liberalisation development models that proved to be so successful in the IT sector, namely input support and fostering price competition (Mehta 2011; Mani 2011; DIT 2006; DIT 1992; DIT 1975).

much of an indicator of the Indian market typology as the success of IT and Pharmaceuticals.

Understanding Sector Drivers in Brazil

From a sector-based perspective, the ranking indices are largely consistent with the creditworthiness indicators, including a range of commodity-linked, consumer, and financial firms. Construction was the new addition in the firm rankings. The competitive dynamics of the banking sector, the anomalies in firm level credit ratings, and the centrality that banking plays in all economies suggests that it is an interesting sector for further analysis. In addition, the success of banks is a trait common to other mixed market economies, like Italy and Spain (c.f. Molina and Rhodes 2007), and can provide an interesting comparative basis of analysis.

Commodity based products now account for a higher percentage of exports than industrial products in the Brazilian economy. Vale and Petrobras, two national champions, alone account for nearly 24% of all of Brazil's exports. Of the top 15 exporters, only 2 are in business streams not tied to commodities (Análise 2011). While Brazilian commodity-linked firms have demonstrated an ability to move beyond simple extraction and develop sophisticated businesses that are globally competitive, they have found ways to circumnavigate domestic deficits in innovation. In the case of oil and mining, foreign currency earnings enable them to purchase international technologies. In the case of agribusiness, state-sponsored research helps drive productivity and innovation (Brandão 2011). Additionally, each commodity-linked sub-sector has national champions with very direct ties to the state: in oil and gas, Petrobras; in mining, Vale; and in agribusiness, JBS Friboi and Brasil Foods. The success of national champion firms in commodity-linked segments means that these firms do not tell us how complements drive productivity and innovation.

The second sector to be considered is consumer products. Any review of macroeconomic literature on Brazil, especially from during the debt crisis readily references the strong domestic consumer demand (Baker 2003; Bresser-Pereira and Varela 2005; Cardoso and Fishlow 1989). Over ¾ of the consumer firms are domestic, but most of them are not internationally successful and likewise fall in the bottom ¾ of the rankings. The top Brazilian retail and consumer firms are largely foreign. The few that are highly rated are oftentimes successful because they benefit from very high tariff barriers and market entry hurdles.[180] Standard products in Brazil are very costly in comparison to other markets. Given the high presence of foreign participation[181] in the sector and lack of domestically based goods producers, the consumer segment is not ideal for further study.

Construction is the next sector to consider. The success of construction companies in Brazil is partly due to the rapidly growing economy and the vast sums of money being spent on the 2014 World Cup and 2016 Olympics. While most of the construction industry is focused in Brazil and reflective of domestic demand more so than business sophistication, a select few construction firms have been able to internationalise. The success of Votorantim Cimentos, Odebrecht, and Camargo Correa are noteworthy. All three are family owned firms that have expanded abroad after demonstrating domestic market success. While the success of the top players is noteworthy, a lack of firm creditworthiness (Votorantim derives its creditworthiness from commodity-linked businesses), a lack of innovative drivers, simple business models, and limited utility to understanding the function of the underlying Brazilian market make this sector uninteresting from a case perspective.

[180] Brazilian tariff rates are significantly above global averages, especially in manufactured goods (World Bank 2012; WTO 2012).

[181] A case example of a leading consumer firm, however, indicates the complexity of the Brazilian market. Pão de Açúcar is a grocery retailer that is jointly owned by Casino (a French company) and the Diniz family. In 2011, Carrefour, the Diniz family, and BNDES entered into negotiations to bring Carrefour (Casino's top competitor in France and with an existing market presence in Brazil) into the Pão de Açúcar group. The deal would have created a super player with over 50% market share of the domestic grocery market. Only after Casino pointed out that Diniz was acting against their interest as a key minority shareholder and made a major public campaign against the transaction did BNDES slow on the deal. BNDES had been prepared to make a US$2.4bn loan to make the deal happen. The negotiation reflects numerous characteristics of the Brazilian market. First, the state was willing to finance the creation of an oligopolistic, nearly monopolistic, player. Second, power is wielded by family owners in the corporate landscape and they usually disregard minority shareholders. Third, firms rely on BNDES for financing. From a sector perspective, Pão de Açúcar is also representative because rather than being a producer of key goods, the firm is a distributor.

Brazilian banks are the most powerful domestic companies. The Brazilian banking sector is highly concentrated and exhibits unique characteristics compared to standard expectations of a well-developed financial industry. The top 6 banks (including BNDES) account for 77% of equity and 80% of the profits in the sector (Banco Central do Brasil 2011). Brazilian banks only derive a limited portion of their corporate revenues from non-credit sources, which, when compared to the United States, reflects the different function of banks in the domestic market (Urdapilleta and Stephanou 2009; Stiroh and Rumble 2006; Stiroh 2002). Instead, Brazilian banks owe much of their size and profitability to retail banking (Urdapilleta and Stephanou 2009). The paradoxical success of banking in Brazil makes it an interesting case sector.

Just as interesting as the sectors that make up the top of the list are the sectors that did not make it amongst the top. Indicator sectors like automobiles[182], electronics, information technology, and pharmaceuticals were much further down the ranking indices and are outside of the top 80% of firms. Automobiles and electronics tend to be associated with economies that specialise in process engineering and incremental innovation, or CMEs. Brazil has a very strong auto sector and a moderate electronics sector, but both are dominated by foreign manufacturers (65% and 73%, respectively, according to the ranking of top 1000 firms). Automobiles and parts are amongst Brazil's top exports, but over half of those exports are to Mexico and Argentina, which when considered in light of the foreign domination of the sector indicates that Brazil is a regional hub for foreign automakers. Alternatively, pharmaceuticals[183] and information technology[184] services tend to be associated with economies that specialise in higher risk and disruptive innovation, or LMEs. In Brazil, these two sectors fall in the bottom 10% according to the rating indices and are also dominated by foreign players (48% and 61%, respectively,

[182] Aviation is often included with automobiles for categorisation purposes. Embraer is frequently referenced as a key example of Brazilian private sector development. The Embraer case is interesting. Embraer's privatisation was made possible by a federally sponsored recapitalisation and, to this day, the government maintains a golden share in the firm as well as key equity stakes.

[183] The relative rankings of pharmaceuticals are complicated by loose sector classifications. The Brazilian rankings include Natura Cosmetics as a pharmaceutical firm. Nature, the top ranked firm, is a female beauty care company that while dominant in Brazil does not have substantive international operations yet and would not qualify as an innovative pharmaceutical company.

[184] The most successful domestic IT firms have benefitted from home market dominance and state support to finance overseas investment (Dinheiro 2011; Rosa 2011).

according to the ranking of the top 1000 firms). Overall, foreign firms dominate sectors usually associated with LME or CME typologies.

The top sectors in the Brazilian economy do not exhibit innovative characteristics. Commodities and base industries comprise the core of successful firms. State influence is heavily present, as are family owned conglomerates, neither of which demonstrates much concern for minority shareholders. Firm success is driven either by access to foreign currency or monopolistic positions in a largely uncompetitive or protected domestic market.

Appendix B: Korean Typological Trajectory

India and Brazil provided examples of typological trajectories towards a LME and MME, respectively. The thesis focused on India and Brazil because of the unusual patterns of firm success as well as the ways in which the state firm relationship posed theoretical challenges to economic and financial theories. East Asian developmental success is often referenced by economic literature as a prime example of how a region used EOI to drive development. Appendix B reviews the Korean case (with some discussion of Japan) as a proxy for the development of East Asia. The appendix demonstrates how Korea and similar markets fit into the theoretical framework developed in the thesis. I will show how Korea's typological trajectory led towards a CME market structure. Korean firms built their competitiveness on the incentives set by country level factors.

East Asian economic success is frequently cited as an example of successful export orientation, manufacturing prowess, and economic liberalism (Krueger 1990). Yet, the composition of domestic markets in Japan and Korea and other East Asian economies do not exhibit liberal characteristics. East Asian economies instead exhibit coordinated characteristics (see for example Japan in Hall and Gingerich 2009 or East Asian economies in chapter two). Developmental political economy literature demonstrates that these markets developed competitiveness because the coordination achieved during eras of authoritative leadership (Kohli 2004; Chibber 2003; Wade 1990). Gradually, as the economies became increasingly competitive, complements began to harden around CME characteristics.[185] East Asian firms maintain competitiveness via incremental innovation.

There are certain characteristics of the Korean economy that enabled efficient coordination by a developmental state. Some have argued that a Confucian emphasis on education and discipline has enabled a nationalist cultural underpinning to take root in Korea (Song 1997). Others identify Japanese colonisation as a critical period in Korean

[185]Similar efforts to drive industrialisation in other authoritative regimes have failed (e.g. Latin America) when microeconomic stakeholders are unable to achieve coherent coordination. Other countries that have tried to replicate export-oriented policies or top-down development models, have not been able to sustain competitiveness because institutional development and the formation of complements has not been as efficient.

economic history where the potency of state power was nurtured (Kohli 2004). In either historical circumstance, President Park was able to balance state power and manage the market. With capital markets controlled by the state and relatively low levels of labour dissent (Amsden 1989), complements were able to drive efficiency around coordination. The real test of complement durability would come in the 1980s as the economy developed and interests pushed for greater freedoms through democratisation.

The fifth economic plan of Korea marked a transition from developmental state to regulatory state (Kim 1997), which I have argued is a natural course of events along a state's typological trajectory. The pace of financial liberalisation was gradual because the state's hand was not forced by fiscal crisis (Park 1996), which I have argued is characteristic in situations where corporatism fades to CME market structures. After democratisation and liberalisation, many of the same firm level characteristics remained while the macro political economic decision making bodies adjusted. The substantive form of complements changed little (Kim et al 2004). By then, the firms were already prepared to compete and leveraged existing institutional constructions.

One major shock that could have served as an impetus for change was the Asian financial crises. Capital flight and inter-linkages within chaebols exposed liabilities and forced corporate restructuring as well as regulatory changes (Lim 2010). Nevertheless, the fundamental structure of Korean labour and capital seems to have remained. According to the data indicators provided in chapter two, the national debt to equity ratio is about 1 which is quite low relative to other markets. The strength of the banking sector remains present in the market. Debt to equity ratios in Korea became more sustainable, not because of increases in equity but rather because firms are relying more heavily on retained earnings (Lim 2010). Likewise, on the labour front, an average change in unemployment of 0.3% between 2002 and 2009 indicates high levels of labour market stability. Qualitative measures of flexibility indicate the same trend (Kim and Cheon 2004). As the Korean market matures, a dualistic labour market structure has taken shape, much like in Germany (Grubb et al 2007). Complements, despite the shock of the Asian financial crisis reinforced their original coordinated state.

Korea is discussed in recent VoC literature. While I argue Korea is a CME, Kang argues that “the mode of firm coordination has changed from state-reliant to market-based, and, as such, Korea has become closer to approximating the LME than ever before” (2010). Kang’s analysis is based on a comparison of Korea before and after. Certainly Korea is more "liberal" now than it was before but being more liberal does not mean an economy has fully transitioned to a LME. The empirical evidence provided in figure 2.2 clearly demonstrates Korea’s CME characteristics. Kang’s argument is a demonstration of the shortcomings of categorisation in VoC theory and the value of a VoC spectrum and typological trajectory. Any market post liberalisation or post democratisation will appear "more liberal" than an economy being managed in an authoritative regime. Any shift from corporatism to market based complements will introduce greater transparency and a transfer from public to private coordination. Private coordination, however, does not have to equate to a “liberal” market model. The 400% debt to equity ratios of Korean chaebols during the state led regime was unsustainable, and the introduction of equity, improved debt management, and reliance on retained earnings has simply normalised the debt to equity ratio to a more sustainable level (Lim 2010). Analysis of the typological trajectory is essential, especially in the Korean case where developmental state economic policies played such an influential role. As the data indicates, in comparative analysis with its peer markets, Korea continues to demonstrate highly coordinated characteristics.

Figure B.1 demonstrates the continued CME tendencies of economic stakeholders in South Korea. The figure maps corporate governance coordination relative to labour market coordination. The figure is the same measurement as figure 2.2. The shock of the Asian financial crisis is captured in the transition from 1990 to 2000, but after the market settled, South Korea stabilised its CME structures. The consistency with which South Korea has maintained CME characteristics is expected. South Korean firms continue to progress along the global value chain and establish their brands globally in manufacturing-related sectors.

Figure B.1: South Korean Institutions across Sub-spheres of the Political Economy over Time

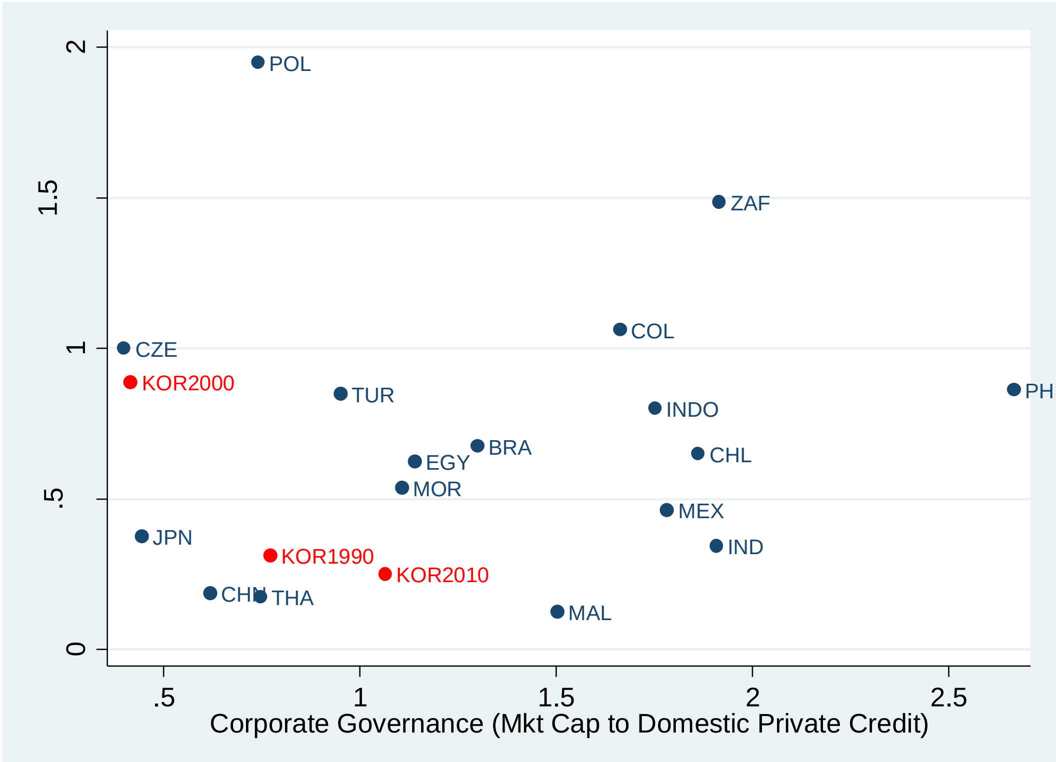

Figure B.1 maps Corporate Governance Coordination (x-axis) against Labour Coordination (y-axis). Origin is heavily coordinated. Sources: See Table 2.2.

The sustained coordinated complementary structure of Korea is perhaps best indicated by looking at the global success of Korean corporations. Using the same analysis as was done in chapter 1, I look to global rankings of the top Korean firms. The Global 500 ranking of firms includes 13 Korean ones, of which 7 are tied to chaebols and four are state-owned. The Forbes 2000 index includes 51 firms of which 16 are tied up between Samsung, Hyundai, Daewoo, and LG. The leading Korean companies are heavily focused in exporting manufactured goods like automobiles and semiconductors. All of these firms and the sectors in which they operate are characterised by incremental innovation. Korea has followed the Japanese model, which is viewed as a CME in VoC literature, in driving efficiency in production along the lines of a CME.

Appendix C: List of Interviews & Fieldwork

India

I spent Lent term 2012 as a visiting scholar at Delhi University's Institute for Economic Growth. The visitation was made possible through the generous financial support of the India Observatory, which provided key contacts and airfare, as well as the London School of Economics International Relations Department, which provided financial support for domestic travel. Room and board were provided by the generosity of Dr. Yash Vir Bhalla and Arti Bhalla, Mr. Om Prakash Bhatia and Indra Bhatia (and Aakriti), Mr. Virender and Renu Sibal (and Swati), and Mr. Gaurav Bhatia and Charu Bhatia. Mrs. Indra Bhatia needs special recognition for her support at Delhi University and at the Tata Library at the University.

While in India, I spent time in New Delhi, Mumbai, and Bangalore. I had the opportunity to visit the offices of TCS, Infosys, and CMC, Ltd. In addition to interviews, I spent time at the Ministry of Information Technology to meet with senior public officials and conduct research at the library archives. Combined, I conducted 20 interviews with officials in the public sector, private sector executives, and economists. Table C.1 summarises the interviews in India.

Table C.1: India Interviews

Person	Affiliation	Position	Date
Dr. Mohammed Shaikh	Imagexx	CEO	Feb 15 2011
Dr. B.N. Goldar	Delhi University (Institute of Economic Growth)	Professor of Labour Economics	Jan 31 2012
Mahendra Swarup	Indian Private Equity and Venture Capital Association	President	Feb 03 2012
Dr. Yash Vir Bhalla	Retired	Executive Director, Heavy Machinery	Feb 06 2012
Dr. Sunanda Sen	ISID	Economist	Feb 07 2012
A. Gupta	Singhi Advisors	Manager	Feb 08 2012
Dr. T.S. Papola	ISID	Labour Economist	Feb 08 2012
Ashok Malhotra	Retired	Executive Director, IT	Feb 08 2012

		Industry	
Dr. Rajendra Kumar	Department of Information Technology	Joint Secretary, IAS Fellow	Feb 13 2012
O.P. Sharma	Department of Information Technology	Director	Feb 13 2012
Abhishek Jee	NASSCOM	Director	Feb 13 2012
Dr. Surajit Mazumdar	Ambedkar University	Professor	Feb 15 2012
Dr. E. Sridharan	UPenn India	Professor	Feb 16 2012
Gunajit Kalita	ICRIER	Asst to Dr. Deb Kusum Das	Feb 18 2012
Chalapati Rao	ISID	Economist	Feb 23 2012
Anonymous	TCS	Senior General Manager	Feb 27 2012
Rajan Chadha	Garment Manufacturer	CEO	Feb 27 2012
Dr. K Kanagasabapathy et al	Economic and Political Weekly	Managing Director	Mar 06 2012
Mr. R. Umarji	Indian Banking Association	Chief Legal Advisor	Mar 07 2012
Anonymous	TCS	Executive Team, Vice President	Mar 07 2012
Anonymous	Infosys	Executive Team	Mar 19 2012
Anonymous	Infosys	Managing Director	Mar 19 2012

Brazil

I spent Michaelmas term 2012 as a visiting scholar at Fundação Getulio Vargas Escola de Administração de Empresas de São Paulo (FGV EAESP). While at FGV EAESP I had the opportunity to work with the faculty and attend seminars. The visitation was made possible through the generous financial support of the Santander Research Fund. Room and board were provided by the generosity of Dr. Luiz and Alice Arruda.

While in Brazil, I spent time meeting officials in São Paulo. I had the opportunity to visit the offices of and/or meet officials from Itaú, Banco do Brasil, and BV. I conducted 16 interviews with officials in the public sector, private sector executives, and economists. Table C.2 summarises the interviews in Brazil.

Table C.2: Brazil Interviews

Person	Affiliation	Position	Date
Dr. Fabio Luiz Mariotto	FGV	Head of Department	Sep 22 2011
Dr. William Eid Jr	FGV	Head of Finance Research Group	Sep 22 2011
Eduardo Buarque	TMG Capital	Principal	Sep 26 2011
Dr. Chu Shao Yong	FGV	Professor of Quantitative Methods	Sep 26 2011
Dr. Rodrigo Bandeira de Mello	FGV	Professor of Finance	Sep 27 2011
Dr. Servio Tulio Prado Jr	FGV	Professor of Finance	Sep 29 2011
Anonymous	Banco do Brasil	Gerente Executivo; Diretoria de Mercado de Capitais e Investimento	Sep 29 2011
Dr. Paulo Arvate	FGV	Professor of Economics	Sep 29 2011
Euridson de Sá Júnior	ANBIMA	Superintendência Executiva de Representação	Sep 30 2011
Luiz Carlos de Queiróz Cabrera	Amrop Panelli Motta Cabrera	Partner	Oct 03 2011
Marcos d'Agostini	TSB Global Capital	CEO	Oct 04 2011
Anonymous	BM&F BOVESPA	Business Relations	Oct 05 2011
Dr. Claudio	FGV	Head of Private Equity & Venture	Oct 05 2011

Furtado		Capital Research Group	
Ibere Arco e Flexa	FGV	Adjunct Professor, formerly of Itaú	Oct 05 2011
Anonymous	Bradesco	Head of Division	Oct 06 2011
André Rebelo	FIESP	Strategic Affairs Advisor for the Presidency	Oct 07 2011
Adriane de Almeida	IBGC	Coordenadora do Centro de Conhecimento	Oct 07 2011
Anonymous	Votorantim Participacões	Gerente Geral	Oct 10 2011
Anonymous	BV	Head of Banking	Oct 13 2011
Anonymous	Itaú	Head of Banking	Oct 17 2011
Anonymous	Boston Consulting Group	Consultant to banking sector, São Paulo Office	Oct 19 2011
Anonymous	BV	Project Finance Associate	Oct 20 2011
Alexandre di Miceli	Universidade de São Paulo	Associate Professor	Nov 07 2011

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