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Abstract

In today's globalized world, the power of influence of multinational corporations over the state and society is significant. One particular area is related to how MNCs have influenced states and public educational institutions in order to shape their educational agendas and training initiatives. Many scholars have conceptualized such an influence as processes of corporate capture. In this dissertation, I examine and compare the existing processes of corporate capture related to Boeing and Embraer in the regional training systems of Charleston, South Carolina, U.S.A., and São José dos Campos, São Paulo, Brazil. I also investigate how their distinctive state forms and their forms of governance account for differences in the evolution of such processes. This research, drawing from Neo-Marxist theories of the state and labor geography, critically engages with FDI studies and the GPN literature. Methodologically, this dissertation is based on qualitative cross-national comparative methods. Fieldwork was undertaken between 2014 and 2017, when fifty-nine semi-structured interviews were conducted with state managers, representatives from educational institutions, not-for-profit organizations, and firms, among others. In this research I develop two major arguments. First, I argue that the evolution of processes of corporate capture in the regional training systems of São José dos Campos and Charleston is intrinsically connected to their accumulation strategies and state forms. However, such an evolution happens through different mechanisms and is related to different state scales. Second, I turn my attention to the local forms of governance of Charleston and São José dos Campos, claiming that they reinforce processes of corporate capture at the local scale. I argue that their tendency to reinforce processes of corporate capture in training has to be comprehended alongside with their state form and type of state selectivity.

The State, Aerospace Multinational Corporations and Variegated Forms of Corporate Capture in
Regional Training Systems: A Cross-National Comparative Study Between Charleston, SC,
U.S.A. and São José dos Campos, SP, Brazil

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Dissertation

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Geography.

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Abbreviations

CECOMPI – Center for Competitiveness and Innovation.
CMCC – Charleston Metro Chamber of Commerce.
CMEs – Coordinated Market Economies.
CRDA – Charleston Regional Development Alliance.
CTA – Aeronautic Technological Center.
FATEC – São Paulo State Technological College.
FDIs – Foreign direct investments.
GCC – Global commodity chains.
GPNs – Global production networks.
GVCs – Global value chains.
HMEs – Hierarchical Market Economies.
INPE – National Institute for Space Research.
IPD – Institute of Research and Development.
ITA – Aeronautics Institute of Technology.
LMEs – Liberal Market Economies.
MNCs – Multinational corporations.
PEE - Embraer Program of Specialization in Engineering.
SC – South Carolina.
SJC – São José dos Campos.
SMEs – Small- and medium-size enterprises.
SP – São Paulo.
US – United States.

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Glossary

Aftercare policies: The term is defined as "...comprising all potential services offered at the company level by investment promotion organizations, designed to facilitate both the successful start-up and continuing development of a foreign affiliate with a view toward maximizing its contribution to local economic development and to ensuring the success and sustainability of the company's investment." (Sachs 2009, 109).

Clientelism: Is a type of public management in Brazil that lacked a distinction between the private and public sectors, having initiatives and actions based on favor exchanges, individualism and personal ties. It was centralized in powerful economic actors such as landowners, who were employed at the state based on cronyism (Seibel & De Oliveira 2006).

Corporate capture: Refers to the exercise of control or influence of MNCs over the interests of business communities and governments (Phelps 2008).

Externalization/spillovers: There are two main categories of externalities. One category refers to how industrial agglomeration of firms can facilitate assets sharing such as the provision of specific services and goods, more skilled workforce, and the implementation of infrastructures (such as roads, pipes and telecommunication networks). The other category refers to technological externalities and are related to how agglomeration of firms facilitates the exchange of information and expertise and thus, innovation (Paci and Usai 1999).

Global Production Networks: The term refers to "...the nexus of interconnected functions and operations through which goods and services are produced, distributed and consumed... Such networks not only integrate firms (and parts of firms) into structures which blur traditional organizational boundaries – through the development of diverse forms of equity and non-equity relationships – but also integrate national economies..." (Henderson et al. 2002, 445).

Governance: The term is broader than government and refers to the informal and formal networks of relations through which actors, such as firms and representatives of public, private and not-for-profit institutions coordinate, organize, and foster initiatives (Rhodes 2007). Governance mainly functions as a mechanism through which fractions of capital, multinational corporations, and local firms present and foster their interests (Lovering 2011).

Industrial Clusters: Porter defines industrial clusters as "...geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g., universities, standards agencies, trade associations) in a particular field that compete but also cooperate." (Porter 2000, 1).

Managerialism: It is a form of public management that focus on reducing the "structural distinctions between the public and private sectors so that the behavior of public managers resembles that of managers in entrepreneurial, profit-driven, investor-owned firms." (Lee 2008, 2).

Organic coupling: Organic coupling denotes a process that takes place through a co-evolution of

regional assets and global firms in the same region. For example, the rise of national champions and new lead firms due to a strategic government industrial policy (MacKinnon 2012).

Strategic coupling: Strategic coupling refers to the “dynamic processes through which actors in cities and/or regions coordinate, mediate, and arbitrage strategic interests between local actors and their counterparts in the global economy” (Yeung 2009, 213).

Structural coupling: Structural coupling concerns how states and their regions attract lead firms in global production networks based on proactive policies and strategies in which countries (often developing countries) provide competitive cost structures, fiscal and financial incentives, stable policy environment, and abundant labor supply (MacKinnon 2012; Yeung 2015).

Chapter 1: Introduction

In 2009, South Carolina state officials announced that Boeing had opted to establish a major site of assembly and delivery for the Boeing 787 Dreamliner in the region of Charleston. However, such a decision came at a price as South Carolina state officials committed to provide to Boeing nearly one billion dollars in incentives. The provision of incentives is not only common in the United States but also in less developed countries such as Brazil, where in some places the cost of incentives per direct job has reached the value of \$340,000 (Oman 1999). Such a particularity has become more significant in the last four decades. The Fordist crisis in the early 80s and a consequent advance of neoliberal policies increased the liberalization of international trade, culminating in greater fluidity of multinational corporations (MNCs) across nations, who have gained power over national states (Featherstone & Mackinnon 2017). Nowadays, MNCs have greater ability to shift their operations, to leave their regions and to move to more profitable places in terms of production, an aspect that raises many concerns (Featherstone & Mackinnon 2017). One major concern regards how such a mobility has affected regional economies.

Regions are put in a delicate position. They must become enterprisers and find ways not only to maintain the firms that are embedded in their communities, making such firms more competitive, but also to attract new ones, given that their development now is dependent on their capacity to do so (Hudson 2011). Not much different from an auction, firms announce their interest in certain places, and regions compete with one another through tax credits, land donations, incentives, loans at low rates, and provision of services such as training, amongst others (Markusen & Nesse 2007). In such a context, regional economies have been pushed to find more innovative ways to outbid their competitors, since giving these incentives has become

the norm (Featherstone & Mackinnon 2017). In this regard, some foreign direct investment (FDI) studies and global production network (GPN) scholars have sought to analyze how states are able to attract and retain MNCs in their regions, but often through negotiations and initiatives that are not so beneficial for their regions, given that local states are subjected to the interests of such corporations (Mackinnon 2012; Rutherford et al. 2018; Markusen & Nesse 2007; Phelps 2000, 2008; Pavlinek 2016; Dawley 2007; Almond et al. 2013).

The influence of MNCs over the state has been conceptualized by many scholars as institutional or corporate capture (see Phelps 2000, 2008; Pavlinek 2016; Dawley 2007; Phelps & Fuller 2001). Corporate capture refers to the exercise of control or influence of MNCs over the interests of the business community and government (Pavlinek 2016; Phelps 2008; Berrón and González 2016). Regarding the labor market and training initiatives, scholars have analyzed corporate capture by exploring how MNCs are able to get cost-free public customized training packages, to distort local public skills agendas and strategies, to recruit the most talented labor force from the business community, and to hire workers from outside their communities (Phelps 2000, 2008). In such studies, the interests of governments are normally associated with the interests of their local business communities, and are explored in terms of their governments' capacity to maximize spillovers in skills and technology transfers, foster industry cluster formation, and processes of externalization (Rutherford et al. 2018; Markusen & Nesse 2007; Grabher 1993; Christopherson & Clark 2007; Phelps 2008; Mackinnon 2012).

One particular topic that this research seeks to engage with regards how FDI and GPN scholars have rationalized whether some states and their regional forms of governance are more prone to have processes of corporate capture than others (Rutherford et al 2018; Phelps 2008; Almond et al. 2017; Tregaskis & Almond 2017; Almond et al. 2014; Almond et al. 2013). For

example, researchers have associated liberal states and their regional forms of governance with a greater tendency of regions to have processes of corporate capture than regions within developmental states (Rutherford et al. 2018; Almond et al. 2014; Almond et al. 2013; Phelps 2008, 2000).

It is in this context, and in connection with such a literature that the main goal of this research was established. More specifically, the main goal of this research is twofold: First, this dissertation seeks to examine the existing processes of corporate capture related to Boeing South Carolina and Embraer in the regional training systems of Charleston, South Carolina, in the United States, and São José dos Campos, São Paulo, Brazil respectively. Second, this research seeks to investigate how Charleston's and São José dos Campos' (SJC) distinctive state and governance forms account for differences in the evolution of such processes. In this respect, three main research questions were established: (1) Do Boeing South Carolina and Embraer foster processes of corporate capture in the regional training systems of Charleston and Sao Jose dos Campos? (2) If so, how does the state in each region account for differences in how corporate capture evolves? (3) Do the local forms of governance of each region reinforce or minimize such processes of corporate capture?

During Summer 2014, when heading to my preliminary fieldwork in Charleston and SJC I did not have a clear objective or goal regarding what my studies would consist of, but I did have an interest in studying the role of their states and local forms of governance in developing skills for their aerospace industrial clusters. This was specifically the case in relation to Boeing in Charleston and Embraer in SJC, both large and influential airplane manufacturing corporations. After collecting and analyzing my preliminary data, one major feature stood out: Embraer and Boeing South Carolina were intentionally exerting their power of influence over the state and

public educational institutions in order to get highly customized training services free-of-cost and free of bureaucracy. Moreover, the public interests of both local states in regard to education and training initiatives were often intermingled and blurred with the private interests of firms like Boeing and Embraer. Such features sparked my interest in studies of corporate capture. As discussed previously in this introduction, such features are not a rare or a new dynamic, but a global trend; nonetheless, both cases had their particularities with potential to bring some theoretical and empirical contribution to the field of economic geography.

My interest in doing a comparative study between Charleston/Boeing and SJC/Embraer was not random. During my master's degree study from 2011 to 2013 at UNESP in Brazil, I was part of a research group whose goal was to analyze the local forms of governance of different industrial clusters in the state of São Paulo. One major site of study was the aerospace industrial cluster of SJC, where Embraer is located. Embraer is the third largest aerospace manufacturing corporation in the world, behind only Boeing and Airbus. In SJC, the company manufactures small- and medium-size commercial airplanes and employs more than 13 thousand workers. Although I was not responsible for conducting interviews in SJC, this was enough for me to reflect upon the idea of doing a comparative study with Boeing in the United States. This idea was later expanded after many conversations with my advisor Dr. Tod Rutherford, who suggested a comparative study with Boeing South Carolina. Boeing had just established in 2011 a plant in North Charleston, causing a great controversy due to the high incentives provided to the company. The case called our attention as a potential site for a comparative study. Boeing, although currently facing a critical moment in its sales due to the two 737 MAX fatal crashes in the last two years, is still the largest aerospace manufacturing company in the world (Cameron & Wall 2019). Boeing designs and manufactures not only commercial airplanes but also attack

aircrafts, missiles, satellites, and telecommunications equipment, among others (Boeing.com). In South Carolina, Boeing has one of its major sites of assembly and delivery for the Boeing 787 Dreamliner. The company employs more than six thousand workers in the region (Boeing.com).

The aerospace industrial clusters in Charleston and SJC were also selected for a comparative study due to specific similarities besides the fact that both regions are marked by processes of corporate capture in their regional training systems. At the national scale, both countries are politically decentralized, having subnational states and local states with certain degree of autonomy from their federal government. In both countries, therefore, subnational and local states have the ability to foster initiatives and design regional development policies. Furthermore, the Brazilian political decentralization—fostered with the 1988 Federal Constitution—was inspired by the US model (Dos Santos & Gomes 2015). At the local level, both places have influential—politically and economically—aerospace multinational corporations and several clustered suppliers, facing skills shortages. Additionally, both regions have developed workforce initiatives through state intervention and direct/indirect public-private partnerships with aerospace firms, not-for-profit institutions, and educational institutions. Similarly, both clusters have institutionalized forms of local governance, facilitating interactions among the main players regarding skill and training problems and possible solutions.

Despite the similarities, there are some significant differences we must acknowledge. The aerospace industrial cluster in SJC started to emerge in the 1960s, being a more mature cluster than the cluster in Charleston. This also means that SJC has today a more significant skilled aerospace workforce presence and training institutions than Charleston. Such differences suggest that the challenges regarding workforce development and skills and their centrality in their local forms of governance and state actions may vary. This is the case of Charleston, where skill

deficiencies are much more drastic than in SJC, and thus, occupy a more relevant position in its agenda.

Regarding my theoretical framework, this research takes a political economy approach to understand the state, MNCs, labor and local forms of governance, and processes of corporate capture in regional training systems. FDI studies and the GPN literature have explained corporate capture in regional training systems based on how national states have low levels of institutional coordination or based on how states and their regions lack assets that meet the strategic interests of MNCs. Such explanations of processes of corporate capture are based on problematically descriptive accounts, overlooking the underlying causes of such processes, and making broad claims based on national types of state. Therefore, I sought to develop a more refined theoretical framework that is capable to account for the political, economic and cultural mechanisms through which MNCs interact with the state and advance their interests over public educational policies and initiatives. The major influences over the development of this framework can be divided in two main groups.

The first group is related to theories of the state and capitalism, and more specifically to neo-Marxist theories such as the variegated capitalism literature, Jessop's strategic-relational approach, and the structural dependence of the state on capital. I have engaged with such theorists and literature in order to understand how the state—in its varying scales—capitalism, and MNCs function and relate. My goal was to contribute to the FDI and GPN literatures by establishing a more refined explanation of how corporate capture in regional training systems evolves in relation to different forms of state. In this regard, I sought to demonstrate how the evolution of processes of corporate capture in Charleston and SJC is intrinsically related to how

their state accumulation strategies privilege and provide advantages to MNCs strategically advance their interests.

The second group is linked to neo-Marxist studies related to labor and labor market governance, local inward investments, and critical pedagogy. By engaging with such studies, I sought to critique the GPN literature and to frame my understanding of labor and governance, and especially of how labor market governance operates and shapes workforce development systems in the context of GPNs and industrial clusters. Mainstream GPN scholars problematically approach governance as collective modes of coordination and as autonomous arrangements from the state. The formation and functioning of workforce development systems are also problematically theorized based on market relations according to the demand and supply of skills. Therefore, I sought to contribute to the GPN literature by revealing not only how local forms of labor market governance (and their tendency to reinforce processes of corporate capture) have to be understood according to their state form and type of state selectivity, but also by disclosing how workforce development systems operate and are shaped by different actors and unequal power relations, scales, and often revolve around class issues. Such a theoretical framework also led me to theoretically contribute to FDI and GPN studies, given that it led me to expand the understanding of corporate capture in regional training issues. As revealed, the concept of corporate capture is too narrow, and neglects important characteristics around class relations, scale, and issues of transparency/illegality.

Therefore, by revealing the underlying causes of why state and MNCs relations often result in processes of corporate capture in regional training systems, my research directly addressed some of the GPN literature deficiencies, having the potential to advance and contribute to studies regarding the “dark side” of firm relations, i.e., in regard to how firms’ relations with other firms

as well as with the state, workers, and institutions, among others can result in negative outcomes not only for regions, but also for workers (see Mackinnon 2012; Coe & Hess 2011). As Rutherford et al (2018) and Werner (2018) stated, GPN research still tends to overlook the tensions that emerge from the differential powers of key actors, for example, in respect to the uneven power relations between MNCs and subnational states.

Empirically, this research not only brings a rich empirical cross-national comparative analysis of state and MNCs relations around processes of corporate capture in two different countries, but also important insights that can be used by state managers, unions and community representatives, and other organizations to resist corporate influence and to foster better outcomes for workers in regard to policies of attraction and retention of MNCs. While states provide all types of incentives to attract corporations to their regions such as land donation, infrastructure, customized training and tax breaks, corporations rarely have to meet clear requirements (established by the state) regarding the jobs they will create, or regarding processes of externalization. In this regard, one major empirical contribution of my research was the elaboration of pro-worker requisites related to public workforce development initiatives (like cost-free customized training), which can be used as guidelines when regions are bargaining with MNCs, or when establishing training partnerships with businesses.

This research is based on a qualitative cross-national comparative methodology, which contrasts the similarities and differences in the object of study in more than one country in order to examine social reality (Kohn 1987). According to several scholars, qualitative methods are used to answer questions based on the values and perspectives, experience and meaning of participants. By deploying such a methodology, researchers are able to access information that is not generally amenable to measurement (Kitay & Callus 1998; Hammarberg et al. 2016). As Rosenthal (2016, 510) stated, in general, qualitative methods are employed when researchers are “interested in understanding the “why” behind people’s behaviors or actions.”.

In regard to the present research, a qualitative approach was selected, given that this dissertation approached, and had to collect as well as to interpret information that are often informal, abstract, complex, variable, involving matters related to power relations, actors' interactions, negotiations, experiences, values and perceptions, among others. Such an information can be hardly quantified, and as Rosenthal (2016) affirmed, qualitative methods enable researchers to gain an in-depth understanding of the "underlying reasons, attitudes, and motivations behind various human behaviors." (p 510). Therefore, this research opted for a qualitative comparative method due to its valuable and well-established research method for industrial studies in topics such as workforce development and governance (Kitay & Callus 1998).

This research draws from fifty-nine semi-structured interviews. More specifically, I interviewed twenty-five representatives from educational institutions (twelve in Brazil and thirteen in the United States), six representatives from firms (three firms from each region), fourteen representatives from non-public institutions such as chambers of commerce, unions, agencies of development and research institutes, among others (seven in each region), and fourteen state managers (eight in Brazil and six in the United States). Participants were chosen on purpose based on their role and involvement in the phenomenon under study.

Semi-structured questionnaires were developed according to the following participants: state managers, public educational institutions, firms, and not-for-profit institutions. The questionnaires had a mix of semi-structured questions, which were designed according to each group of participants. In general, the questions were designed to approach issues such as the creation and expansion of workforce development initiatives and programs in the aerospace sector; the existence and development of educational strategies and goals; local governance

relation with workforce development strategies and initiatives; existence, development and functioning of public-private customized training partnerships related to Boeing and Embraer; the provision of subsidies and grants; workforce development challenges and firms' issues in regard to skills and training deficiencies; questions related to the characteristics of processes of corporate capture in regional training systems, among others.

Most interviews averaged one-hour in length, and in some cases were conducted more than once. The majority of the interviews were conducted face-to-face between 2014 and 2017, although in five cases (five firms' representatives), interviews were conducted via telephone. Interviews were recorded, except in one interview with an educational institution representative in Charleston. Besides recording the interviews, field notes were taken.

Using open code, I categorized and coded all the data according to their different themes and patterns. After coding and categorizing the data, patterns and connections across the interviews and documents were identified, analyzed, and information summarized. This was used to develop the research. Besides interviews, I collected and downloaded from the internet reports, studies, newspapers' articles, and secondary census data, which were analyzed in the same way of the interviews. Using triangulation, I crossed different sources in relation to different interview statements (see Yeung 1997). Triangulation was important to provide consistency and validation of the statements given in the interviews.

During fieldwork and in relation to the collection of data, this research encountered some challenges. One major challenge was to contact and arrange interviews with firms' representatives. The use of phone recording machines by firms' representatives made it difficult to directly contact them. However, some successful attempts and interviews were made, which was not the case for Boeing's representatives. While in Brazil, Embraer's staff was more than

willing to participate in this research, in Charleston, Boeing's representatives, who were invited for an interview several times via phone calls, emails, and even in-person, declined all invitations. This represents one important limitation of this research, which made more difficult the task of directly comparing Embraer and Boeing, and of understanding Boeing's workforce development strategy, labor/skill issues, and influence over South Carolina's/Charleston's educational agenda. To mitigate this issue, questions related to Boeing were directed to educational institutions' representatives, state managers, and local governance actors. Such participants, who were in contact with Boeing in the region, were able to provide substantial information in this matter.

In order to answer my research questions and to develop this research, my dissertation was structured in seven chapters. The second chapter is structured into two main parts. In the first part, I critically examine how FDI studies and the GPN literature have not only problematically conceptualized corporate capture but also insufficiently explained the relationship between the state, MNCs, and the evolution of processes of corporate capture in regional training systems. In the second part, engaging with Neo-Marxist theorists, I argue that the evolution of corporate capture should be understood according to how the selective institutional context of national and/or subnational states privileges MNCs, providing structural advantages to these companies to strategically advance their interests to a point known as corporate capture.

In the third chapter, I turn my attention to whether local forms of governance are prone to reinforce or minimize processes of corporate capture in regional training systems. Critiquing the GPN/GVC approach to workforce development systems, I elaborate upon the concept of regional training systems to argue that the capacity of local forms of labor governance to minimize or reinforce processes of corporate capture in training has to be comprehended alongside with their

state form, accumulation strategy, and type of state selectivity. I conclude this chapter with a reconceptualization of processes of corporate capture in regional training systems.

In the fourth and fifth chapter, this research looks at the empirical cases of Charleston and SJC. Each chapter was divided in three main sections. In the first part of each chapter, I demonstrate how the evolution of processes of corporate capture in their regional training systems is closely related to their state form and state accumulation strategy. However, the evolution of such processes, I reveal, takes place through different mechanisms and at different scales. In the case of Charleston, state managers¹ have designed educational strategies and training initiatives intentionally targeted to be captured by MNCs. In this case, corporate capture evolves mainly at the subnational scale and is related not only to South Carolina's manufacturing fraction of capital but also to single firms such as Boeing. In the case of SJC, I argue that the corporate capture of training initiatives fostered by Embraer evolves through an organic way at the local scale, based on synergistic informal one-on-one interactions.

In the second part of each chapter, I explore the evolution and main characteristics of the processes of corporate capture in the regional training systems of both regions. In Charleston, corporate capture is examined in regard to how South Carolina manufacturing fraction of capital has influenced the educational strategy of the state as well as the creation of three programs: Apprenticeship Carolina, ReadySC, and Career Academies. Corporate capture is also investigated in regard to how Boeing was able to capture the institutional capacity of ReadySC, a program from the state of South Carolina that offers, free-of-charge, customized training services to firms interested in moving to the state. In São José dos Campos, processes of corporate

¹ According to Fred Block state managers are “those at the peak of the executive and legislative branches of the state apparatus” (Block 1987, 201). This includes the highest-ranking civil servants, advisors and administrators, and appointed and elected politicians. (Block 1987).

capture are analyzed in regard to how Embraer was able to influence two educational institutions: the Aeronautics Institute of Technology, where Embraer established the program called “Embraer Program of Specialization in Engineering”, and the São Paulo State Technological College, where the company established the program “Designer Embraer”. Both programs provide highly customized skills, free-of-charge to Embraer.

In the third part of each chapter, I explore their forms of governance and whether they reinforce or minimize processes of corporate capture in its regional training systems. In the case of Charleston, I argue that Charleston’s local form of governance fosters a contradictory dynamic. It reinforces corporate capture by embracing, implementing, and expanding higher state scale programs and initiatives, while trying to minimize some of its detrimental outcomes. I also demonstrate how these attempts to minimize corporate capture are problematic, mostly due to a lack of power of local state managers and to local governance actors’ attempts to solve corporate capture based on market relations. In the case of São José dos Campos, I argue that its local form of governance has also reinforced corporate capture. I reveal that this is due to a combination of factors: How skill needs are identified and addressed based on clientelistic relations, how the existence of a local aerospace professional bond among local governance actors grants to firms easier access and cooperation with educational institutions, and how Embraer’s economic and political power allows the company to take advantage of such features.

Finally, in the sixth chapter I compare the major similarities and differences between the processes of corporate capture of both cases. By putting the processes of corporate capture in SJC and Charleston regional training systems in comparison, greater details regarding corporate capture in regional training systems are revealed. In this regard, I present the major findings of

my research, exploring how processes of corporate capture are related to the state and scale, local forms of governance, and issues of class and uneven development.

Chapter 2: State-Capital Nexus and the Evolution of Processes of Corporate Capture

This chapter is structured in two main parts. In the first part, I will analyze not only the concept of corporate capture but also how mainstream literature has explained the relationship between the state, MNCs, and the evolution of processes of corporate capture in regional training systems. In this regard, two bodies of literature are critically examined: FDI studies and the GPN literature. I argue that although both literatures provide interesting explanations, such rationalizations are too descriptive, overlooking the underlying causes of processes of corporate capture, and have a problematic approach to state, neglecting for example issues of scale²—more specifically state subnational variations—and class relations. In the second part, I proceed then to reveal how the variegated capitalism literature, Jessop’s strategic relational approach, and theories regarding the structural dependence of the state on capital can tackle these issues. My main argument in this part is that the evolution of corporate capture should be understood according to how the strategic selective institutional context of national and/or subnational states privileges MNCs, providing structural advantages to these companies to strategically advance their interests to a point known as corporate capture. Corporate capture, I reveal, is not just due to a lack of distinct assets, or low levels of public institutional coordination as the FDI studies or the GPN literature would argue, but mainly due to structural and intrinsic features of the capitalist state.

2.1 The Concept of Corporate Capture: FDI Studies and Debates Around Development

² This research understands scale as a product of wider social, cultural, economic, and political processes rather than a pre-given arena which these processes unfold (Smith 1993; Swyngedouw 1997; Brenner 1998; MacKinnon 2011). It agrees with Swyngedouw which claims that “[s]patial scales are never fixed, but are perpetually redefined, contested and restructured in terms of their extent, content, relative importance and interrelations.” (Swyngedouw 1997, 141). This research uses the following terminologies to address state scale: national, subnational and local. Important to say, while in SJC the term local scale will refer to the dynamics at the city level, local scale in the region of Charleston will be used to refer to the dynamics of its three counties: Charleston, Berkeley, and Dorchester.

Intellectuals have theorized about the state for a long time. Many, mostly liberals, have assumed the state to be a neutral entity or a neutral arbiter of social processes (Glassman 1997). However, since the 1970s more and more scholars have acknowledged the fact that different actors, or groups of actors, influence and shape the state and its policies and behavior (Jessop 2007). One particular stream of literature is related to foreign direct investments (FDI) studies and aftercare policies. In this literature, a small but growing body of scholars have sought to demonstrate how local states are able to attract and retain MNCs in their regions, and whether regions are able, with the attraction of FDIs, to maximize spillovers in skills and technology transfers, to foster industry cluster formation and processes of externalization (Rutherford et al. 2018; Markusen & Nesse 2007; Grabher 1993; Christopherson & Clark 2007; Phelps 2008; Mackinnon 2012). In this context, some scholars have argued that when state managers negotiate or bargain with MNCs to attract them to their regions, the outcomes are not always so beneficial to regions, and often result in processes that have been conceptualized as corporate capture (Phelps & Fuller 2001; Phelps 2000, 2008; Phelps et al. 2005; Mackinnon 2012).

Corporate capture has been defined as a process in which the values and interests of MNCs dominate local initiatives and economic strategies in relation to the interests of the local business communities and local states (Phelps 2000, 2008). The term also implies how private actors exert influence over local institutions through unidirectional bargaining processes with the state (Phelps & Fuller 2001; Phelps 2000, 2008; Phelps et al. 2005). In more concrete terms, corporate capture occurs when MNCs influence and exploit the capabilities of local systems of governance, receiving great amounts of public subsidy in the form of financial assistance and human resources, support services, and customized packages of FDI support (Phelps 2000, 2008; Pavlinek 2016; Dawley 2007; Phelps & Fuller 2001).

Regarding corporate capture in regional labor markets, scholars have explored this dynamic in relation to: (a) how MNCs receive customized packages of training incentives; (b) how MNCs distort or influence local skills agendas and strategies, lacking wider business community involvement in education and training agendas; (c) how MNCs recruit from local suppliers and the local business community the most talented workers (the fast ramp-up of production can result in ‘off-the-shelf’ labor forces); (d) how MNCs recruit a significant proportion of workers from outside the locality; and (e) how MNCs try to minimize workers’ knowledge exchange or sharing (Pavlinek 2016; Phelps 2000, 2008; Phelps & Fuller 2001; Dawley 2007).

In general, such studies contrast the interests of MNCs versus the interests of states versus the local business interests (see Stigler 1971; Young 2012; Dal Bó 2006; Phelps 2000, 2008; Phelps and Fuller 2001). The interests of the state and of the local business community are in general understood as the willingness to foster externalities, spill-overs, and consequent development of industrial clusters, while the interests of MNCs are often matched with their desire to influence local governments, acquiring incentives, and thus, externalizing their costs (Phelps 2000, 2008; Phelps & Fuller 2001).

In this context, researchers have been interested in understanding whether some forms of state are more prone to have processes of corporate capture than others. In this regard, in the field of economic geography, two main bodies of work have attempted to provide explanations. This subsection will focus on the first body of literature, which can be placed under the FDI studies literature.

FDI scholars have sought to explain this relation mainly based on the levels and efficiency of coordination among state institutions, although some other factors have also been

taken into consideration. According to some scholars, processes of corporate capture occur due to asymmetrical relations between the state and MNCs, which puts the state in a weaker position when bargaining with MNCs (see Phelps 2008; Almond et al. 2014). Phelps (2008) claims that such asymmetries reside in five main factors. First, such an asymmetry is due to the fact that while MNCs have one single interest and target, which is to increase profit, subnational states have to balance different goals, interests, and policy objectives that put state managers in an inferior position when bargaining (Phelps 2008; see Boddewyn 1994). Second, while firms are efficient in coordinating with their internal parts as well as with their subsidiaries and suppliers, national governments often fail to efficiently coordinate initiatives among their subsidiary institutions. More specifically, national governments often fail to efficiently coordinate initiatives to ensure that FDI attraction will result in processes of externalization and consequently industrial cluster formation (Phelps 2008). Furthermore, government institutions at other scales can have dysfunctional behaviors from their national institutions (Phelps 2008).

Third, MNCs have greater capability in coordinating activities at the international scale, while states often fail to do so within their boundaries (Phelps 2008). Fourth, MNCs are open to opportunism, i.e., these firms are not only professionals in protecting and internalizing ownership advantages, but also in taking advantage of opportunities from local states, which is facilitated by asymmetric information (Alfaro & Chauvin 2016; Phelps 2008; see Williamson 1975). For example, MNCs have more capacity to control the flow of information when negotiating with governments. Firms can inflate the number of jobs and benefits they plan to bring to regions, therefore influencing the size of the governmental incentive package (Weber 2002). Fifth, the liberalization of FDI policies and the transferring of certain powers and competencies by nation

states to supranational bodies have decreased the bargaining power of states while increasing the power of MNCs and regional competition for FDI. (Hudson 2011; Phelps 2008).

In this context, as levels of coordination significantly vary among countries, scholars have contended that national states marked by low levels of institutional coordination such as liberal states are more likely to have processes of corporate capture than states characterized by high levels of coordination such as developmental states (see Phelps 2008; Bakir 2015). As Phelps (2008) points out, liberal states and developmental states vary in their densities regarding their coordination between central governmental institutions, in their coordination between central and decentralized governmental bodies, in their coordination between governmental institutions and domestic and foreign firms, and to the degree to which such a coordination is reinforced by different arms of government. Moreover, Phelps (2008) believes that corporate capture is less likely to happen in regions that have developmental states due to the existence of strong coordination that results in overall strategies and transparent strategy-making mechanisms to couple FDI, externalization, and cluster formation (see also Bakir 2015).

To exemplify his argument, Phelps (2008) explores how the UK invests in FDI to attract MNCs and to create jobs in declining regions, but it has no significant initiatives or strategies to monitor its effects and to intervene, nor to develop industrial clusters. According to the author, the lack of horizontal and vertical coordination among national and subnational scale institutions increases intra-competition among subnational states and quasi-state agencies over a single FDI project, hindering negotiations in the part of the state (Phelps 2008). The author goes on to contend that in developmental states like South Korea, where the level of state coordination is much higher than in liberal states, incentives related to regional policy are concentrated on supporting domestic firms, which in turn are significant in fostering positive external economic

effects such as the creation of industrial clusters. The developmental state, thus, is able to coordinate initiatives with firms and other players in a better way, having a greater potential to foster externalization and cluster formation (Phelps 2008).

Such approaches to explain the relationship between corporate capture and different state forms foster an important insight regarding how and why corporate capture may happen, but they have some issues. For example, although national state forms can play a crucial role in explaining corporate capture, subnational forms—especially in federalist countries such as Brazil and the United States—can also be important to understand such a process, given that subnational states can greatly vary in terms of coordination, models of growth, and strategies from their national forms (Peck & Theodore 2007; Zhang and Peck 2014; Schröder & Voelzkow 2016; Crouch & Voelzkow 2009). Therefore, one also has to comprehend corporate capture according to the characteristics of local and subnational states.

Additionally, the degree of coordination among government institutions, and between the government and firms per se is not enough to explain corporate capture. Corporate capture is also heavily present in developmental states, which supposedly have high levels of state coordination. For example, in Brazil, regional competition to attract firms has dramatically increased in the last three decades, resulting in excessively large incentives packages that are not often accompanied by processes of spillover, externalization, and cluster formation (see Rodriguez-Pose & Arbix 2001; Varsano et al. 2002). As stated in the introduction, in Brazil, the cost per job created in forms of incentives has reached in the past the value of \$340,000 (Oman 1999).

Moreover, such an explanation is based on a binary vision, which contrasts the contradictory interests between states (willing to foster externalization) and MNCs (seeking to externalize costs through corporate capture). This has two issues. First, when scholars depict

regions as marked by processes of corporate capture, they tend to exclude the possibility that processes of externalization can be concomitantly present. Regions are marked by processes of externalization or by processes corporate capture, meaning that the existence of one process excludes the other. Second, by focusing on states' and MNCs' interests, researchers overlook the fact that bargaining events between states and MNCs heavily affect the working class and are intrinsically associated with workers' interests. Analyses of corporate capture have barely addressed such a matter by giving priority to issues of poaching, skills and technology transfer, cluster formation, and incentives per se. As this research will demonstrate in the third chapter, processes of capture need to be analyzed with greater attention to class issues and can happen concomitantly with processes of de-capture and externalization at different scales. As I will reveal in the next subsection, this is not the only problematic explanation regarding how some forms of state are more prone to have processes of corporate capture than others.

2.2 Strategic Coupling, State Theory and Corporate Capture

The second body of work, which has attempted to explain why some forms of state are more prone to have processes of corporate capture than others is the GPN literature³. The GPN literature is an important stream of research which has sought to understand the formation, configuration, and/or upgrading⁴ of global firms and their suppliers across different countries and regions (Yeung & Coe 2015; Neilson et al. 2014; Gereffi & Fernandez-Stark 2011, Henderson et al. 2002; Barrientos et al. 2011). As this research will show in the following paragraphs, the state

³ Global commodity chains, global value chains, and global production networks have been addressed in conjunction as part of the same literature. This research will address the three as the GPN literature.

⁴ Gereffi and Fernandez-Stark (2011) identified four types of upgrading: 1) process upgrading, which refers to how firms are able to produce more efficiently by reorganizing the production system or introducing a superior technology; 2) product upgrading, when firms move into more sophisticated product lines; 3) functional upgrading, which entails firms acquiring new functions (or abandoning existing functions) such as design of their own product or marketing and branding abilities; 4) chain or inter-sectoral upgrading, where firms move into new but often related industries.

has become a central player in their analyses.

In initial studies, the global commodity chains (GCC) approach focused on how global industries are formed, configured across the world, and capable of capturing, creating and enhancing value. Scholar gave attention to the types of relationships—or corporate governance⁵—that suppliers and their lead firms had as well as to the outcomes of such relationships in terms of value capture and upgrading (Gereffi 1994; Gereffi & Fernandez-Stark 2011; Henderson et al. 2002). As the focus of GCC scholars was on the relationship between firms, such a literature was criticized for fostering a firm-centric approach, ignoring the role played by other players like not-for-profit organizations and the state in firms' value capture and upgrading (Henderson et al. 2002; Coe et al. 2008). This was because this approach emerged in a context when the state-centric analysis of the World-Systems literature was dominant (Smith 2015). Moreover, this literature was developed in the 90s, when neoliberalism was in vogue and MNCs had gained power while national states were being weakened (Hudson 2011). Consequently, the state had a less significant position than firms in their analysis, being analyzed more in the realm of industrial and trade policy and regulation (Smith 2015; Mayer and Phillips 2017; Horner 2017).

GVC studies, drawing from the GCC literature, started to give greater attention to institutional structures. Scholars recognized that forms of public–private governance were also important for the formation and configuration of GVCs as well as to the processes of value capture and upgrading (Smith 2015). However, scholars focused mostly on not-for-profit organizations and private corporate players, lacking an adequate understanding of institutions

⁵ The initial paper was written by Gereffi (1994), where the author explores the relationship between firms and their suppliers, identifying two forms of corporate governance: Producer-driven chains (for example, how producers in the automobile industry coordinate their value chain) and buyer-driven chains (for example, how large retailers, marketers, and branded manufacturers play a main role in their chain).

regarding their role in the corporate forms of governance of GVCs (Smith 2015; Mayer & Phillips 2017; Horner 2017).

In this context, geographers, influenced by GCC and GVC studies, sought to put the state back in the agenda and to develop a more nuanced approach to questions of power, space, and scale. At the end of the 1990s, when the neoliberal project seemed to have failed, GPN scholars started to break away from the firm- and chain-centered analysis of GVC, giving greater attention and importance to institutional contexts at different spatial scales (Smith 2015; Mayer & Phillips 2017; Horner 2017; Henderson et al. 2002; Coe et al. 2008). One particular topic that reflected such a break concerns studies related to strategic coupling.

Strategic coupling refers to the “dynamic processes through which actors in cities and/or regions coordinate, mediate, and arbitrage strategic interests between local actors and their counterparts in the global economy” (Yeung 2009, p. 213). For example, strategic coupling occurs when regional actors are able to bargain and attract MNCs to their localities, or to how local firms are able to become suppliers or global buyers of foreign firms inserted in global production networks. Processes of strategic coupling are marked by a dependence on intentional strategic actions, by time and space contingency, given that it involves the construction of temporary coalition between groups of actors, and by a transcendence of territorial boundaries, given that it brings actors across different spatial scales (Coe & Hess 2011; Yeung 2009; Yang 2013).

GPN scholars have distinguished the existence of three modes of strategic coupling⁶:

⁶ Mackinnon (2012) goes further to demonstrate how strategic coupling should be understood along with the concepts of decoupling and recoupling. The author claims that a coupling process may point to a decoupling process somewhere else, as a result of regional selection and abandonment processes. Therefore, regional development and uneven development happen simultaneously with its processes of coupling, decoupling and recoupling (MacKinnon 2012). The author stresses that to understand processes of coupling, decoupling, and recoupling there is a need to recognize ten key dimensions, as one can see in the table above.

strategic (or international partnership); organic (or indigenous innovation); and structural (or production platform) (MacKinnon 2012; Coe et al. 2004; Yeung 2016). Strategic coupling happens when regional actors and domestic firms—who serve as strategic partners—establish linkages with lead firms in GPNs (Yeung 2016). Organic coupling denotes a process that takes place through a co-evolution of regional assets and global firms in the same region. For example, the rise of national champions and new lead firms due to a strategic government industrial policy (MacKinnon 2012). Structural coupling is based on proactive policies and strategies in which countries (often developing countries) provide competitive cost structures, fiscal and financial incentives, stable policy environment, and abundant labor supply to attract lead firms in GPNs (MacKinnon 2012; Coe et al. 2004; Yeung 2015).

Table 1: Key Dimensions of Coupling Between GPNs and Regions

Dimensions	Scenarios
Mode of entry	Greenfield, repeat investment, merger/acquisition
Status of TNC affiliates	Autonomous – dependent
Type of region	Source, host
Regional assets	Distinctive – generic
Type of coupling	Organic, strategic, structural
Degree of coupling	Full – none
Depth/layering of recoupling	Deep – shallow
Power relations	Symmetric – asymmetric
Regional development outcomes	Development – dependency
Exposure to decoupling	Low – High

Source: Mackinnon 2012, 240.

According to Yeung (2006, 2016), in the East Asian context, three relational processes and mechanisms have facilitated the strategic coupling of local firms with lead firms in GPNs: an emergence of a transnational elite community of professionals and entrepreneurs that are able to learn best management and manufacturing practices, and to develop strong links with their

former employers; a fragmentation of production and vertical specialization in global industries that provide opportunities for domestic firms to engage with GPNs through subcontracting and partnerships; and state institutions fostering initiatives to meet the interests of firms (Yeung 2006, 2016; Coe et al. 2004). In regard to the state, the main task of GPN scholars has been to analyze the role⁷ of different national and regional state policies and institutions in providing, creating, and/or transforming regional assets in order to meet the needs of trans-local firms in GPNs and foster a strategic, organic, or structural coupling (Yeung 2006; Coe et al. 2004; Mackinnon 2012; Smith 2015; Horner 2017).

Although GPN researchers have not explored the concept of corporate capture, these scholars have acknowledged the existence of power asymmetries and how coupling processes can result in detrimental outcomes such as the exclusion of some parts of civil society, uneven resource allocation, the disarticulation of existing regional economies, and growing gender inequalities, among others (Coe et al. 2004; Coe & Hess 2011; Dawley 2011; Mackinnon 2012). While FDI studies claim that national states are in an inferior position when bargaining with MNCs due to information asymmetries and lack of coordination, GPN academics believe this to happen when their regional assets are not complementary to the strategic needs of MNCs (see Mackinnon 2012; Coe & Hess 2011; Yeung 2016). For example, regions are in a better position when bargaining with firms when they possess highly specialized and distinctive regional assets, like pools of knowledge and expertise, which match the interests of the firms. Coupling processes are considered symmetrical when based on partnerships and reciprocity, or asymmetrical when it involves the corporate capture of institutional capacities (Coe & Hess

⁷ For example, Dicken (2011) sees the nation-state as having four main roles regarding the formation, configuration, upgrading of GPNs: Container of laws and practices, regulator, competitor, and collaborator. Lee et al. (2014) claims that the South Korean state acts not only as a container of laws and practices, but also as an inter-scalar mediator, a constructor of regional innovation systems.

2011; Mackinnon 2012). Therefore, the GPN literature would explain processes of corporate capture as a result of states lacking specific or distinctive regional assets that are of the interest of firms. This lack of specific assets, as GPN scholars would assert, puts states in an inferior position when bargaining with firms, and thus, vulnerable to having their institutional capacity captured⁸. However, such an explanation of corporate capture is problematic.

Such an explanation of corporate capture is purely descriptive, lacking a theorization that addresses its underlying or fundamental aspects within a context of social relations. The insufficiency of strategic coupling approaches to comprehend and explain the underlying causes of power asymmetries and processes of corporate capture lies in three main factors. One major issue is that, as Glassman (2011) has argued, GPN studies have been based on a neo-Weberian national–territorial conceptualization of the state, which sees national states and policies as external to markets, to global production networks, and to the economy. Such a view of the state directs scholars to focus on isolated state initiatives and policies, overlooking the fact that GPNs’ processes may be linked to broader national, subnational, and international political-economic features, and related to specific state accumulation strategies (Smith 2015). This issue is also related to the fact that GPN researchers have mostly based their analysis on an actor-network approach, which relies on a thick description of the objects of study, overlooking their underlying causes (see Yeung & Coe 2015). Through this approach, academics have placed greater attention on human and non-human agency, overlooking the totality of social structures (Sayes 2017).

Another concern is that their conceptualizations of strategic coupling overlook its link to class relations, and approach labor in a human-capital perspective. For example, GPN scholars

⁸ As Phelps (2008) stated, the capture of the institutional capacity of regions is rarely full. So, corporate capture is always a process in which the institutional capacity of states is only partially captured.

focus on the importance of state policies in generating sufficient skilled labor force for firms (or on the presence of a skilled labor force) to foster strategic, organic or structural coupling processes (Selwyn 2016). As Selwyn (2016) points out, formulations related to strategic, structural and organic coupling processes overlook their relation to the existence and formation of an exploitable working class, which are normally established and disciplined by state actions and endeavors to leave zones of labor militancy (Selwyn 2016). Labor markets are explained based on market forces of supply and demand, ignoring how the labor force was established originally (Selwyn 2016).

In conclusion, GPN strategic coupling studies explain why some states are more prone to processes of corporate capture than others based on the lack or presence of specific regional assets that meet the strategic needs of firms. The lack of regional assets creates power asymmetries, which in turn puts states in an inferior position when bargaining with firms, thus, increasing its tendency to have corporate capture. Although approaches to strategic coupling recognize the detrimental outcomes that coupling processes can generate, they still lack a theorization that explains well the underlying causes behind it. This is because of its actor-network approach, which prioritizes the description of phenomena, its Neo-Weberian approach to the state, and its approach to labor as human-capital.

2.3 Variegated Capitalism, The Strategic Relational Approach and State Structural Dependence on Capital: Rethinking Corporate Capture

In the previous two sections, this research demonstrated that neither GPN analyses of strategic coupling nor FDI studies deliver a satisfactory rationalization regarding how different forms of state relate to processes of corporate capture. This research highlighted the need for an

approach to the relationship between corporate capture and the state that: (a) recognizes the subnational variances of national states, and approaches corporate capture as phenomenon that is associated to multiple state scales; (b) further explores the underlying causes of corporate capture, going beyond descriptive approaches; (c) expands the binary view of corporate capture (states' interests versus MNCs' interests; corporate capture versus externalization). In this regard, in the following three subsections (2.3.1-2.3.3) this research will draw from the variegated capitalism literature, Jessop's strategic relation approach, and theories of state structural dependence on capital in order to address these two first issues. Regarding the last issue (c), this research will address such a problematic only in the third chapter.

2.3.1 Variegated Capitalism and Subnational Models of Development: Processes of Corporate Capture as a State Multi-Scale Dynamic

In this section, this research will demonstrate how the variegated capitalism literature can provide a more refined explanation to understand the relationship between the state and corporate capture. The variegated capitalism literature reveals how national states can have deviating subnational modes of regulation and accumulation strategies. This means that processes of corporate capture have to be understood according to these state particularities and in consideration to states' multiple scales.

The variegated capitalism (VC) literature has been developed in the last years, delivering an interesting conceptualization of how states and capitalism function. Drawing from Marxist theories and from the varieties of capitalism (VoC) literature, the VC literature has a refined approach and explanation not only in regard to how and why national states vary from one another across the globe but also in regard to how national states are marked by internal

variations. Before turning in depth into this literature, it is important to analyze the VoC literature, given its influence over the VC literature. Therefore, first we will analyze the VoC literature and critiques of the approach, and how the VC studies have been developed in an attempt to address these matters. After discussing the main points of the VC literature, I will explore whether it can be deployed to corporate capture studies.

The varieties of capitalism (VoC) literature has fostered an interesting approach for cross-national comparative studies. Bringing firms into the center of analysis, VoC demonstrates how national institutional frameworks are important features that influence or condition firms' performance. VoC explores how institutions improve the capacities of firms to coordinate with other actors and consequently to solve their problems (Hall & Soskice 2001; Schneider 2009). According to Hall and Soskice (2001), for firms to develop, produce, and distribute goods and services profitably, they have to resolve problems of coordination in five main spheres:

- 1) Industrial relations: Firms have coordination problems with workers and unions related to bargaining over wages and working conditions. At stake are wage and productivity levels that condition the success of the firms as well as the rates of unemployment in the economy.
- 2) Vocational training: Firms have coordination problems with educational institutions in regard to securing a workforce with suitable skills, and with workers who face the problem of deciding how much to invest and in what skills. At stake is the fortune of individual firms and workers, and the skill levels and competitiveness of the overall economy.
- 3) Corporate governance: Firms have coordination problems with investors related to how to access financing and to assure returns.
- 4) Inter-firm relations: Firms have coordination problems with suppliers and clients regarding the sharing of proprietary information, and the risk of exploitation in joint ventures.

5) Employees: Firms have coordination problems with employees concerning how to ensure that employees have the desirable competencies and cooperate well with one another to advance the objectives of the firm. Problems relate to moral hazards, adverse selection, and information sharing (Hall & Soskice 2001; Schneider 2009).

In this context, Hall and Soskice (2001) developed an approach that compares national economies according to how the problems in these five spheres are resolved. The authors, in their initial study, developed an analysis of two types of national economies. On one side of the spectrum, there are liberal market economies (LMEs) like the US and the UK, while on the other side of the spectrum, there are coordinated market economies (CMEs) such as Germany and Japan. Other scholars have added other types of national economies. For example, researchers have examined how Latin American countries have types of national market economies that do not conform with the LMEs or the CMEs models. Brazil is termed as a hierarchical market economy (HME) (Schneider 2008, 2009; Saucedo et al. 2015).

In LMEs like the US, firms resolve their coordinating problems via competitive market arrangements, or through price market and formal contracts, where supply and demand is responsible for fostering equilibrium outcomes in the five spheres (Hall & Soskice 2001; Schneider 2009). In HMEs, firms rely on hierarchical arrangements to solve their coordinating problems and reach equilibrium. More specifically, business groups and MNCs unilaterally organize coordinating problems via overall non-market hierarchical relations in order to reach equilibrium (Schneider 2008, 2009).

Table 2: Liberal Market Economies and Hierarchical Market Economies

	LME: United State of America	HME: Brazil
Industrial relations	- Firms' relations with workers are based on market relations.	- Firms' relations with workers are structured by top-down regulations issued

	<ul style="list-style-type: none"> - Managers have unilateral control over the firms and has freedom to hire and fire. They have no obligations with trade unions for example. - The market controls wages as well as inflation although macroeconomic policies also pose an important role. Few unions. 	<ul style="list-style-type: none"> by national governments and enforced by labor courts. - Employees lack formal grievance procedures and representation. Workers lack voice because many jobs are temporary. - The state and employers set the wages. Few unions.
Vocational training	<ul style="list-style-type: none"> - Focus on general skills, firms not willing to have apprenticeships, given that they have no guarantee that other firms will poach their apprentices. Greater amount of in-housing-training. Short on highly specialized skilled workers. - Post-secondary or on-the-job training is based on the market. - Labor markets are fluid because firms can hire and fire according to their strategies. Therefore, workers are encouraged to acquire general transferable skills. 	<ul style="list-style-type: none"> - Post-secondary or on-the-job training is often unilaterally decided by firms or business associations and financed by the state. - Low productivity due to slow progress in education, the failure of training systems, poor labor relations, and the absence of compensation mechanisms for workers who stand to lose their jobs. Workers have few incentives to invest in sector or firm specific skills, and invest, if they do invest, in more general skills. - Low skills due to the fear of poaching, which discourages investment, but this problem sometimes is surpassed by public investment.
Corporate governance	<ul style="list-style-type: none"> - Firms are encouraged to be more attentive to earnings and the price of their shares. Regulatory regimes are tolerant of mergers and acquisitions. - Access to finance depends on their valuation in equity markets, where investors depend on publicly available information. Firms focus on profitability and performance. 	<ul style="list-style-type: none"> - Most firms are directly controlled and managed by their owners, either prominent families or foreign firms. Diversification and family control introduce hierarchy into corporate governance. Without multiple owners or stakeholders there is no need to negotiations. - Diversified business groups and MNCs were the key conduits for organizing access to capital, technology, and markets through Coasian internalization and hierarchy. Access to capital through public financing.
Inter-firm relations	<ul style="list-style-type: none"> - Based on market relations and formal contracts. Mediated by antitrust regulations to avoid the control of prices. - Firms get little assistance with relational contracts. Technology transfer then takes place with scientists and engineers that move from firm to firm, which a fluid 	<ul style="list-style-type: none"> - Sometimes they are competitive, but some sectors are oligopolistic, and others regulated by the state. Inter-sector relations of same firm group owners. - Most inter-firm coordination focuses on politics and policies rather than narrower issues of sectoral governance. - Because firms are too large, relations with competitors, suppliers, and clients are often

	labor market facilitates. They also rely on sale of innovation. - Research consortia and inter-firm collaboration play a less important role in technology transfer.	vertical, unequal, and imbued with a hint of coercive hierarchy. - Firms in general have little coordination capacity to foster collaboration with other firms, and to have processes of technology transfer.
Employees	- Corporate structures that concentrate authority in top management make it easier for firms to release labor when facing pressure from financial markets and to impose a new strategy on the firm to take advantage of the shifting market opportunities that often present themselves in economies characterized by highly mobile assets.	- Atomistic and fluid/short term links. - Unions have little influence on hierarchies within the firm given that so few workers are unionized and where unions do exist, they are often distant from the shop floor.

Source: Hall and Soskice 2001; Schneider 2008, 2009; Saucedo et al. 2015.

For Hall and Soskice (2001), institutions, organizations, and culture⁹ are important because they provide support for firms to resolve their coordination problems. The authors state that the institutional structure of national economies provides comparative advantages for firms to engage in specific types of activities, allowing them to be more competitive. In this respect, different modes of coordination develop different clustering of institutional complementary¹⁰.

For example, LMEs have labor market arrangements that allow companies to easily cut costs in an economic down-turn by firing labor. Such a labor market arrangement is complementary to financial markets, given that a firms’ access to funds depends on profitability, and thus, rapid responses to economic downturns. Educational arrangements that privilege general rather than firm-specific skills are complementary to these highly fluid types of labor

⁹ Hall and Soskice (2001) understand culture as shared understandings that accumulates from experience, or the ways things are done usually.

¹⁰ Two institutions can be complementary if the presence of one increases the returns from the other (Hall & Soskice 2001).

markets, where such a labor mobility is complementary to technology transfer among firms, and benefits economies based on innovation. In the context of a legal system that works against relational contracting, licensing agreements are also more effective than inter-firm collaboration on research and development for effecting technology transfer (Hall & Soskice 2001).

Another example can be seen in HMEs. HMEs have general training skills that are complementary to its short-term fluid labor market, where MNCs are able to poach skilled workers from domestic firms, and the wages do not significantly increase according to levels of skills. It is also complementary to the political and economic volatility and uncertainty of HMEs countries, where high employee turnover and low unionization discourage firms to invest in training since workers may not work for too long. The lack of unions, which could negotiate distribution of gains over time for workers investing in training, discourages training as well. Low skills discourage domestic firms to upgrade to higher technology sectors and encourage them to operate in lower ones where skills are abundant. Such a characteristic, i.e., an abundant labor market marked by workers with low skills and low wages, is complementary to commodity production, which relies on fairly standard technologies and prices (Schneider 2008; 2009).

Changes in a national institutional framework are explained according to exogenous shocks like liberalization and technological change, which disrupt the existing equilibrium reached by firms in their relationships with the five main spheres already described. Firms challenge this now problematic institutional structure; institutions change in one sphere, consequently affecting the other spheres, and therefore, restore equilibrium (Hall & Soskice 2001; Peck & Theodore 2007).

Although fostering a rich and stimulating explanation of how national market economies vary across space, the VoC literature has been criticized for five main reasons. First, VoC

literature initially deployed an ideal-type reasoning which has two poles: liberal market economies and coordinated market economies. The problem here resides in the fact that liberal market economies are portrayed as the locus of ideal market relations as a disembodied self-regulating market (Peck & Theodore 2007). However, national market economies are not characterized by market coordination or by non-market coordination, but by a combination of both. Markets demand social, institutional, and political structures to function (Peck & Theodore 2007). In this regard, this pushes this research to adopt the conceptualization of the United States as a “hidden developmental state”¹¹ instead of liberal state. This does not mean that the US behaves as a classical developmental state like Brazil¹² from the 1930s to the 1980s (see Bresser-Pereira & Theuer 2012). The US has been conceptualized as a “hidden developmental state” due to its significant role in the economy, but not in “import-substitution” but in advancing, through public-private partnerships, new technologies and innovation (Block 2008).

Second, VoC literature has a problematic explanation regarding institutional change. In their perspective, harmonious agglomeration of institutions is the norm, where there is a steady state or there is a state in change. However, institutional discordance and disequilibrium is much more usual due to the contradictory nature of capitalism (Jessop 2014). VoC literature overlooks processes of experimentation and cumulative transformation in relation to institutional change

¹¹ Weiss (2014) argues that the US does not have a liberal and market-coordinated economy, but a “hybrid state” in which institutional networks accommodate strategic policies fostering high-tech and defense related sectors and addressing emergent shortcomings from liberal capitalism. Weiss (2014) and Block (2008) argue the US acts similar to a developmental state. Block (2008) uses the term “hidden” because the US, different from developmental states, has not a clear formal industrial policy in which investments, partnerships, goals are described.

¹² The developmental state refers to states that are (or were) financially tied to industrialists, having a collective national developmental goal. In the Brazilian case, the developmental state was in place from 1930s to late 1980s. In Brazil, the state used its finance as a conduit of industrial policy to achieve industrialization through import-substitution. To do so, the Brazilian developmental state established an institutional compromise with its industrial elite, urban workers, and with the non-exporter agricultural elite in order to foster a project of development. To stimulate internal production, Brazil not only created many national firms but also supported private businesses by establishing high import-taxes, socializing risks through low-interest loans, inflationary refinancing and non-performing loans to bail firms out, and by expanding its share equity of banks to write off bad loans (Bresser-Pereira and Theuer 2012; Fine 2008; Woo-Cumings 1999). More details of the Brazilian case will be provided on chapter 5.

and disregards that institutions can be hierarchically organized, where some spheres are more important than others for reforms (Peck & Theodore 2007). Moreover, institutional change is not only fostered by external shocks. For example, neoliberal reforms are gradual and take place from within (Peck and Theodore 2007; Jessop 2011; Jessop 2014).

Third, the rise of neoliberalism has pointed to a convergence in models of capitalism, which challenges VoC scholars, given that there is an inclination in CMEs to lean towards the market. VoC literature places neoliberalism under the LMEs, failing to comprehend how both LMEs and CMEs converge towards neoliberalism (Jessop 2011). Therefore, there is a need for VoC scholars to take into consideration the structural complementarities, connecting threads, commonalities, and family resemblances in neoliberal restructuring programs; although differences are expected even in deep neoliberalization (Peck and Theodore 2007; Jessop 2014).

Fourth, VoC privileges the political economy at the national scale, but studies concerning the rescaling of political economic relations and state forms have demonstrated the existence of models within models, trans-local spaces, and that national states are porous and interconnected. In this regard and through the lenses of uneven development, geographers have rich theorizations regarding the economic and political relations at the subnational and transnational scales (Peck & Theodore 2007; Jessop 2011, 2014).

Fifth, when looking at states and their multiple scales, there is also a need to add historical trajectories, class relations, and the development of capitalism as a world system, moving beyond the pluralization of capitalism and reified enclosed sets of models. This takes researchers to examine the principles, sources and dimensions of capitalism's variegation, addressing the causes and forms of capitalism's dynamic polymorphism (Peck & Theodore 2007; Jessop 2011, 2014).

Facing this problematic, scholars have sought to foster a similar, but different analysis regarding how capitalism differs. Peck and Theodore (2007) have argued for an approach that draws from institutional theories of uneven development of capitalism, regulationist treatments of accumulation and regulation, and Polanyian notions of institutional embeddedness. It would approach not only the state at its national scale, but also at other scales (Peck & Theodore 2007).

In the same direction, Bob Jessop argues for an approach that considers capitalism as contradictory and as an object of regulation. Jessop (2011, 2012) theorizes capitalism as a set of social relations that due to the commodification of labor, permanently generates conflicts. This characteristic of capitalism requires the state to establish modes of reproduction, regulation and governance that ensure a smooth, crisis-free course (but temporary) for capital accumulation, or spatio-temporal fixes when there is no stability (Jessop 2011).

By pointing to the contradictory nature of capitalism and to how it requires regulation, Jessop (2011) challenges the VoC problematic view of equilibrium and institutional change. While the VoC literature assumes that accumulation and equilibrium are likely to happen, Jessop (2011) demonstrates that both are unlikely because of the inherent contradictions of capitalism. The author states that when stability occurs, it will be related to zones of instability elsewhere and/or to postponing problems into the future (Jessop 2011, 2014). In this regard, VC goes further to analyze how zones of relative stability are related to instability inside or outside these national economies in an ecology of accumulation regimes and modes of regulation.

Jessop (2011, 2014), in order to address the problems presented in the VoC literature, argues for the adherence of four main concepts: variegation, compossibility, ecological dominance, and the world market. For Jessop (2012) capitalism functions in a world market that encompasses an ecology of economic spaces that interact and produce the uneven dynamic of

accumulation on a world scale (Jessop 2012, 5). In this regard, the world market, as a totality of production, fosters an uneven and combined development that integrates branches of capitalist production and their respective social supports.

If national states are part of an integrated world market, VoC literature cannot explain variation based on isolated and singular models of market economies such as liberal and coordinated. National forms of market economies have to be understood according to their interrelations as a series of hybrid variegations as global forces interact with local institutions and actors (Jessop 2012; Sphar 2016).

In this sense, variegation attempts to go beyond the pluralization of capitalism and reified models to investigate the principles, sources, and dimensions of capitalism variegation (Peck & Theodore 2007; Jessop 2012). Through variegation, attention is turned to the structural coupling, co-evolution, complementarities, rivalries, and antagonisms among national economies within the world market (Jessop 2011). Due to competing in a world market, variegation happens through co-evolution and co-dependency among national economies, not in isolation (Sphar 2016)

In order to explore variegation, Jessop turns his attention to the concepts of compossibility and ecological dominance. Concerning compossibility, based on the work of Leibniz, Jessop (2011, 2014) points that the VoC literature took into consideration compossibility, but only within national market economies. Compossibility refers to how individual nation states exist together in the global market and can contradict or mutually reinforce one another (Jessop 2011). Raising the issue of compossibility between different varieties of capitalism, the author asks: “[...] to what extent can different varieties co-exist in the same economic space and, if they are compossible rather than impossible, does their co-

existence have benign, neutral, or negative effects on their individual and collective economic performance?” (Jessop 2011, p.4). One example is the co-dependent relationship between the US and the Chinese state, or the Eurozone, which has been developed on the basis of compossible relations under the leadership of the German model (Jones & Jessop 2010; Peck & Theodore 2007, Jessop 2011, 2014).

Concerning ecological dominance, Jessop (2011, 2014) notes that different varieties of capitalisms are not just due to their “relative economic efficiency as models of rational capitalism”, but also due to their articulation to different forms of political capitalism. In this regard, the author claims that variegated capitalism exists under the influence of hegemonic projects like neoliberalism. This is because the world is marked by differential global power hierarchies and core-periphery relations in which some variegations are more influential than others. Jessop’s (2011) concept of ecological dominance, therefore, considers the uneven development of capitalism in a world system, bringing the idea that national states are porous and interconnected at the transnational scale, as Peck and Theodore (2007) have also pointed out.

The VC literature allows this research to explore and explain state/processes of corporate capture relation in more depth. The VC concurs with the FDI studies literature in regard to the understanding that corporate capture is partially an outcome of asymmetrical relations between MNCs and states due to trends in liberalization in the world economy (see Phelps 2008; Almond et al. 2014); however, the VC provides a deeper explanation in regard to how processes of corporate capture are related to variegation and the ecological dominance of neoliberalism. As Jessop (2011) stated, the world economy is marked by an ecology of states that interact and produce an uneven and combined dynamic of accumulation. Variegated forms of capitalism emerge through a coevolution and codependency among national and subnational states (Jessop

2014). Under the ecological dominance of neoliberalism, states have been influenced by certain policy descriptions marked by liberal practices and commonalities across countries. These practices and commonalities can be identified, for example, in regard to the creation of markets in areas that did not exist before related to land, water, education, health care, social security, or environmental pollution (Harvey 2005). In this context, processes of corporate capture can be understood as a particularity of the capitalist state and its relationship to MNCs, a commonality across states part of the neoliberal world hegemonic project. Corporate capture emerges due to how states interact with MNCs and other states in a context in which accumulation—through the attraction, retention, and development of firms—happens based on an uneven and combined development. This means that all types of state such as developmental states and liberal states are prone to processes of corporate capture, but this is not to deny that some states will give greater attention to matters of externalization and have less drastic degrees of corporate capture than others. Moreover, this researcher believes, as later will be discussed, that processes of corporate capture and externalization can concomitantly happen at different scales.

Another important aspect of the VC approach is its explanation regarding how states cannot be typified according to their levels of coordination—coordination versus market—, given that even the so-called liberal states function based on social, political, and institutional structures, which allow the market to function. This means that, as Poulantzas (1978) argued, all states are required to have high levels of state coordination (“intervention”¹³) due to capitalism’s contradictory nature. Therefore, it is theoretically problematic to analyze corporate capture in relation to levels of coordination, given that what differs from state to state is not their levels of

¹³ Poulantzas (1978) claims that the economic sphere is not exterior to states and does not automatically reproduce itself. This means that term state “intervention” is problematic, given that the state and the economy are mutually constituted (Poulantzas 1978).

coordination, or degree of intervention, but how states structure their institutional apparatuses in attempts to foster accumulation and to maintain their economies free of crisis (Jessop 2011). In this regard, I argue that the relation between different forms of state and processes of corporate capture should be conceptualized according to their accumulation strategies. However, before developing such an argument, I have to explore how and why national states can have subnational modes of development or accumulation strategies that drastically differ from their national models. This is important because it will provide a framework which allows me to relate processes of corporate capture to state accumulation strategies in its multiple scales.

2.3.2 Variegated Capitalism, Sector, and Scale

Researchers have also demonstrated the need to expand VoC discussions in scalar and spatial terms, building a cross-scalar interpretation of the VoC approach. Under the variegated capitalism rubric, some studies have pointed out how firms are enveloped not by a single institutional national framework, but by a range of institutional layers at different scales. As Jessop (2011) revealed, the state is built on subdivisions with certain political and administrative powers as well as on some autonomy from the national state apparatus within which political power is exercised to achieve policy objectives (Jessop 2011). In this regard, the VC literature has called attention to the possibility of the existence of autonomous subsystems and governance structures on the sectoral or local levels, what have been conceptualized as regional sub-models of capitalism (Peck & Theodore 2007; Zhang & Peck 2014). Such an approach can be of great use for this research to foster a more nuanced approach to analyze the relationship between the state and corporate capture.

Zhang and Peck (2014) claim that under capitalism and inside national states, industrial expansion happens through an uneven development that is reinforced by an unequal distribution of resources and linkages to the outside world. Such an internal, uneven development results in a range of regional models of capitalism marked by political struggles—and shaped by firms—over the design of policies. To exemplify their argument, Zhang and Peck (2014) analyze the existence of different subnational models of development within China. These variations are related to how such models of development are forged translocally and transnationally (different insertions into the global market) through an uneven development. For example, the subnational state of Sunan, China has a local state corporatism model of development, where local governments were heavily supportive of collective township and villages enterprises through guaranteed loans, favoring collective enterprises and ignoring private firms. As township and village enterprises were privatized and integrated into GPNs, Sunan started to invest in the creation of industrial parks, giving incentives to attract firms mostly from Taiwan. This became the new source of investment. In the VoC style, the authors go on to explore and compare in detail the five spheres of several Chinese subnational states (Zhang & Peck 2014, p.74).

Similarly, Rutherford et al. (2018) analyzed how two Canadian provinces, Ontario and Quebec, have different models of development. More specifically, the authors explore the accumulation strategies of these provinces in order to understand their outcomes for regional development. The authors revealed how the accumulation strategies of Ontario and Quebec have significant and differential outcomes in regard to policies to maximize FDI spillovers. As the authors argue, the accumulation strategy of Quebec, a developmental state, has more power to foster externalization in relation to FDI than the province of Ontario.

In the same line of thought, Brenner (2003) has claimed that since the Fordist crisis, many national states have transferred the responsibility of economic development to their subnational states, which have to promote their local and regional economies. Therefore, the national economy of many countries has been fragmented among local and regional economies, which are in charge of developing their own glocalization strategies, and thus, their own place-specific assets and developmental trajectories (Brenner 2003). The author claims that subnational glocalization strategies can vary within national states, given that such strategies are conditioned by their state structure (unitary/federalist), inherited economic arrangements, national/subnational political regimes, and processes of industrial restructuring. Moreover, such glocalized state spaces emerge through an uneven development of state regulation, and intensify intra-national socio-spatial polarization, given that economics assets, industrial capacities, and infrastructure investments are concentrated in the most powerful regions (Benner 2003).

In the same direction, Schröder and Voelzkow (2016) describe why subnational state variances exist. The authors go further to reveal how subnational variances do not stem only due to their national structure (unitary/federalist) but from the interplay between national, sectoral, and regional forms of governance. Therefore, subnational states and their strategies may differ not only by country due to differential institutional legacies and distributions of national political power, but also due to dynamics related to specific industrial sectors and regions. According to the authors, firms competing in the world market search for regional economies that offer an optimal regulation of their activities. What is optimal varies according to each sector. Consequently, local states with specific industrial clusters have sought to offer an optimal regulation to their sectors in order to attract and develop firms. Their models of development are structured around such needs. Thus, it is not uncommon for local states to deviate from their

national governance when national regulation challenges their sectors (Schröder & Voelzkow 2016).

In this regard, Schröder and Voelzkow (2016) argue that local states will replicate their national institutions if their clusters are in the sector that is supported by its national institutions. For example, regional economies with high technology clusters based on radical innovation will mirror their national institutions if their national market economies are LMEs. The same goes for a regional economy with a cluster in a sector based on incremental innovation and a CME. But if they differ—LMEs with clusters based on incremental innovation—then regions will deviate from their national states, adapting their own institutions to meet the necessities of the sector. For example, in London, where there is a media cluster based on incremental innovation, coordination around training and financing is higher than what is normal for a liberal market economy (Schröder & Voelzkow 2016).

Variances between national and subnational states are also related to the autonomy that national states give. Almond et al. (2012, 2013) analyzed the characteristics and behaviors related to FDI initiatives of several liberal and coordinated market economies. One of their major conclusions is that subnational states in these countries vary in their degree of autonomy, factors that influence their degree of FDI focus, their responsibilities for FDI—for example in some places, private or not-for-profit institutions are responsible for FDI, rather than the state—and in their politics and developmental orientations. According to Almond et al. (2012, 2013), subnational states with a low degree of autonomy means that FDI policies are entirely managed by their national government, while a high degree of autonomy means that subnational states have substantial power within the national framework to foster initiatives related to FDI. For the authors, subnational states with a high degree of autonomy are more likely to embed MNCs and

to reach positive outcomes such as externalization and cluster formation (Almond et al. 2012, 2013).

The VC analyses regarding the internal variations of national states bring a valuable approach to the state and can greatly contribute to studies concerning the relationship between the state and corporate capture, addressing some of the insufficiencies of the GPN and FDI literatures. In this regard, the VC approach can contribute to questions of state/corporate capture as follows.

As revealed, the FDI studies literature does not satisfactorily examine the relationship between corporate capture and the state due to its analysis based on levels of coordination at the national state scale. This is not only theoretically problematic, as pointed out before, but it also overlooks the existence of state internal variations within national states in terms of administrative, economic and political power (degree of autonomy), and accumulation strategies. Understanding states according to the VC approach allows this research to analyze corporate capture and in its relation to the state at multiple scales. For example, bargaining events with MNCs as well as the design of policies of FDI attraction and aftercare do not always take place at the national state scale, they can take place at other state scales such as the subnational and local, or at multiple scales concomitantly. Therefore, processes of corporate capture—as well as de-capture—can happen at multiple scales, and this is dependent on the degree of autonomy and power of subnational and local states within specific national states. Such an approach allows this research to break with corporate capture studies based on a binary view, whether there is corporate capture or there is externalization.

Moreover, as this research will explore in the next subsection, subnational states can have different accumulation strategies from their national states. For example, while policies of FDI

attraction can prevail in the economic development strategy of some national states, their subnational states can foster strategies that privilege the development of small and medium-size firms or the creation of start-ups. While processes of corporate capture can happen at the subnational or national state scale, local states, which receive these firms, can direct their initiatives to foster externalization, processes of de-capture, which mostly target and prioritize the local business community.

Furthermore, bargaining events can result in significant and different degrees of corporate capture according to the position national states occupy in the global economy as well as according to the position subnational states occupy within national economies, as Brenner (2003) has stressed. The GPN literature is correct in asserting that the lack of specific regional assets, which would meet the strategic interests of firms, places states in an inferior position when bargaining with firms. This can be linked to how the uneven development of state spaces in which some subnational states and regions are privileged—and thus more powerful—and able to concentrate economic assets, industrial capacities, and infrastructure investments. This view, along with an approach to state accumulation strategies can provide some underlying explanation of the too descriptive GPN approach.

Furthermore, by approaching the national and subnational states through the VC lenses, this research can analyze strategic coupling processes and corporate capture not only as a consequence of single isolated bargaining events between MNCs and the state, as the GPN would claim, but also part of broader models of development that play a crucial role in GPN processes¹⁴. While the GPN literature claims that corporate capture happens when there is a lack

¹⁴ Smith (2015) has demonstrated how GPNs are articulated to particular national modes of development—which vary according to their model of insertion in the world market, the accumulation strategies which are at the heart of this insertion, and how the state regulates this mode of insertion and accumulation strategies. To illustrate his argument, the author demonstrates the importance of the Tunisian “exportism” national model of development, which was crucial to attract GPN firms.

of specific regional assets meeting the strategic needs of firms in processes of structural or strategic coupling, this research goes beyond to acknowledge that corporate capture is related to broader aspects, including the accumulation strategy of states at different scales, as this research will explore in details in the next subsection.

2.3.3 State Power and Strategies, State Dependence, and the Underlying Causes of Corporate Capture

In this subsection, I will advance the argument that the evolution of corporate capture should be understood according to the state accumulation strategies of regions. I will reveal how the evolution of corporate capture is related to how the strategic selective institutional context of states and subnational states privileges MNCs, which in turn, have structural advantages to advance their interests to a point known as corporate capture. As disclosed before, there is a need to further explore the underlying causes of corporate capture. To do so, this research will draw from Jessop's strategic-relational approach and theories regarding the structural dependence of the state on capital.

Bob Jessop is today one of the most influential scholars regarding state theory. Jessop's theorization, despite its high level of abstraction, has been disseminated in many different disciplines such as geography, sociology, and economics. Jessop started to develop his state theory and strategic-relational approach in a context where Marxist instrumentalist and structuralist views of the state were under heavy criticism (Hay 1999). In this scenario, Jessop, instead of elaborating a theory of the capitalist state, sought to develop a Marxist approach that combines structure and agency in order to analyze state power (Jessop 1996, 2001).

For Jessop, the state is a social relation and strategically selective in regard to its actions. Understanding the state as a social relation means that there are complex relations underneath state actions and strategies, which go beyond the state system and its capacities. State managers are not isolated from wider society, and their behavior is not purely for their own sake, but according to their links to the wider balance of forces (Hay 1999; Jessop 1990, 2007; Kelly 1999). In other words, state initiatives and strategies are founded on a configuration of social forces and institutionalized compromises that underpin state support for particular policy directions (Smith 2015).

Jessop (2014) believes that the state is not a neutral terrain, where political forces compete with equal chances to pursue their interests and reach their goals. According to the author, state action and strategies are always developed within a pre-existing structure—i.e., an institutional context—that is selective and may privilege some actors, some spatial and temporal horizons, some strategies, some paths, and some identities over others (Jessop 2001; 2014). For example, states do not tend to pursue long-term, “patient capital” strategies oriented to strong competition in a neoliberal regime that privileges short-term, hypermobile, superfast flows of speculative capital (Jessop 2004; Gough 2004).

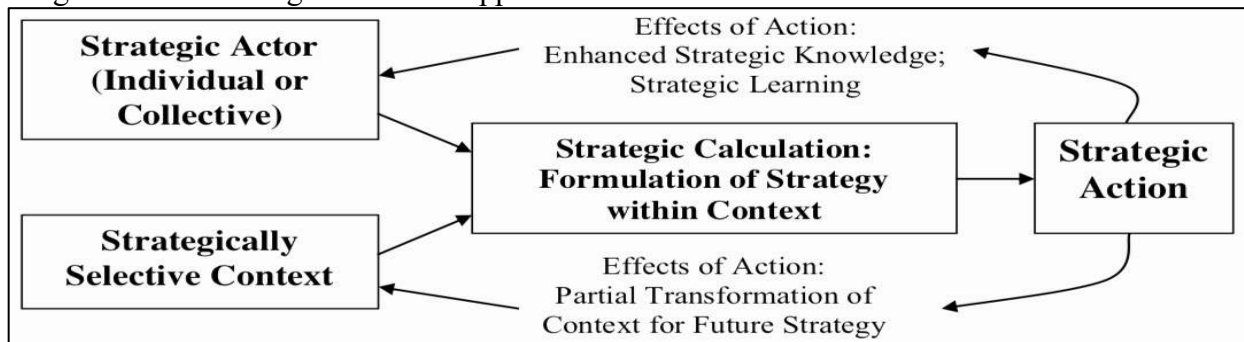
This strategic selectivity of the state¹⁵ favors the articulation of certain strategies and tactics at certain time but does not entirely determine them. This is because while the institutional context encourages specific paths of action, and influences the articulation of strategies, actors within and without the state also behave strategically, having the ability to reflect upon the conjunctural moment and to articulate their strategies and tactics according to their capacities, assumptions, and knowledge (Jessop 2001; Hay 2002). This ability has been

¹⁵ As Hay argues “the strategically selective context is also discursively selective in that it is accessed through perceptions, misperceptions and representations of the existing context” (Hay 2002, p.44).

termed by Jessop (1996, 2007) as strategic calculation. In this sense, state policies, initiatives, and strategies also rely on how actors strategically analyze the opportunities and constraints that exist in a strategic selective institutional context.

In summary, the exercise of state power—i.e. its actions, initiatives, policies, and strategies—is not explained by state managers taking isolated decisions according to their sole interests and perceptions. Actions, initiatives, policies, and strategies are seen as an outcome of the interplay between a specific, strategic, selective institutional context and actors’ strategic calculations. The balance of forces and struggles of such actors play a crucial role in determining which actions, initiatives, policies, and/or accumulation strategies will be fostered by the state. Out of such struggles, the state will strategically select and privilege some actors, some actions, and some strategies rather than others (Jessop 2002; Sphar 2016; Smith 2015). The figure below summarizes Jessop’s strategic relational approach.

Diagram 1: The strategic-relational approach can be summarized as follows.



Source: Hay (2002, 131).

Therefore, how can one explain the underlying causes of corporate capture drawing from Jessop’s strategic relational approach? As this research pointed out before, corporate capture happens when the values and interests of MNCs dominate local economic strategies and initiatives in relation to the interests of local business communities, workers, and governments

(Phelps & Fuller 2001; Phelps 2000, 2008). Therefore, if state action and initiatives are dependent on the interplay between a specific strategic selective institutional context and strategic actors advancing their interests, then the underlying causes of corporate capture reside in two main points.

First, it resides in understanding how or through which mechanisms MNCs and their allied forces are able to strategically advance their interests over the interests of other forces. Second, it resides in acknowledging how and why a strategically selective institutional context may privilege such forces. In this way, corporate capture will not only be explained based on a lack of specific regional assets, and/or low levels of state coordination that result in power asymmetries and regions being in an inferior position when bargaining with MNCs. Corporate capture will also be understood according to the interplay above described; thus, capture and power asymmetries can be viewed as being structurally inscribed in the state.

Regarding the strategic selectivity of states, as stressed before, state action and strategies are always developed within a pre-existing institutional context that is selective and privileges some actors and actions, some spatial and temporal horizons and certain articulation of strategies, and some paths, over others (Jessop 2001; 2014). As national and subnational states vary, it is expected that privileged actors and strategic calculations can also differ. Some states can be prone to privilege accumulation strategies related to inward investments, others to developing start-ups, domestic firms, and/or industrial clusters. The accumulation strategy of states plays an important role in understanding why some regions are more disposed to have more drastic forms of processes of corporate capture than others.

For example, since the crisis of the Fordist regime of accumulation, the world has seen an intense process of neoliberalization that allowed many national states to be more integrated into

the world market (Harvey 2005). The deregulation of national states has enabled capital to become more mobile than ever (Hudson 2011; Featherstone & Mackinnon 2017; Yeung 2016). Such a deregulation has occurred in parallel to processes of national states' decentralization through which subnational states have received more economic responsibilities (Martin 2010; Brenner 2003). This shift has left regions in a critical position (Florida & Jonas 1991). As MNCs become more mobile, regions are challenged to find ways not only to retain their existing firms, but also to attract new ones (Hudson 2011; Featherstone & Mackinnon 2017). In this context, in many countries, subnational states have adopted inward investment strategies in which MNCs are seen as the route to economic salvation (Wood 2003; Phelps & Wood 2006). In these places, the strategic selectivity of states tends to encourage regions to address regional competitiveness by adopting specific paths of action or strategies that will mostly privilege MNCs (see Rutherford et al. 2018; Smith 2015; Brenner 2003).

According to Rutherford et al. (2018), the state, through its accumulation strategy, selects and privileges certain segments of global value chains, designs policies to foster FDI spillovers, determines the rules for regions to compete for investments, and empowers and arbitrates among different actors in the dynamics of attraction and retention of FDIs (Rutherford et al. 2018). Such characteristics are highly important to understand why and how processes of corporate capture happen. These accumulation strategies influence whether some states may have pure inward investment agencies, developing strategies solely related to attracting MNCs; while other states may have agencies that mix FDI approaches with cluster development, and have strategies extended to wider regional development. This can result in major differences with regard to corporate capture (Almond et al. 2013). But as stated before, the presence of forms of

governance with wider developmental goals does not exclude the possibilities of corporate capture being fostered.

As observed, the VC literature reveals that subnational states can differ their models of development from their national states, and in degrees of autonomy. In this regard, the strategic selectivity of states and their effects over processes of corporate capture have to be analyzed in consideration to such variances. In this regard, Rutherford et al. (2018), comparing the accumulation strategies of Ontario and Quebec have revealed how the strategic selectivities of Ontario are likely to privilege MNCs over the interests of other actors such as small- and medium-size enterprises (SMEs).

But as Jessop (2007) and Hay (2002) indicate, the strategic selective institutional context is not the only factor that will shape or determine how the state will act. Actors, within and outside the state, strategically calculate and articulate their strategies and goals (Jessop 2007; Hay 2002). Some forces will be more likely to advance their interests, influencing the state, due to their strategies, tactics, and goals (Jessop 2011). In this sense, if corporate capture is to be understood in this view, i.e., according to the balance of forces shaping and determining state initiatives and accumulation strategies, where MNCs and allied forces are able to advance their interests over other actors, then, there is a need to explore how and why—or through which mechanisms—MNCs and their allied forces are able to strategically advance their interests over other forces to the point of capturing the institutional capacity of the state.

Departing from the assumption that MNCs have structural advantages over other actors like state managers, SMES, local business communities, and the working class, among others in the balance of forces behind state initiatives and strategies, this research will explore four main mechanisms: state managers' self-interest in power, prestige and a healthy economy; specific

techniques used to advance their interests; the emergence of a transnational class and inward investment regimes; and cultural hegemony.

Fred Block (1987) develops an interesting analysis of the rationalization of capitalist system in which state managers are seen as a distinct class. According to the author, there are two subsidiary mechanisms and one fundamental mechanism that influence the state to privilege individual capitalists such as MNCs. The fundamental mechanism resides in state managers' self-interest in maintaining their power. For the author, in order for state managers to maximize and maintain their own power, prestige, and wealth, they depend on the existence of a healthy economy, given that a state's capacity to finance itself through taxation or financing is based on its economic levels. When the economy is not doing well, capitalists are led to decrease their investments, states tend to have a lower tax income, resulting in state managers having difficulties to behave effectively and successfully, and ultimately in a decline in business confidence. In this scenario, state managers' public support can decline, and may result in state managers being removed from their jobs, or not being re-elected (Block 1987; Rooksby 2010). Therefore, in general, state managers and MNCs have converging interests, resulting in MNCs having advantages over other actors such as labor in the formulation of state policy (Hirsch 2010). State managers will likely favor segments of capital that can generate more tax income and/or jobs than others perceived to produce less. This is even more important as capital has become more internationally mobile and can play off different locations against each other.

In this context, state managers—where inward investment strategies prevail and where states are highly dependent on FDIs/MNCs,—tend to pursue policies and initiatives that will assure investment in their localities, meeting as much as possible the interest of MNCs, even if it means having their institutional capacities captured. As Phelps and Wood (2006) claim, the

interests of states and MNCs have become more and more mutual and coincident, transcending the separation between public and private sectors. State managers move backwards and forward between the public and private sector further blurring the two spheres (Phelps & Wood 2006).

State managers will be interested in not only having attractive assets, but they will also be willing to develop policies that meet the needs of MNCs in order to increase business confidence, easing and encouraging investments (Block 1987; Przeworski & Wallerstein 1988). So, MNCs are not only able to capture existing institutional capacities, but they are also able to capture institutional capacities in-the-making. MNCs propose, elaborate and demand state initiatives that do not exist, and which still require institutionalization. This is because individual capitalists base their decisions not only on fixed assets such as infrastructure, but also on their evaluation of the general political/economic climate—such as stability, control of the working class, taxes, business freedom, growth estimations, potential opportunities and constraints, etc. (Block 1987; Rooksby 2010). Therefore, the power of states when bargaining with MNCs does not only reside in the existence of specific or distinct regional assets, as GPNs scholars would argue. It also exists in relation to its trustworthiness, flexibility, fluidity, and the willingness of state managers to meet present and future MNCs' interests by changing, adapting, and innovating their institutional capacities and arrangements as well as by intervening in their locality in order to create new assets.

Such a view that state managers act according to their self-interest in power, prestige, and wealth has been backed by other scholars. Studies have shown that state managers, who seek to keep their power and jobs, are more motivated in attracting inward investments than growing their own industries and supporting SMEs because it creates a local buzz that brings fast name recognition, calling public attention (Wolman & Spitzley 1996; Markusen & Nesse 2007).

Moreover, state managers want to appear proactive in economic development. This is because they are concerned that denying deals to FDIs will provide reasons for their political opponents to contest their work in future elections and may give the region a bad reputation among site consultants (Reid & Gatrell 2003; Wolman 1988; Markusen & Nesse 2007).

The other two subsidiary mechanisms refer to how MNCs are able to directly influence the state, fostering their interests. These mechanisms are also able to explain how and why processes of corporate capture may happen (Block 1987; Rooksby 2010). The first subsidiary mechanism is related to how individual capitalists pursue their interests through various means such as campaign contributions, lobbying activities, and favors to state managers. Such techniques increase the receptivity of state managers to capitalists' interests and goals (Block 1987).

Academics have demonstrated how the representation of firms' interests to the state is unavoidably uneven. Firms depend on their capacity and resources to represent themselves to others and especially to the state (Rutherford 2006), where major inward investors have more opportunities and representativeness to influence politicians than SMEs or the local community businesses. Small firms lack representation to push their agendas, and do not have the same access to state representatives to shape or determine their actions and strategies as MNCs do; thus, MNCs have higher chances to influence the state and dominate its economic development strategies and initiatives (Phelps et al. 2005).

Moreover, individual capitalists are able to influence state managers through informal mechanisms such as forums or committees, clubs, and meetings outside the workplace (Phelps et al. 2005). Through such means, individual capitalists such as MNCs are able to apply pressure on

the state for certain kinds of bargain, for certain kinds of incentives and actions, investments, training initiatives, strategies, and attitudes towards workers, among others.

Nevertheless, such a receptivity goes beyond these actions. The existence of a transnational class as well as subnational inward regimes have become an important factor in this matter (Sklair 2002; Phelps & Wood 2006). The term transnational class refers to globalizing professionals, state managers such as bureaucrats and politicians in different spheres of the state¹⁶, non-state actors like merchants, the media, representatives of private or not-for-profit organizations, site consultants, and those that control and own MNCs. These actors see one another as allies, have similar beliefs, and are willing to meet the interests of MNCs (Sklair 2002).

In this regard, as Jessop (2007) and Poulantzas (1978) would point out, the state has certain subdivisions that tend to favor particular forces like MNCs while other branches might have a close proximity with other forces such as representatives of different businesses, or the working class, among others. MNCs and their allied forces encounter great receptivity and work closely with such state subdivisions and actors.

In particular, the emergence of site consultants as a third party in bargaining events between firms and states and in such local inward regimes is a key element to understand why states provide great amounts of incentives and subsidies, or why processes of capture may happen. These site consultant firms behave as brokers and have been able to foster better deals for MNCs, enhancing the rate of return for their clients (Thomas 2000; Markusen & Nesse 2007; Phelps & Wood 2006). As site consultants work for MNCs and for regions, they acquire

¹⁶ Although, in any case, state managers who sympathize with a specific force, interpret their demands and interests in terms of a particular ideology – that of the ‘neutral state’ (Poulantzas 1978). State managers do not look at policies from a perspective of the ruling class, but from the perspective of state managers (Block 1987).

knowledge about firms' priorities—that state managers do not have—as well as about governments' fiscal situation and economic development strategies. The problem is that site consultants earn their fees on a commission basis, where the higher the subsidy package and tax break, the higher their commission. In this sense, site consultants will explore such information asymmetries in order to get the best deal for MNCs, given that they have parallel interests. Yet, site consultants are seen by state managers as gatekeepers to jobs (Reid & Gatrell 2003; Wolman 1988; LeRoy 2005; Markusen & Nesse 2007).

Finally, the other subsidiary mechanism through which individual capitalists directly influence the state is linked to cultural hegemony. Individual capitalists such as MNCs use the media and organizations to strategically foster their interests and to push state managers to accept unwritten rules about what are legitimate state activities (Block 1987). Wood (2003) states that institutions, practices, political and economic actors have been mobilized to reproduce a material and discursive terrain that idolizes inward investors and advances their hegemony as a route to economic salvation (Wood 2003). This is critical in shaping state managers' perceptions of “best practices” regarding how to attract and how much incentives to provide to FDIs as well as of the public. As Rutherford et al. (2018) revealed, part of the process of attracting FDI is to secure political legitimacy and consent, or more specifically, to draw in workers and the public into viewing the attraction of FDIs also as being of their interests, for example, due to the generation of jobs.

In this respect, MNCs and organizations related to inward investments have fostered the establishment and institutionalization of practices that push states to accept ideas, unwritten rules, conducts, and norms regarding bargaining events, inward investments, and inward strategies (Phelps and Wood 2006). States have been educated by such corporations and

organizations through several initiatives such as “business climate” rankings of regions, conferences regarding inward investments and strategies, magazines like the “Corporate Location and Site Selection”, and organizations such as the World Association of Investment Promotion that exhibit why certain regions are more successful than others in attracting investments due to their regional assets and initiatives, way of functioning, etc. (Raines 2003; LeRoy 2005; Markusen & Nesse 2007). Such practices are not particular of one country like the US but have also disseminated to many countries (Raines 2003). As Peck and Theodore (2015) argue, due to the deepening of transnational interconnectedness among countries, policy practices often exist in relation to near and far relatives, meaning that models of policy, such as of FDI attraction, are often imported from “successful regions” and adapted in other contexts, thus having many resemblances.

Such discursive construction also influences state managers’ perception of what is too much in terms of giving MNCs incentives and subsidies. State managers’ perception in terms of initiatives to attract inward investments relies mainly on the technical knowledge derived from site consultants and bargaining outcomes of other regions (Lee 2011; Markusen & Nesse 2007). For example, MNCs require states participating in bargaining processes with them to maintain all the negotiations in secret (LeRoy 2005). As pointed out before, MNCs have more control over the flow of information when negotiating with governments, and act opportunistically, taking advantage of this aspect (Phelps 2008).

Researchers have demonstrated that state managers rarely have precise information regarding investors’ real intentions, and that firms are able to inflate the number of jobs and benefits they plan to bring to regions, and require confidentiality over the bargaining process (Weber 2002; Bachelor 1997; Markusen & Nesse 2007). As Phelps and Wood (2006) reveal,

local political coalitions spread and disseminate such practices and ideologies, given that such actors adopt a process of modelling to attract inward investment.

MNCs, through the media, stress the supposedly grandiose benefits of their investments to the region, seeking to capture the regional popular perception and to legitimize the deal, while compelling states to maintain in secret, the public investments required for it (Phelps & Wood 2006; Block 1987). All these initiatives and material as well as discursive constructions have resulted in inward investment strategies to become hegemonic in many countries and regions, where MNCs are privileged over other forces (Wood 2003).

Nonetheless, state managers establish economic development strategies and plans that legally approach all firms as equals despite their sizes. In general, subnational and local states base and justify their initiatives, incentives, subsidies, and strategies to attract and retain firms to their regions on a legal system that specifies the incentives that are given to firms according to the compensation that they will bring in number of jobs and/or size of investments. So, corporate capture is not always so apparent in regions' economic development strategies and plans. In other words, as Phelps (2008) noticed, regional strategies and plans of economic development may not explicitly place MNCs at their center, dominating their goals and interests. This is related to how states are also dependent on other actors, having multiple goals.

State managers even approve economic development strategies that explicitly favor smaller firms (Dewar 1998; Luger & Bae 2005; Wolman & Spitzley 1996). However, in reality, when MNCs bargain with regions, such legal systems are ignored by state managers, where incentives are bargained in secret and greatly exceed the amounts legally established in the economic development plans of these localities (LeRoy 2005; Markusen & Nesse 2007). State derivation debate scholars as well as Poulantzas (1977) have demonstrated how—due to class

struggles—capitalism requires the existence of a juridical form that embodies the principle of generality or universality of law and equality of subjects. Nevertheless, it does so under the false ideology that all individuals, such as capitalists and the working class, are equals and have the same rights under the law. (Poulantzas 1978; Clarke 1991; Hirsch 2010). In processes of corporate capture, where MNCs interact with the state, this false ideology is revealed, given that some forces are privileged. Therefore, in processes of corporate capture, the bargaining events between states and MNCs in general are guided by a special institutional system that circumvents and works in parallel to a more general one.

Conclusion

In this chapter, this research sought to analyze not only the concept of corporate capture but also how mainstream literature has explained the relationship between the state, MNCs, and the evolution of processes of corporate capture in regional training systems. In this regard, two bodies of literature were critically examined: FDI studies and the GPN literature. I argued that although both literatures provide interesting explanations, their rationalizations are too descriptive, overlooking the underlying causes of processes of corporate capture, and have a problematic approach to state, neglecting for example issues of scale—more specifically state subnational variations—and class relations.

In the second part, I proceed then to reveal how the variegated capitalism literature, along with Jessop's strategic relational approach, and theories regarding the structural dependence of the state on capital can tackle these issues. Corporate capture, I revealed, is not just due to a lack of distinct assets, or low levels of public institutional coordination as the FDI studies or the GPN

literature would argue but are also due to structural and intrinsic features of the capitalist state, and thus, part of broader social relations.

My main argument was that the evolution of corporate capture can take place at different state scales and should be understood according to a twofold dynamic: how the strategic selective institutional context of national and/or subnational states privileges MNCs, and how MNCs have structural advantages over the state to advance their interests. To demonstrate how MNCs have structural advantages over the state, this research examined four main mechanisms: state managers' self-interest in power, prestige and a healthy economy; specific techniques used to advance their interests; the emergence of a transnational class and inward investment regimes; and cultural hegemony.

Chapter 3: Local Labor Market Governance and Tendencies to Corporate Capture

This chapter will examine whether different forms of local governance reinforce or minimize processes of corporate capture in regional workforce development systems. Focus will be given to processes of corporate capture in regard to public training initiatives. It would be insufficient to understand the evolution of corporate capture only by examining the state and its relationship to firms. Researchers have in the last decades revealed how local governments have shifted towards local forms of governance, where other actors have gained centrality in policy design and public decisions (Lovering 2011; Florida & Jonas 1991; Peck & Tickell 1992; Painter & Goodwin 1995). This chapter will be divided in four main parts.

In the first part (subsections 3.1 to 3.1.3), I establish my approach to and understanding of labor, labor market, and to what is termed regional training systems. This is crucial, given that the goal of this chapter is to analyze whether local forms of governance reinforce or minimize corporate capture in training initiatives. To do so, I start with a critique of the GPN approach to workforce development systems, demonstrating how it is problematically based on market relations, and thus insufficient to analyze corporate capture. I then theorize the concept of regional training systems, which I believe provides a better explanation of why regional training systems exist including their main characteristics and how they function.

In the second part (subsections 3.2 to 3.2.2), the concept of local market governance is explored and its main connection to regional training systems revealed. Local forms of governance are examined and presented as crucial in regard to how regional training systems are established, function, and are shaped. Then, I move to the third part (section 3.3) to argue that the capacity of local forms of governance to reinforce or minimize processes of corporate capture of regional training systems has to be understood primarily according to its state form,

accumulation strategy, and type of state selectivity. I also argue that even in regions where their forms of governance tend to minimize processes of corporate capture, MNCs are still able to partially capture the institutional capacity of regional training systems due to their economic and political power, but in different forms and degrees.

Finally, in the fourth part (subsection 3.4), I conclude this chapter by demonstrating how conceptualizing workforce development programs and initiatives as regional training systems, prompts this research to rethink the concept of corporate capture. In this part, I provide a reconceptualization of what should be understood as corporate capture in regional training systems, exploring in detail the characteristics of corporate capture related to training initiatives and to class.

3.1 Global Production Networks, Labor, and Regional Training Systems

As this research discussed in the second chapter, the GPN literature was initially concerned with analyzing the dynamics and relationships between firms and their upgrading processes (e.g. Humphrey and Schmitz 2002; Coe et al. 2004). However, in the last decade, there has been a significant emergence of studies regarding the relationship between labor and GPNs. Currently, the main GPN literature on labor studies has focused on three main topics. The first topic treats labor as an object and is concerned with how processes of upgrading in GPN firms affect labor (Smith et al. 2018; Bair & Werner 2015; Coe 2015). For example, academics have analyzed how upgrading in different countries results in improvements of the labor force in terms of wages, work safety, etc. (see Lee 2016).

In the second topic, researchers approach labor as an agent, and consider how the labor process—its form and content—is constitutive of GPNs. In this case, studies have demonstrated

how workers can foster collective actions to pursue an increase in their share of surplus (Bair & Werner 2015; Coe 2015; Smith et al. 2018). Social upgrading has been explored as being a consequence of workers' collective organization, and not only as top-down firms' processes of upgrading as in the first topic (Bair & Werner 2015; Selwyn 2011; Coe 2015).

One important aspect of this literature stream is that labor and processes of social upgrading or downgrading—when working conditions and wages are degraded—cannot be not solely understood according to the GPN dynamics, or the networks that workers are part. For example, as if the formation of a secondary labor force based on temporary, low-paid immigrants and women workers was only due to buyers' demands in the supply chain (Bair & Werner 2015). As an alternative, academics have incorporated in their analyses the broader social relations shaping the conditions under which labor is able to be exploited, or to take collective action (Smith et al. 2018; Bair & Werner 2015; Coe 2015). Thus, studies have demonstrated how tight labor markets, national and regional labor regulations, political conjunctures, everyday practices, and struggles, among others can play a crucial role in labors' agency and social up/downgrading processes (Bair & Werner 2015; Coe 2015; Smith et al. 2018; see Baglioni 2017; Azmeh 2014).

One concept that has been explored in this topic is labor control regimes (Smith et al. 2018; Baglioni 2017; Coe 2015; Azmeh 2014). In this regard, researchers have analyzed how different actors, intersecting in GPNs dynamics, shape local labor control regimes in order to exploit and discipline workers through different forms, such as employing informal practices, fostering gender and nationality segmentation and subordination, among others. Forms of workers' resistance have also been explored. In this regard, researchers have moved beyond the workplace to show how production in firms inserted in GPNs functions and depends on broader

spaces of labor control, with which the spheres of production and reproduction are intersected (see Baglioni 2017; Smith et al. 2018; Azmeh 2014).

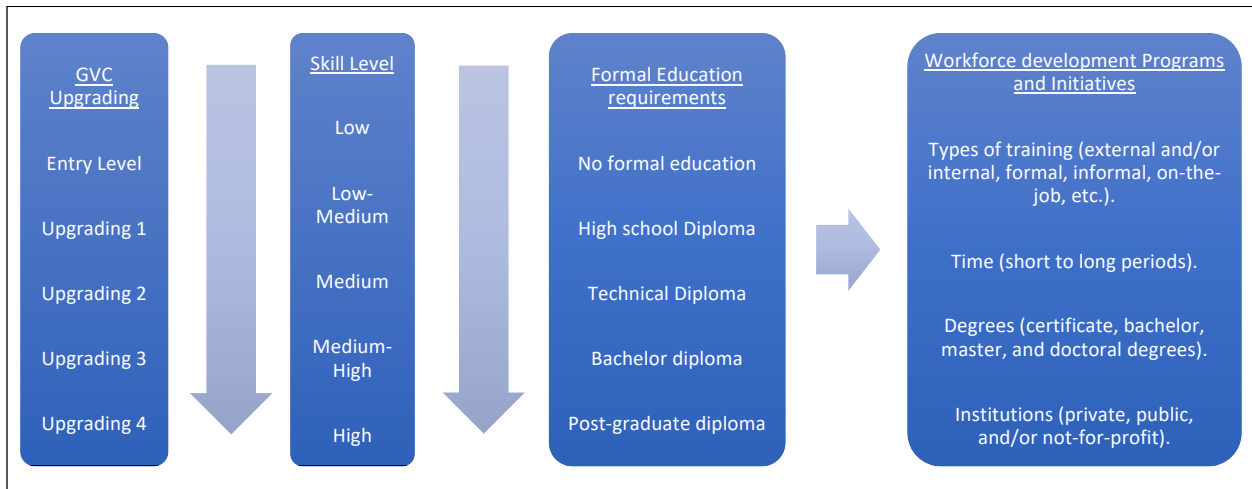
The third topic, which this research seeks to engage with, has also been marked by scholars addressing labor as an object. GVC theorists have analyzed how processes of structural and strategic coupling as well as firms' upgrading trajectories in GVCs are followed by changes in skills and workforce initiatives. In other words, how structural/strategic coupling and different stages of firms' upgrading processes demand different types of skills, and thus, workforce development initiatives. Scholars have also been interested in understanding the role that workforce development systems play in the insertion of underdeveloped countries in GPNs (Gereffi & Fernandez-Stark 2016; De Vries et al. 2016; Chin & Liu 2014).

For example, Fernandez-Stark et al. (2011) analyzed how Chilean firms inserted at the entry-level of the chain of the global fruit and vegetable industry—producers that grow fruits and vegetables—are marked by an unskilled labor force, which does not require training or related training programs. However, when firms upgrade from producing to packing, storage, and/or processing (making juices for example), then they require a skilled labor force with formal education and training, and thus, workforce development initiatives and programs.

In this respect, the GVC approach to workforce development consists of describing how firms evolve through different stages of upgrading, requiring at each stage different skills and consequently workforce development programs and initiatives (see Gereffi & Fernandez-Stark 2016; Vries et al. 2016; Chin and Liu 2014; Psilos & Gereffi 2011; Fernandez-Stark et al. 2011; Christian et al. 2011; Gereffi et al. 2011). Focus is placed on how state policies can generate a sufficient skilled labor force for firms, and the existence of a labor force is explained by market

forces of supply and demand, ignoring how the labor force was established originally (Selwyn 2016). Diagram 2 summarizes the GVC approach to workforce development.

Diagram 2. Workforce Development Scheme Developed by the GVC Literature.



Source: Gereffi & Fernandez-Stark 2016; Vries et al. 2016; Fernandez-Stark et al. 2011.

In this regard, the GVC approaches to workforce development systems, as Selwyn (2016) points out, overlook the existence and formation of an exploitable working class, which are normally established and disciplined by state actions (Selwyn 2016). As Gutelius (2016) argues “the presence of a desired labor pool and the terms of inclusion for workers have been taken for granted” (Gutelius 2016, 42). In other words, the labor market is approached without any consideration to how it is socially constructed and reproduced in the form of an asset. Thus, GPN scholars have given attention to labor agency in networks, but the labor market and its production has been largely under-explored (Gutelius 2016; Coe 2015; Bair & Werner 2015).

Even studies which treat labor as having agency and consider other external conjunctural factors besides the GPN network, have overlooked the fact that social upgrading in certain

industry sectors involves and requires uneven workforce development practices. Practices that are marked by class-based and segmented training systems, in which the best training courses and consequently the best job positions are mostly accessible to the elite. Therefore, how can one approach and analyze the relationship between GPNs, the labor market, and workforce development programs and initiatives, moving beyond market relations? That is the task of the next section.

3.1.1 Labor, Labor Control Regimes, and Regional Training Systems

In this section, this research will draw from labor geography, and FDI studies in order to explore the concepts of labor, labor control regimes, and regional training systems. My main goal is to demonstrate how regions are based on segmented and class-based training systems, which are required in order to commodify, discipline, and develop an employable and exploitable workforce as well as to serve as assets to recruit and retain businesses. This will be an attempt to break with GPN conceptualizations of workforce development initiatives based on market relations. To do so, this section will be divided in two sub-sections. First, I conceptualize my understanding of labor, and the labor market. Second, I will develop the concept of regional training systems.

3.1.2 Labor and the Labor Market

This research, influenced by institutionalists and neo-Marxist approaches, departs from the assumption that labor should not be understood as a simple commodity, given that it does not behave as one in the market as orthodox liberal economists would claim, but rather as a fictitious

commodity (Polanyi 1957). In this regard, the market seeks to subordinate and discipline labor as if it was a mere commodity, but it is not capable of doing so for several reasons.

First, different from any other commodity, labor supply is independent from demand, being a product of extra-market processes such as demographic and socio-economic processes and institutional rules of human reproductive activity. Second, market recognition of acquired human skills cannot be the sole factor to explain the allocation of labor. This is because certain social groups are in disadvantage in the labor market despite their achieved skills. Third, a balance between consent and control in the workplace is not only due to a matter of wages, but also due to the existence of constant negotiations. Fourth, the sphere of social reproduction is an important part of the labor market and processes of production, where the supply of labor is not regulated only by wages (Peck 1996).

The main point in this regard is that labor markets are not self-regulated by the market according to the demand and supply of workers as if labor was just another commodity. Labor markets result from the interplay of supply-demand as well as ideological, cultural and political forces in opposition to the neoclassical view that education, training and workers' formation in general function via market clearing (Storper & Walker 1989). But these are not the only reasons that require labor to be regulated through ideological, cultural, and political forces.

As Jonas (1996) revealed, the need for labor and the labor market to be regulated also resides in contradictory aspects of capitalism. Due to capitalists' need to increase their surplus value by exploiting workers in a global exchange of labor power, there is a social need for capital to foster reciprocities between places of production/consumption and labor reproduction in local labor markets (Kelly 2002; Baglioni 2017, Jonas 1996). This means that to ensure capital accumulation, capitalists have to develop place-based initiatives that encourage the participation

of workers in production, and that influences the conditions under which labor power is reproduced and integrated into the labor process (Kelly 2002; Baglioni 2017, Jonas 1996).

These place-based initiatives are needed because, while capitalists have potential power to control labor at the level of production, they do not have control over workers' consumption or labor reproduction (Kelly 2002). Therefore, capitalists seek to influence the conditions under which workers enter the labor market (Mackinnon 2017; Jonas 1996). To foster such local labor markets reciprocities between production, consumption, and reproduction, local states develop what Jonas (1996) has termed "local labor control regimes". Such local labor control regimes emerge in periods of crisis, not through the market but as part of an institutional fix, and allow struggles to periodically go through periods of social and economic stability, and thus, ensure the conditions for capital accumulation (Kelly 2002; Baglioni 2017, Jonas 1996).

A labor control regime is understood as a historical, cultural and spatial process that (1) smooths the transition of labor from labor market to the site of production, (2) reproduces productive labor, (3) coordinates conditions of pay and consumption, (4) and facilitates conditions of accumulation (Jonas 1996). Social divisions of consumption and reproduction are important in this framework and are marked by patterns of segmentation and territorial segregation based on income, race, ethnicity, and gender (Coe & Kelly 2006; Baglioni 2017, Jonas 1996). In this context, workers also have an important role in shaping local labor control regimes, where resistance takes place not only at the workplace, but also through consumption and reproduction. For example, threats to consumption can make labor struggle in production (Jonas 1996).

One important feature in this framework is that strategies and discourses are understood to play a crucial role in reproducing the local labor market (Coe & Kelly 2006). Business in this

regard get involved with local players in order to foster their initiatives. Fractions of capital that are not so mobile are interested in developing labor market conditions through strategies of local involvement while mobile factions seek to transform labor conditions, co-opt resistance, and smooth the process of spatial restructuring (Jonas 1996; Coe & Kelly 2002).

As stated before, GPN scholars have recently engaged with this framework to analyze labor (Smith et al. 2018; Baglioni 2017; Coe 2015; Azmeh 2014; Coe & Kelly 2002). However, focus has been placed on the intersection between GPN firms' employment practices and workers' gender and immigrant status as well as household and informal dynamics¹⁷. Even though Jonas (1996) does stress in his labor control regime framework that education and training are important elements in the reproduction of workers, the “making” of the labor force—i.e. workforce development programs and initiatives—has so far been largely ignored in GPN studies.

In this regard, in the next sub-section, this research will further explore how regional training systems are important place-based assemblages—part of labor control regimes—where segmented and class-based training programs and initiatives are established and shaped in order to commodify, discipline and develop an employable and exploitable workforce and to serve as assets to recruit and retain businesses.

3.1.3 Regional Training Systems and the Commodification, Disciplining, and Development

¹⁷ For example, Smith et al. (2018) analyzed how the competitive strategies of clothing lead firms to influence its supply chain in Moldova, and consequently, its labor control regime. According to the authors, clothing lead firms in Europe have based their activities on contracts that establish the prices, quantities, and a fast-speed delivery time of production. Such a strategy has limited the profit of its suppliers, encouraging Moldovan suppliers to foster a labor regime where employers pay low wages based on piece rate norms and bonus payments, employ informal payment practices, and where social reproduction can only be secured by working overtime. In this labor regime, workers' resistance, although present in workers migrating to other countries, is limited due to a lack of labor representation in the clothing sector, and a national state committed to liberal practices and to employers' associations (Smith et al. 2018; see Baglioni 2017; Azmeh 2014).

of Workers

Several scholars have demonstrated that the labor market and training capacities of regions are a crucial asset to attract and retain firms, and thus, to determine where they are located (Coe 2015; Ron 2010; Christopherson & Clark 2009). However, as revealed in subsection 3.1, GPN studies have lacked a more nuanced approach concerning how the production of workers' skills intersect with GPN firms. In this regard, in this section, after presenting and critiquing VoC studies of skill formation systems, this study will theorize the notion of regional training systems.

One important stream of the varieties of capitalism literature concerns its analysis to how different forms of national economies are marked by different types and education practices. As demonstrated in chapter two, the VoC literature categorizes models of capitalism according to specific dimensions of which education is one¹⁸. One of the main critiques to the VoC approach was that the differentiation between education types and practices in liberal and coordinated countries was based on a very broad category of general versus specific skill systems, and thus, failed to account how the same models of national economies can have different types of skill regimes. For example, how such skill regimes vary among coordinated market economies (Busemeyer and Trampusch 2012; Thelen and Busemeyer 2012). More recent accounts of VoC scholars have sought to advance such analysis, which has been termed “skill formation systems” (Busemeyer and Trampusch 2012; Thelen and Busemeyer 2012).

According to the VoC literature, the skills formation systems of national economies are

¹⁸ For example, according to Hall and Soskice (2001) educational institutions in liberal market economies such as the US are marked by general skills (general education) that are complemented with on-the-job-training in the firm. Coordinated market economies such as Germany are marked by educational institutions that foster more specific skills (vocational training) due to its vocational schools combined with workplace-based training (Hall and Soskice 2001; Emmenegger and Seitzl 2018; Busemeyer and Trampusch 2012).

designed and established according to the political struggles that take place in four main political arenas: (1) The balance of power and interests among different fractions of capital, where some sectors and firms have more power to influence educational and training reforms than others. (2) The political power of trade unions and their consequent influence over political and industrial relations, as well as, their potential preference for certain types of training such as school-based training or apprenticeships. (3) The balance of power between labor and business. Employers seek a high level of autonomy in the provision and implementation of training, so they can invest in firm-specific skills as well as influence training institutions to do so, while workers and their representatives seek to have investments in transferable and polyvalent skills with certification, skills that can be employed in other firms. (4) The dynamic of state structure such as in federalism and its consequent partisan competition (US for example has a two-party system), and engagement with certain fractions of capital and/or labor (Busemeyer and Trampusch 2011).

Such political struggles influence and determine (1) who will provide skills; (2) who will finance training; (3) the level of firm autonomy in training and the degree of public oversight in the firm training process/content; and (4) the degree of connection between vocational training and the general education system. The results are also dependent on the current existing juncture, such as neoliberalization, which puts countries on certain trajectories in terms of their skills formation systems (Busemeyer and Trampusch 2011). VoC scholars have identified several skill formation systems such as liberal, segmentalist, collective, and statist, which are summarized in the table below.

Table 3. Skills Formation Systems and their Main Characteristics

Liberal	In liberal skill formation systems in countries like the US, the market provides skill formation in the general education system. In this case, the general education system delivers generic educational qualifications to individuals that are often accompanied with internships, summer jobs during training, and finally more specific on-the-job training. Vocational tracks at high schools are considered less important in contrast to preparation for college admission. In general, vocational skills are disconnected from high schools, being mainly provided by vocational colleges, which demand students to pay tuition and do not have a strong institutional linkage to the labor market.
Segmentalist	The difference to the liberal skill regime is that the willingness of firms to invest in the formation of their employees' skills is much higher. A sizable share of a typical youth age cohort enters the internal labor markets of large firms immediately after leaving the general school system and subsequently undergoes an intensive process of skill formation that entails job rotation schemes and off-the-job training courses in in-house training centers and vocational schools. Japan is a prominent case of a segmentalist skill formation regime.
Statist	In contrast to both the liberal and the segmentalist skill regimes, public policymakers are much more committed to supporting vocational and educational training as a viable alternative to academic higher education in order to promote the integration of young people with weak academic qualifications into education and employment. Vocational and educational training is fully integrated into the general education system, which allows and encourages people with vocational qualifications to pursue tertiary education. As a corollary, the involvement of employers in the process of skill formation is very limited. The statist skill formation system is best exemplified by the Swedish or French educational system.
Collective	They are characterized by a strong commitment of both the state and firms to invest in the formation of vocational skills. It combines strong involvement of firms in training and high public commitment of the state to support vocational training. This skill formation system is best exemplified by countries such as Germany, the Netherlands, Denmark, Switzerland, and Austria.

Source: Busemeyer and Trampusch 2011, 13-14.

Studies of skill formation systems have some major issues despite developing an interesting approach to the relationship between different forms of national economies and vocational and educational training. First, similar to the VoC approach to models of national economies (Hall and Soskice 2001), studies of skill formation systems tend to conceptualize their skill models based on levels of market relations. Such a categorization, as the VC scholars have

demonstrated, is problematic (Jessop 2014). For example, liberal market economies are characterized as marked by a skill formation system, where the market delivers skill formation through the general education system. However, markets require social, institutional, and political structures to work properly (Peck & Theodore 2007), and this is not different for education. The production and consequent delivery of workers' skills are not decided based only on market relations, but they also involve ideological, cultural, and political forces, as this study demonstrated in the last section, including strong state intervention.

Furthermore, such categorizations are limited and enclosed, explaining the formation and the changes in skill formation systems based on the national internal relationships among firms and their representatives, unions, and the state. Such a literature neglects the fact that national economies and their skill formation systems are not isolated, but part of an ecology of variegated forms of capitalism, which are integrated in a world market (Jessop 2012). This global integration has important effects on vocational and educational training, and therefore, on the formation, shaping, and ongoing transformations of skill formation systems, and regional training systems. Non-liberal skill formation systems such as the collective skill formation system have converged towards the market due to the ecological dominance of neoliberalism over educational policies and initiatives (Jessop 2014; Lakes & Carter 2009; Thelen & Busemeyer 2012; Emmenegger & Seitzl 2018). Neoliberalism as the dominant world hegemonic project influences the formation and transformation of training systems in particular ways, where there is a need to consider the existing commonalities and differences across space, as Peck and Theodore (2007) have demonstrated in their critique to the VoC literature.

Second, researchers have overlooked the internal variation in skill formation systems within national models (see Emmenegger & Seitzl 2018; Busemeyer & Trampusch 2012; Thelen

& Busemeyer 2012). Such a categorization is problematic because it is based on a high level of generalization, which disregards the important ways that subnational states can deviate from their national skill formation system model. Third, the skill formation systems approach is indifferent to class relations, and to issues of uneven development (Streeck 2012). In this regard, there is a need to understand how such skill formation systems play a role as important mechanisms to the uneven reproduction of capital.

To address the problematics above discussed, in the next section, this research will develop an approach based on the concept of regional training systems. This approach will go beyond the goal of simply identifying and comparing how different national economies have different skill formation systems in terms of training and skill types. To do so, first, this research will explore the concept of local forms of governance, and how it influences and shapes regional training systems. Second, this research will analyze the main features of regional training systems. I will engage with theories of uneven development, regulationist approaches to accumulation and regulation at the regional scale, and critical pedagogy studies.

3.2 Local Governance, Regional Training Systems, and Uneven Development

In today's economy, the processes of production have become highly complex, requiring in many job-positions a high skilled labor force that can only be prepared through years of formal studies (Busemeyer & Trampusch 2012). More and more, employers manifest their discontent regarding how the labor market has not met their skill needs, pushing the public agenda to meet their demands (Cappelli 2015).

In the last decades, local forms of governance have emerged, playing a crucial role in how regional training systems are established and transformed. In this regard, labor market

governance studies have demonstrated how training systems cannot be understood solely as the result of domestic firms' and workers' representatives, and the state at the national scale. Such an approach pays greater attention to the subnational scale, firms' strategies and/or interests—be it single firms or their representatives—, states and their accumulation strategies, and other actors such as educational institutions, among other. Outcomes are understood according to the differential and hierarchical power relations among actors in governance forms, or their balance of forces, as some scholars of the skill formation systems approach claimed (see Busemeyer & Trampusch 2012).

Different forms of governance started to emerge during the late Fordist period, when there was a public disenchantment with government performance due to the world economic crisis and fiscal pressures, which led governments to have budget deficits (Lovering 2011; Painter & Goodwin 1995). In this neoliberal context, private actors started to participate in regional planning decisions that before were exclusively public (Peck & Tickell 1992; Masson-Vincent 2008). As such, regions become quasi-individuals forced to find their own ways to development, where many actors such as governments, academics, consultants, private entrepreneurs and lobbyists, among others, started to work collectively to develop suggestions about how local policies might be better elaborated (Lovering 2011; Painter & Goodwin 1995).

Mainstream literature has regarded and theorized local forms of governance as collective modes of coordination, where the relationships of governance actors are predominantly marked by trust and reciprocity, shared power and interests, and as having a strong autonomy from the state (Blanco 2015). However, some studies have called our attention to the divergent and contradictory sides of such relationships, which are often characterized by strong state intervention and hierarchical power relations (Davies 2011, 2014, 2015; Davies & Spicer 2015;

Blanco 2015). Davies (2011, 2014) for example, claims that governance practices are in general part of the hegemonic neoliberal ideology as well as part of local ideological hegemonic blocs seeking to legitimize and justify their actions through network ideology.

In this regard, this research adopts the concept of “regional service class”, which approaches governance as mechanisms through which fractions of capital—normally represented by a few powerful local firms—present and foster their interests, and are supported by the creation of new regional institutions, programs, networks, and associations (Lovering 2011). For Lovering (2011), such fractions of capital are generally unrepresentative of their regions and rely heavily on state intervention.

Such an approach, although giving importance to fractions of capital in directing governance actions, also acknowledges that other actors such as state managers, educational institutions, and not-for-profit organizations have a crucial role in such mechanisms, being able to present and foster their interests (Lovering 2011). Under this view, governance is also understood as an important instrument in the construction of new imaginaries around regional identities and plays an important role in the consolidation of a professionalized political class, and of policies intended to persuade the local public rather than represent it (Lovering 2011).

One issue, however, is that the regional class approach, by emphasizing local fractions of capital, gives little attention to the role and interests of state managers and international actors, and to how regional governance is not isolated from other forms of governance at different scales. As this research stated in the last section, it is crucial to have an approach that considers how regional training systems are not only established and shaped according to national/internal dynamics as the skill formation systems’ approach has stressed.

In this regard, first, it is important to acknowledge that state managers constitute a

distinct class (Block 1987), have their own interests, seek to develop their regions, and are increasingly more concerned with not only attracting firms to their places, but also with developing and employing their local workforce in opposition to businesses hiring out-of-state workers. Thus, state managers have a central role in local forms of governance. Second, local forms of governance, involved with FDI policies can behave as subnational territorial coalitions, which “translate the interests and ideologies of transnational capital and more local sets of interests and agents” (Woods & Phelps 2006, 494). More specifically, Phelps and Wood (2006) reveal how governance actors¹⁹ act as coordinating actors, or mediators, on behalf of inward investors with local actors. Such actors transmit and translate the material and ideological interests of MNCs’ agents to local institutions, facilitating their attraction to local states (Phelps & Wood 2006). Adding this component to the concept of regional class service, governance is interpreted not solely as representing the interests of local fractions of capital, but also as mediators or translators of transnational capitalists.

3.2.1 Governance and the Establishment and Shaping of Regional Training Systems

The implication of such a view is that this approach allows this research to understand the development of regional training systems according to the balance of forces and interests among actors such as the state, educational institutions, and capital at different scales such as international, national and local. In this regard, regional training systems are not only socially, but also spatially constituted (see Peck 1996). Training systems are territorially constituted and vary across space and time where particular forms of training practices are established, naturalized, and predominant. Such differences depend on several factors such as global

¹⁹ Such actors vary from state managers, a transnational class, consultants, economic development and inward investment agencies, firms and their representatives to educational institutions, among others (Phelps & wood 2006).

production networks and regional fractions of capital that these regions are part of, the labor processes and internal training they adopt, their national skill formation system, and their state form and accumulation strategy, among others (see Schneider & Karcher 2010; Tregaskis & Almond 2017; Almond et al. 2014; Christopherson & Clark 2009; Phelps & Fuller 2001).

Even though national formation systems are important to understand the functioning and characteristics of regional training systems, local governance dynamics can result in regional training systems greatly differing from their national formation systems. Schröder and Voelzkow (2016) demonstrated that although regional forms of governance have gained power in the last decades, they do not outplay national models of governance. In reality, national, sectoral, and regional forms of governance have to be understood as an outcome of their interplay, given that these forms interact and influence one another. For example, as firms in a world market search for regional economies that offer an optimal sectoral regulation to their activities, regional economies (with specific industrial clusters) have sought to offer an optimal regulation to their sectors in order to attract firms (Schröder & Voelzkow 2016). In this respect, regional forms of governance shape and are shaped by sectoral and national forms of regulation, where regions can deviate or conform to their national form of governance. Regional deviation of local forms of governance is common when the national forms of governance challenges the sector in which the region is specialized (Schröder & Voelzkow 2016).

The same idea, this research believes, applies for regional training systems. Regional economies can be marked by fractions of capital, strong sectoral specialization such as industrial clusters, and by influential MNCs. Such features can demand regional training systems to deviate from their national skills formation system. For example, Tregaskis and Almond (2017) demonstrate how forms of governance are an important channel through which MNCs interact

and influence labor market skill actors, and attempt to at least partially take ownership of the resources of local labor markets. This can result in regional training systems drastically differing from their national skill formation system (see Schneider 2009). But it is important to notice that the levels of deviation are dependent on the degree of autonomy of states, where for example, variations can be more frequent in federalist states (Almond et al. 2004).

Therefore, this research concurs with the skill formation literature, when scholars argue that some sectors and firms have more power to influence educational and training reforms than others, fostering some types of training (Busemeyer & Trampusch 2012). However, this study goes further to recognize that such power relations in local forms of governance are able to foster variations at the local level.

As the skill formation literature demonstrated, the power relations at the national level will decide: (1) who will provide training; (2) who will finance training; (3) the level of firms' autonomy (i.e., having internal training without any public supervision, or content requirements); (4) how much vocational training and the general education system will be integrated. Firms are interested in having educational institutions delivering firm-specific skills, and in having autonomy to internally train their workers without any state intervention, so they can also deliver highly firm-specific skills. In contrast, workers and their representatives seek to have investments in training that are transferable and with polyvalent skills with certification (Emmenegger & Seitzl 2018; Busemeyer & Trampusch 2012). But, how can one interpret, or understand this dynamic at the local level in regional training systems?

At the local level, the power relations concerning regional training systems are mostly to decide: (1) which skills are provided; i.e. which programs, courses, training initiatives are established, offered, and/or expanded, and how curriculums are designed. The state as well as

workers are interested in having transferable skills that attend the business community in general, while single MNCs and fractions of capital are interested in fostering regional training systems that provides narrow specific types of skills that attend mostly their needs and reduces their costs. Educational institutions thus encounter themselves intersected in this twofold interest (Holborow 2012).

The existence of regional training systems resides in the fact that education is a capitalist social form, whose goal is to produce a particular pseudo-commodity, labor power (Rikowski 1995). In this way, the profits of educational institutions as well as the existence and functioning of workforce development programs, courses, and initiatives rely on their capacity to produce a labor power that meets the skill needs of employers, and thus, can be hired in the market (Slaughter & Rhoades 2010). Therefore, educational institutions, seeking to maximize their profits/success and to keep their own programs/initiatives' functioning, are opened to attend to the interests of fractions of capital and single MNCs—through offering highly customized courses and designing their courses and curriculums around their interests—as well as to the interests of the local business community through generic types of training skills based on industry sectoral assessments. As long as MNCs are hiring the students attending customized and highly specific (skills) training initiatives, educational institutions can have their institutional capacity captured.

Generic/customized skill provision is established and delivered according to how representatives of educational institutions access labor market needs, according to the power of actors to represent their needs in local forms of governance, and according to the form of the state and governance in which it takes place. As Phelps and Wood (2006) demonstrate, MNCs transmit their interests to state institutions in local forms of governance through a complex range

of actors at different scales, where local actors translate the interests of transnational capital, but still take in consideration their own (Phelps & Wood 2006).

Such a specificity makes regional training systems to be characterized as dual training systems, which refers to how regions develop general workforce skills training practices (occupational skills) in conjunction with firm-specific skills²⁰ training practices (see Emmenegger & Seitzl 2018; Thelen & Busemeyer 2012; Phelps et al. 2005). In the past, firm-specific training was offered by firms, internally, but there is a tendency in which educational institutions are increasingly building customized²¹ training programs and practices in partnership with firms, not only as part of incentives packages to attract MNCs, but as something more permanent for MNCs that are embedded in certain regions (see Long 2009; Andrade et al. 2005).

Customized training programs and their practices involve the development of curriculum and training according to the needs of firms, employers co-teaching disciplines, provision of instructors to teach on-the-job, reimbursement of companies' costs for their workers training, travel funding to get training in other plants, and the use of the institutional apparatuses of educational institutions for employers to have their workers trained, among other initiatives. Such a phenomenon takes us to the second main feature, (2) Who finances training.

Power relations at the regional level are also to decide who will finance training. Although decisions of who will finance training—the state, firms, workers, and/or a mix them—are heavily decided at the national level (national skill formation system), at the regional level, fractions of capital and single MNCs are interested in influencing the state and educational

20 This research considers general workforce skills as the ones that are transferable or portable and goes beyond the firm level, thus, training initiatives provide training above the needs of single firms. Company-specific skills are understood as skills that are non-transferable, provided to attend the needs of single large firms (Emmenegger & Seitzl 2018; Thelen & Busemeyer 2012).

21 “By definition, customized training is instruction for workers and job seekers provided by education and training institutions working closely with employers. The training curriculum is developed or adapted to meet the education and training needs of the specific firms, which often belong to a particular sector” (Long 2009, 2).

institutions in order to have cost- and bureaucracy-free customized training and services. At the regional scale, such power relations regarding who finances training take place at two fronts: training initiatives to attract firms, which are temporary and dependent on the bargaining event between the firm and the state—where a specific number of workers receive cost-free training for firms—and training initiatives that are permanent, independent of bargaining events, which function regularly as a way to retain existing firms and also according to the interests of educational institutions (see Andrade et al. 2005).

Therefore, power relations at regional training systems are also around firms pushing the state and educational institutions to offer costs- and bureaucracy-free training programs and initiatives that deliver highly firm-specific skills, and thus, decreases internal training and costs. As stated, educational institutions are interested in offering such courses as long as it maximizes their profits, and/or success.

Local economies, or more specifically state managers, also have their own interests. In this regard, state managers see regional training systems not only as important assemblages that provide skills to local workers, but also as relevant assets that serve to recruit and retain businesses. Local economies have developed, as part of their regional training systems, institutionalized programs and initiatives that offer customized, cost- and bureaucracy-free training services as a way to attract firms and to provide aftercare services (Nesse & Markusen 2007; Dawley 2007). Such programs and initiatives are used as a way to compete for firms in the global market and have become a must-have asset for regions to be global players. In this context, regions develop economic development plans, approved by their regional/municipal councils, under which parameters are established regarding the types and amounts of workforce development incentives available for firms according to their potential investment and creation

of jobs in the region.

As revealed in the last chapter, capitalism demands the existence of a juridical form based on the principle of universality of law and equality of subjects. However, this juridical form fosters the false ideology that all individuals, such as capitalists and the working class, are equals and have the same rights under the law (Poulantzas 1977; Clarke 1991; Hirsch 2010). This same principle explains how regional incentive or economic development plans function. Regions, by law, equalize all firms—be it small, medium, and large corporations—by providing institutionalized plans of incentives according to the amount of investment of firms and the number and specification of the jobs they will potentially generate. However, the interaction of MNCs with local economies reveals such ideology to be false (Mascaro 2013). MNCs circumvent economic development plans and are able to get training incentives that are way above the established parameters, reaching a degree of incentives to which the local business community has no access. In this regard, regional training systems, as regional assets to attract firms, often disrupt such a false ideology by privileging MNCs (see Phelps et al. 2005). In other words, MNCs push subnational states to have a parallel juridical form that benefits MNCs, which should be considered in analyses of processes of corporate capture.

Third and finally, the power relations at the regional level are also to decide (3) how much vocational training and the general education system will be integrated. However, at the local scale, power relations are related to how single MNCs and dominant fractions of capital are more influential in terms of which vocational courses will be offered at the secondary level. Nonetheless, this feature also depends on the degree of autonomy of subnational states to structure and rule their own educational institutions. But fractions of capital and single MNCs have a great interest in integrating vocational training and the general education system, mostly

at middle schools and high schools. To do so, MNCs have established partnerships with schools in order to foster the development of STEM courses, and sectoral related-path careers (Lakes & Carter 2009; Beder et al. 2009).

According to some scholars, in the current neoliberal period, schools are being encouraged to be entrepreneurial and to have public-private partnerships, which advance curriculums that are seen to bring competitive advantages for schoolers according to their individual merits. Therefore, schools are going through a process of corporatization, where business and state leaders work together to establish curriculum, testing standards, and pedagogical practices (Baltodano 2012; Bender et al. 2009).

Fractions of capital and single MNCs are interested in integrating vocational training and the general education system in order to influence which career training or skills schools foster, given that prevalent skill training at the secondary level influences students, and their decisions toward their future education and career-path. In this regard, schools are more and more tied to the development strategies of regions, where the goals and strategies of schools and businesses have been increasingly integrated (Baltodano 2012; Lakes & Carter 2009; Bender et al. 2009).

Therefore, regional training systems are highly influenced by neoliberal policies in which schools are increasingly influenced by capital, and at the local level by fractions of capital and single MNCs, which seek to establish partnerships and, in this way, to convince students to follow specific career-paths that meet their interests and guarantee enough labor supply.

3.2.2 Regional Training Systems and Uneven Development

The labor market as a regulatory space, and its correspondent schooling and workforce development programs and initiatives, are crucial for the reproduction of capitalism. Local

economies, under the influence of such capitalists and other actors, develop regional training systems, which attend the interests of the actors involved. Such assemblages are established in order to commodify, discipline, and develop an employable and exploitable workforce (see Rikowski 2000, 2004), and to serve as assets to recruit and retain businesses.

Under capitalism, regional training systems have three main purposes and characteristics. First, it seeks to socially produce desired workers that meet the skill needs of employers. Employers' needs are basically a necessity for certain labor power attributes such as certain skills and personality traits within a laborer who has the potential to deliver them (Rikowski 2000, 2004). As the value of a commodity is based on the socially necessary labor-time taken to produce it (Marx 1867), schooling and training play a crucial role in firms' competitive strategies, given that changes in skills and consequently in productivity allow capitalists to produce their commodities at a lower value, and even temporally sell them at a lower price than the average price of the market. Moreover, schooling and training have an important role regarding the quality of the commodities produced by workers (Rikowski 2000; 2004).

In this regard, education and training, as capitalist social forms, are the main processes responsible for socially producing desired workers (Rikowski 2000, 2004), and therefore, it is vital to understand how education and training function and are structured in relation to global production network processes such as value creation, upgrading, strategic coupling, etc. Capitalist schooling and training produce the most essential commodity, i.e. labor power. The term social production of labor power refers to processes of compulsory education as well of training (on- and off-the-job), of different forms of personal development programs through schools, colleges, higher education, computer-based training, informal labor knowledge exchange, among others (Rikowski 2000).

Second, regional training systems are marked by processes that foster segmented practices and class²²-based inequalities. This means that even when regions go through processes of firm and social upgrading, it involves and requires uneven workforce development practices marked by class-based and segmented training systems. For example, it is not rare to find regional training systems, where the best training courses and consequently the best job positions can be mostly accessible to the elite.

Marxist and neo-Marxist theorists have greatly contributed to understanding the role of education in our society (Bowles & Gintis 1976; Willis 1977; Giroux 1980; Reay 2018). One of the major contributions concerns how the values learned at school correspond to the values required at the workplace, and how schools influence working class students into working class jobs (Bowles & Gintis 1976; Willis 1977). Some of the main roles of schools are to form a reserve army of skilled labor and to produce docile workers – regarding social relationships of dominance and subordination that take place at workplaces. For example, students’ learning to accept the authority of teachers corresponds to accepting the authority of managers. Another important role of schools explored by the authors is related to how schools reproduce class inequality (Bowles & Gintis 1976; Willis 1977).

The above authors, directly criticize the prevailing US view of human capital theory and that success is based on people’s educational merit related to degrees, credentials and years of schooling, exploring how educational institutions (like schools) foster inequality. The authors

²² This research adopts a relational conception of class, and understands class according to three main factors: (1) the ownership of the means of production, (2) authority, and (3) skills and expertise (Wright 1997). In relation to authority, it understands that labor positions with higher remuneration and power over other workers at work are tied and closer to the interests with those of the capitalist class. Regarding skills and expertise, labor with such features can have higher salaries and more autonomy over their work and their co-workers, resulting in a proximity with the capitalist class. This means that positions with greater authority, and skills and expertise are more prone to be influenced by capitalist interests within this class position. These positions are in contradictory locations within class relations (Wright 1997; Nylund 2012). Therefore, this study differentiates wage labor positions according to their relation to the means of production as well as the attributes of their position, i.e., their authority, and skills and expertise.

show that the middle class has cultural and material advantages in relation to the working class, being in a better position to guarantee that their children go to the best schools and consequently get the best education and jobs, whereas working class children have access to poorer education and low wage working class jobs. In this regard, the authors reveal how schools function in order to shape students according to capital's purposes and to legitimate class inequality (Bowles & Gintis 1976).

In the same direction, Levin (1987) claims that in the workplace, "the most remunerative, powerful, and highest status positions are generally occupied by person who themselves have considerable educational advantages and come from higher social class origins" (p.149). According to the author, in general, people from less advantaged backgrounds get less education and schooling of poorer equality than students from more advantaged backgrounds and are normally geared toward basic and vocational preparation. But different from Bowles and Gintis (1976), Levin (1987) understands that schools are also an arena of struggle, where students create independent dynamics, breaking with the correspondence between the schools and the workplace. In this regard, Giroux (1991), although seeing great value in the Bowles and Gintis (1976) analysis, criticizes the authors for not acknowledging that working class students are not fully shaped by the capitalist system, being able to resist what they are taught. Moreover, Giroux (1991) points out that education is not always in the service of capitalism, given that it can also harm the bourgeoisie.

To date, the "correspondence theory" of Bowles and Gintis (1976), which strongly stresses the sense of passive obedience by students/workers is no longer fully applicable. This is because workers have recently been pushed to behave as entrepreneurs, being required to be more creative and active in their tasks. However, their view on how schools reproduce class

inequality, legitimating it through the myth of meritocracy, is still valid and reveals a current phenomenon: educational achievement and job positions still have a strong correlation to workers' social class background (Reay 2018; Giroux 1991).

Strengthening the argument made by Bowles and Gintis (1976), in the last few decades several labor segmentation studies have demonstrated how the segmentation of labor has been broadened. Scholars have explored how production, social reproduction, and consumption are characterized by patterns of segmentation and territorial segregation based on income, race, gender, ethnicity, migrants, and disabled people, among others (Smith et al. 2018; Bair & Werner 2015; Coe 2015; Jonas 1996; Peck 1996). For example, Estévez-Abe (2012) reveals how the dual apprenticeship training model of the German collective skill formation system has obstacles for women. Young women hesitate to adhere to this type of training due to the risks of becoming unemployed after family-induced breaks in their career. Moreover, employers are less inclined to recruit women for vocation training due to the potential loss of skill investment if they decide to leave the workforce (Estévez-Abe 2012; Streeck 2012).

Some forms of regional training systems, highly influenced (or not) by industrial clusters inserted in GPNs, can excluded or prioritize some workers according to their gender, race, migrant status, and to the labor processes that firms adopt. For example, firms can base their production on low-wage female workers, whose salary is a supplement income for households, in order to produce competitive products (see Azmeh 2014). In this case, regional training systems can be heavily based on informal training practices, and/or on-the-job, which prioritizes women.

Third, in the current neoliberal context, as more firm-specific types of training increasingly gain importance, the distance between academic and vocational routes are made

more explicit. In this context, the major focus of vocational training is on the mismatches between what employers need and what students learn. Thus, in vocational training more general subjects have been considered less important. This poses issues to job mobility, and to questions of who has the power to consider what counts as relevant knowledge and the power that knowledge itself can provide (Nylund 2012). While education and training to the working class are based on narrow curriculum, which delivers a knowledge that is problematic to transfer and employ in different contexts, education and training for privileged classes are based on a curriculum with less context-bound knowledge, which provides more space and time for reflections concerning matters that are less apparent and regarding possibilities, features that are crucial for critical thinking to exemplify. Vocational training, thus, considers theoretical and critical thinking as irrelevant. Nonetheless, this type of knowledge is important for individuals who will be positioned in vulnerable and subordinated positions (Nylund 2012).

One important difference between education and training is that training seeks to fit a person towards a specific goal or end, and denies students other abilities such as critical thinking and independent learning, or the role of work in society or about their rights, while education aims at comprehending the reasons behind things. “The more employers influence and shape education the more it will tend towards worker training and away from citizen education” (Beder et al. 2009, 248).

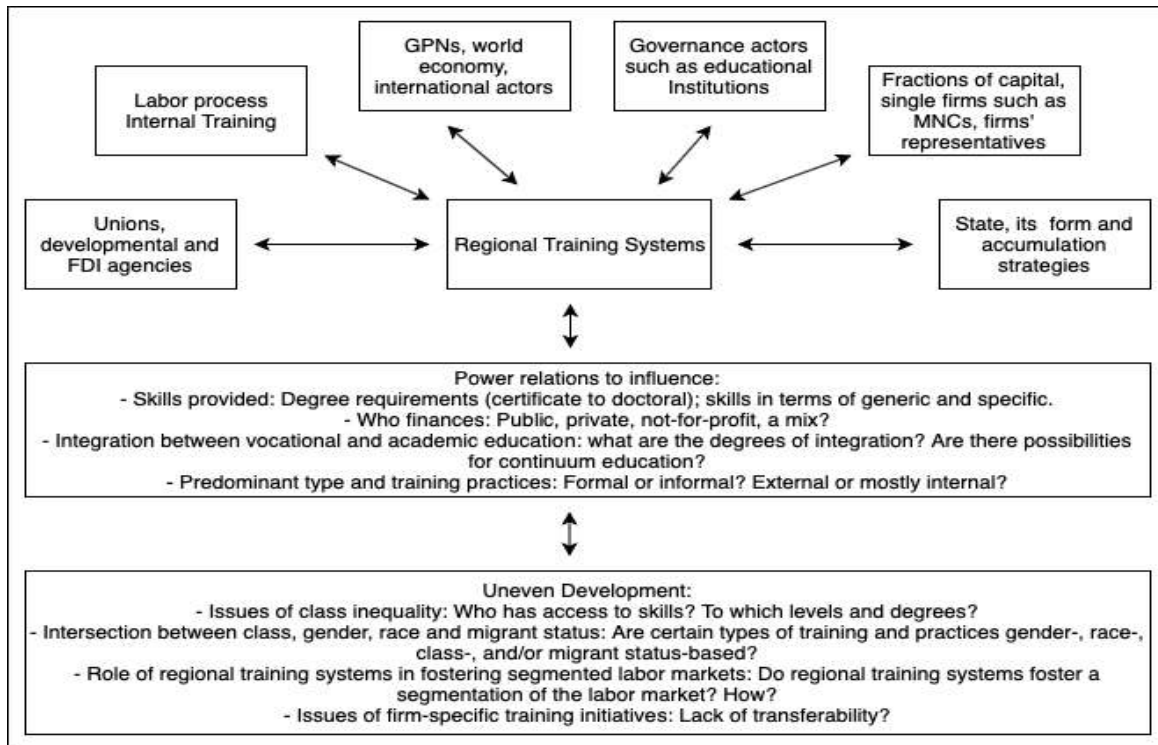
In sum, narrow and firm-specific education in vocational training can prevent the working class to access knowledge that stimulates a critical view of society and its political and economic organization. Therefore, it contributes to the “unequal distribution of power and knowledge between classes... [and] neutralizes the question of who gains the power to decide on what counts as important knowledge in vocational programs.” (Nylund 2012).

For workers, industry-specific²³ training also poses additional problems. Often such skills are not transferable to other industries, and when workers are able to switch industries, they undergo wage losses (Smits 2007; Müller & Schweri 2015). In this regard, there is a conflict of interest between capitalists and the working class. Firms are interested not only in having educational institutions providing narrow firm-specific skills—given that they increase productivity, and production quality—, but also in having general training skills as little as possible because it gives the workers greater outside opportunities and pushes firms to pay higher salaries. Workers, on the other hand, are interested in having not only firm-specific skills training, but also generic skills training, which have wider transferability and applicability across firms and industries, and thus, sectoral mobility (Smits 2007; Emmenegger et al. 2018). For example, firm-specific training (or customized training) prioritizes the needs of certain firms and results in limited mobility for workers (Emmenegger and Seitzl 2018). Customized training is often detached from general academic education, and therefore, in overall does not provide the opportunity from continuum education and mobility from vocational training certification to academic education. It further emphasizes the idea of working-class education for the working class. When specific and general training offer a great number of general subjects and thus eligibility of integration with higher education, it avoids dead ends and gives students more equal

²³ “Generic skills will be defined as skills that have higher value outside the industry or occupation the worker is trained for than within the industry. These may be skills that are directly applicable in another industry or occupation or skills that facilitate the acquisition of the skills required in the new industry. Both types of skills increase the labor market flexibility of the worker. A first group of skills that have a higher value outside the industry than within the industry are skills that are used in several industries or occupations, but in different combinations and with different weights attached to them. For example, a hairdresser may need some selling skills to sell the client hair care products after the hair cut but selling skills will have a higher value in other occupations and industries such as a shop assistant in a drugstore or a sales representative in the hair care industry. A second group of skills that may have a higher value outside the industry than within the industry are cognitive skills such as reading, writing and Mathematics, problem solving skills and learning skills. Workers with a higher level of generic skills, which they define as a combination of learning abilities, analytical abilities and problem solving abilities, have a higher change to work in an occupational field which does not match their field of study and that in this case, the wage impact of generic skills is highest.” (Smits 2007, 655).

opportunities after finishing higher-secondary education (Nylund 2012). Diagram 3 summarizes the concept of regional training systems.

Diagram 3. The Establishment, Shaping, and Characteristics of Regional Training Systems



Source: Author.

3.3 The Ability of Local Forms of Governance Actors and Institutions to Lessen or Amend

Corporate capture

Several studies have exhibited how varying state forms have different modes of subnational governance, approaches to FDI, and outcomes regarding processes of externalization (see Rutherford et al. 2018; Almond et al. 2017; Pavlinek 2016; Tregaskis & Almond 2017; Almond et al. 2014; Almond et al. 2013; Almond et al. 2012). Such studies have sought to demonstrate how local forms of governance can reinforce or minimize processes of corporate capture. One particular explanation regards how these scholars have associated the capacity of

local forms of governance to reinforce or minimize processes of corporate capture to their forms of state–types of coordination and state organization such as federalist and unitary systems—as well as to their state accumulation strategies.

For example, Almond et al. (2014) claim that local forms of governance in liberal subnational states such as Madrid and Ontario have a less active coordination with FDIs than Asturias and Quebec, and thus, are less successful in embedding corporations, and consequently, in maximizing spillover processes and cluster formation. On the other hand, the subnational states of Asturias and Quebec possess a more coordinated approach to economic development and have higher degrees of political consensus and more potential to create positive outcomes such as meeting the needs of the business community in general regarding skills (Almond et al. 2014). Almond et al. (2013) also acknowledge that local forms of governance and their approaches to FDIs (and extent such as pure FDI agencies or agencies with wider developmental goals) vary according to the level of autonomy of their subnational states. According to the authors, countries with greater levels of subnational state autonomy (like federalist countries) have local forms of governance that are more active in attracting and embedding firms than countries with less autonomous subnational states.

Moreover, Almond et al. (2013) assert that more coordinated economies have local forms of governance with wider regional development goals, more likely to have positive outcomes when bargaining with MNCs than the ones found in more liberal economies. In this sense and with regard to how subnational states behave to attract, retain, and embed MNCs, Almond et al. (2017) categorizes two types of approaches of regional forms of FDI governance – but understands that in the real world such approaches can blend: market and state (or associational-centered).

Market-centered governance of FDI relies on a passive dependence on locational competitive advantages. The state is mainly absent and does not foster industrial policies of any kind. State action is limited to elaborating regulations that allow firms to effectively compete in the market. State-coordinated governance indicates heavy interventions into the region and seeks to increase firms' international competitiveness. States seek to establish relationships with foreign direct investors not only to attend to their needs, but also to foster processes of externalization that develop the region (Almond et al. 2017). Such a relationship can entail the political leadership of associational governance. Associational governance refers to the capacity and desire of local actors to engage with local MNCs in ways that improve location-specific advantages. In such cases, the provision of grants can be followed by requirements to embed firms within the region, fostering cooperative practices between MNCs and local actors such as SME, research centers, educational institutions, etc. (Almond et al. 2017). But what is not clear in the above theorizations is why such forms of FDI governance have the shape they present and behave differently.

In this regard, Rutherford et al. (2018) demonstrated that governance actions aimed at maximizing FDI spillovers are related to state accumulation strategies through which some sectors, firms, and institutionalized compromises are empowered and prioritized. According to the authors, Quebec's developmental state has stronger initiatives to maximize FDI spillovers, and this is connected to its accumulation strategy, marked by an industrial policy that supports domestic firms, and involves workers' representatives. For example, Quebec's subnational state provides funds to develop regional patient capital and has unions with an active role in training and in long-term collective agreements (Rutherford et al. 2018). In other words, workers' as well as domestic firms' representatives have substantial power of representation in Quebec's form of

governance due to the centrality the state gives to such actors in its accumulation strategy.

Therefore, the form of national and subnational states, their accumulation strategies and their consequent policies to economic development play a crucial role in determining the types of local forms of governance and their approaches to attract, embed, retain, and develop firms as well as in determining the developmental outcomes of such FDI policies. In this regard, the capacity of local forms of governance to reinforce or minimize processes of corporate capture has to be understood primarily according to its relationship to its state form and accumulation strategy, along with the unfolding consequences it has. These consequences have to be thought of in terms of governance autonomy, its financial and political power, the magnitude of FDI institutions to engage in aftercare of new investors and with already existing MNCs, and the nature of FDI institutions as pure inward investment agencies or agencies with wider regional development powers/goals.

As this research demonstrated in the second chapter, state accumulation strategies prioritize certain actors and their strategic needs and demands (Jessop 2015), and influence the outcomes of FDI policies. Consequently, the capacity of local forms of governance to reinforce or minimize processes of corporate capture has to be comprehended along with an understanding of which actors have their interests prioritized in state accumulation strategies. In other words, the degree of corporate capture of regional training systems depends on the balance of forces and consequently the power of representation of actors such as the working class and their representatives, MNCs, fractions of capital, and educational institutions, among others at their forms of governance.

As discussed before, local forms of governance are not marked by shared power and interests, a collective mode of coordination, or a strong autonomy from the state but by a strong

relation to the state, hierarchical power relations, and function as an instrument for capitalists to foster their interests (Davies 2011; Lovering 2011). In this regard, as local forms of governance are important mechanisms for firms and other actors to present their interests to the state in regard to securing the commodification of workers, and thus, the development of training programs, state educational policies and strategies, local forms of governance have to function and are consequently shaped by their type of state selectivity in order to effectively present their interests. This also reveals how the state shapes local forms of governance as well as why they reinforce or minimize processes of corporate capture.

According to Claus Offe (1984), the capitalist state has an apparatus that is capable of attending to multiple interests from different actors such as single capitalists, the working class, business representatives, and fractions of capital. To receive and attend to different interests, states have particular forms of selectivity, which are classist and tend to attend the interests that will allow the valorization of capital (Offe 1984). Offe (1984) understands the concept of state selectivity as how states establish an internal institutional configuration with criteria and selective processes responsible for choosing which interests are mutually compatible with their own interests and with the interests of capitalists (Offe 1984; Seibel & De Oliveira 2006). In other words, states have mechanisms of selection that function as filters, which shape how policies are formulated and implemented, how actors present their interests to state managers and which interests are selected and prioritized (Seibel & De Oliveira 2006). Hay (2002) adds that habitual practices, routine, and intuition can play a key role in how actors strategically present their interests to the state. This means that the institutional legacy and political culture of local states play a crucial role in how actors' coordination and interactions function, as well as in how initiatives and strategies are elaborated and fostered. For example, the subnational and local

states of some countries are marked by highly professionalized and tenured non-partisan bureaucrats and technocrats, while in other countries, they are characterized by patronage and partisan staffs, or are a Weberian bureaucracy based on meritocracy (Banfield & Wilson 1966; Evans 2008). Such differences can result in different types of behaviors regarding how actors pursue their interests.

In this regard, local forms of governance tend to be shaped by such mechanisms of selection in order to present and have their interests attended. Forms of state selectivity lead local forms of governance to function in certain ways in order to present and have their interests selected. For example, some states like South Carolina select and foster initiatives based on formal relations, studies, and lobbying activities, which lead local forms of governance and their actors to formulate and present their interest through these ways and mechanisms. As we will see in the cases of Charleston and São José dos Campos, their forms of state selectivity have important outcomes to how and whether their local forms of governance reinforce or minimize processes of corporate capture. As state selectivity privileges capitalists (Offe 1984), even in regions where local forms of governance and state accumulation strategies prioritize SMEs and processes of externalization, and/or the working class, MNCs are still able to influence and capture public training programs and initiatives (see Rutherford et al. 2018).

According to Peck and Theodore (2015, 31) the world has seen a “deepening transnational interconnectedness, in which local policy experiments exist in relation to near and far relatives, to traveling models and technocrat designs, and to a host of financial, technical, social, and symbolic networks that invariably loop through centers of power and persuasion.” where models are imported and adapted. In this context, as Phelps and Wood (2006) revealed, there has been a spread of ideologies and practices to attract inward investments. Such ideologies

and practices have been replicated across the world and benefits the interests of MNCs.

For the authors, although the transnational capital has not general interests, the processes in which their interests are translated or mediated by actors of local forms of governance present certain patterns. Such patterns are converging “toward neoliberal national and local modes of regulation and interest representation” (Phelps & Wood 2006, 498), and translate a degree of convergence in pressures and challenges that test and bend existing rules at the state level. Therefore, practices understood as characteristics of corporate capture have been replicated across the world, even in regions which their state and forms of governance privileges domestic firms and externalization.

This is not only due to states providing packages of training incentives, but also due to the direct relationship between firms and educational institutions, and their mutual interest in the commodification of education and workers. Representatives of educational institutions frequently assess labor market studies and interact with firm owners, recruitment agencies, and other labor market intermediaries in order to determine which skills are in need (see Almond et al. 2017; Clark & Christopherson 2007). Thus, educational institutions, concerned in maximizing their profits/success²⁴ and to keep their own programs/initiatives’ functioning, are interested in concomitantly attending the interests of single MNCs²⁵ (given their political and economic power as well as scope of employment) through highly customized courses as well as the local business community through generic types of training skills (see Emmenegger & Seitzl 2018; Phelps et al. 2005). However, the opening, design, and expansion of MNCs-related courses and programs are often prioritized over the needs of other sectors.

²⁴ Meeting the skills needs of employers means that students will be hired, which in turn increases enrollment in programs.

²⁵ In many cases, firms find difficult to articulate or define medium- or long-term skill needs, giving to educational institutions some relative autonomy to design courses, meaning that educational institutions are not so heavily influenced by corporations.

To conclude, the capacity of forms of governance to reinforce or minimize processes of corporate capture has to be understood primarily according to its relationship to its state form, accumulation strategy, and type of state selectivity. This is because the state form and its accumulation strategies shape the way forms of governance function and the initiatives and goals they foster. Importantly, the type of state selectivity of states influences who receives centrality in mechanisms of representation like local forms of governance, and how governance actors represent their needs to state managers—formal strategies, studies, informal interactions, etc.—which in turn influences whether some forms of governance reinforce or minimize processes of corporate capture.

Moreover, even in regions where their forms of governance tend to minimize processes of corporate capture, MNCs are still able to influence and capture regional training systems despite subnational states' accumulation strategies and local forms of governance prioritizing domestic firms or SMEs. This is related to the multiple interests of governance actors involved in the commodification of education and workers, as well as, the economic and political power of MNCs. Therefore, processes of corporate capture in regional training systems have to be understood in a different perspective, taking into consideration power relations and initiatives at different scales, as this study explains in the next sub-section.

3.4 Rethinking Corporate capture in its Relation to Regional Training Systems

In this section, this research will reframe the notion of corporate capture. Conceptualizing the GPN approach to workforce development systems as regional training systems prompts this research to rethink corporate capture. As this study will reveal, processes of corporate capture in regional training systems have to be understood in a different perspective, taking into

consideration the power relations and initiatives at different scales, and in relation to uneven development and not sole externalization.

To do so, first I will briefly summarize the main discussions of corporate capture of the labor market. As this research focuses on the capture of regional training systems and not the labor market per se, there is a need to lay emphasis on capture in this matter specifically. Therefore, second, in this section, this research will expand the literature in the topic of corporate capture, but specifically regarding regional training systems.

Studies regarding institutional or corporate capture of the labor market have demonstrated how MNCs are able to impose their values and interests, influencing and sometimes dominating the initiatives and strategies of local governments. Scholars understand that corporate capture happens when the relationships between MNCs and local governments are marked by unilateral negotiations, i.e., MNCs fostering their private interests over public regional general interests. The regional or general interests of governments are pictured as their willingness to maximize the benefits that a MNCs can bring to regions aside the generation of jobs. For example, in return for subsidies, regions can push MNCs to have a certain percentage of suppliers at the local level, thus, encouraging their embeddedness and the development of industrial clusters.

Therefore, for researchers, corporate capture happens when regions provide human resource and support services, and subsidies to attract or retain MNCs to/in their places, but do not receive a same-level return from such firms in terms of externalization such as spillovers. MNCs basically influence and exploit the institutional capabilities of regions, making their private interests to prevail over the public interests of regions (Phelps 2000, 2008; Pavlinek 2016; Dawley 2007; Phelps & Fuller 2010).

Thus corporate capture occurs when MNCs receive (1) customized training packages, (2) are able to distort local skill agendas and strategies, which thus, lack wider business community involvement, (3) recruit most talented workforce from the local business community and from outside the region, and/or (4) avoid knowledge sharing/exchange. However, how can this research approach, analyze, and understand processes of corporate capture specifically related to regional training systems? In this regard, this research will argue that corporate capture should be understood according to three main aspects.

First, this research will, as studies of corporate capture have argued, analyze corporate capture of regional training systems according to which skills are provided at the regional level, and to who finances training services and initiatives. Regarding which skills are provided, this research will analyze how MNCs are able to influence the state and educational institutions to receive customized training. In this regard, processes of corporate capture in training systems should be understood in relation to the existing degree of duality in regional training systems, i.e. the existence of firm-specific customized training initiatives and general initiatives. It also requires looking at the types of skills that are taught in customized programs; do they provide very narrow firm-specific skills, or a mix of specific and general?

It demands as well examining how MNCs are able to control, develop and design courses and curriculums in partnership with the state and educational institutions, to place their staff as part of the teaching staff, and to establish a contract that identifies such students as their workers. Regarding who finances training services and initiatives, corporate capture also has to be analyzed in relation to how MNCs influence the state and educational institutions in order to receive cost- and bureaucracy-free incentives for customized training initiatives and services, which involves not only free training, but other practices such as free provision of instructors to

teach on-the-job, reimbursement of companies' costs for their workers training, travel funding to get training in other plants, and the free use of institutional apparatuses of educational institutions for employers to have their workers trained.

This research will differentiate two types of corporate capture through customized training initiatives: Temporary²⁶ and permanent capture. Temporary capture of customized training programs refers to how regions provide customized training in order to attract firms to their localities. In general, this happens when regions are bargaining incentive packages with firms. Such a capture is momentary and exists until states train the number of workers established in the negotiation with the firms. Permanent capture of customized training denotes how embedded firms capture the institutional capacity of educational institutions, establishing customized types of training initiatives that are perennial and intended to last as long as companies and educational institutions are mutually interested (see Andrade et al. 2005).

Corporate capture in this regard would be understood as happening at some scales—for example, customized training can be provided by the subnational state, or by the national state—, for some industry sectors, and for specific firms, where training is focused on specific-firm skills and based on customized programs, courses, and initiatives. However, it does not mean that the whole training capability of educational institutions will be captured. As stated in chapter two, corporate capture is always partial (see Phelps 2008). The existence of customized training programs and initiatives is given in conjunction with generic skill training programs and initiatives. This conjunction is also related to the fact that firms can have difficulties to predict their long-term skill needs.

This also involves analyzing the level of integration between customized vocational

²⁶ Momentary forms of capture can be renegotiated and renewed, thus, lasting many years.

training and the general education system, and how MNCs have influenced public educational policies and agendas at different scales, fostering their skill agenda, and/or influencing schools to advance their interests through training programs. However, this is not to deny that educational institutions have autonomy, given that their interests must also be taken in consideration.

Second, corporate capture of regional training systems has to be understood according to how MNCs are able to circumvent the juridical form of national, subnational, and/or local states in regard to established institutionalized training incentives for the business community in general. In this respect, it would require looking at how MNCs influence the state and educational institutions in order to receive more training incentives than the regional institutionalized training incentive plan has established for the business community in general. Such an approach involves, understanding how capture also involves low levels of transparency in the bargaining incentives given to MNCs and accountability.

Third, corporate capture of regional training systems has to be analyzed in relation to processes of uneven development and not only in relation to processes of externalization as mainstream literature has done. While mainstream literature has predominantly stressed how FDI does or does not result in wider cluster benefits, in benefits to the business community in general, focusing on uneven development will enable researchers to analyze the state MNCs nexus, and their outcomes to education and training initiatives as well as to issues of class, gender, and race, among others. In this respect, this research proposes to explore three main features.

First, how the processes of corporate capture of regional training systems reinforce, or aggravate the segmentation of the labor market, and class-based inequalities through training initiatives and practices. In other words, how the influence of MNCs over schools and colleges result in training programs and initiatives that further unequal class relations and labor

segmentation. As pointed out, some types of training programs and initiatives as well as their provision of knowledge are designed for the working class, while others for the ruling class. For example, when subnational states agree to recruit and train a number of workers for MNCs—as part of their incentive package—, it may require state managers to persuade students and workers to take a certain career path, what often involves convincing the working class—and their children—to get working class training and jobs.

Another example concerns how regional segmented labor markets are marked by the existence of a secondary workforce based on gender, race, migrant status, with temporary positions and low-paid wages (see Bair and Werner 2015), workers who are excluded from receiving certain types of education such as academic, but not from others like vocational, and excluded from opportunities delivered by public customized training initiatives due to their gender for example. Such features take us to the second point, which consists analyzing whether the provision of public cost-free customized training and training services for MNCs are followed by prerequisites, and how customized training is designed.

Do customized training initiatives involve the state requiring MNCs to pay competitive wages, to have career plans, to be gender, race, and ethnical inclusive, and to have benefits for workers such as health insurance and paid vacation? In other words, does the state demand MNCs to provide benefits for workers in exchange of the cost- and bureaucracy-free training incentives they receive? This aspect is important to evaluate whether the institutional capacity of regional training systems is captured by MNCs. Moreover, are the design and content of the curriculum of customized training initiatives broad enough to provide transferable skills? Does the content of such training initiatives provide opportunities for continuum education in vocational and academic education, thus offering possibilities for social mobility in terms of

education?

It is important to notice that processes of institutional de-capture are also possible to take place at regional training systems. For example, while states develop training initiatives at regional training systems to attract firms, state managers at the local scale can develop initiatives that seek to reverse such capture by fostering more inclusive, permanent, and generic training initiatives that target the local business community and the working class. For example, Phelps et al. (2005, 575) demonstrated how processes of capture create “an associated counter-movement in which public sector agencies are obligated, to some extent, to broaden these benefits to other parts of the business community.” Moreover, as the working class are able to advance their interests, and influence education strategies and policies, processes of corporate capture can be reversed (see Streeck 2012).

The examination of the three features above presented requires one to look at processes of corporate capture at regional training systems through a multi-level approach to governance that considers its different scales. It allows this research to understand how processes of capture can happen at some scales but not in others, and how it can be followed by processes of de-capture.

To conclude, examining corporate capture based on the notion of regional training systems, prompts this research to explore such a process in a different perspective. A perspective that (a) considers its multi-scale nature, (b) breaks with its dualistic view of capture or externalization, (c) takes in consideration the hierarchical power relations and interests among governance actors, and (d) acknowledges the connection between capture and class relations.

Table 4. Main Characteristics of Corporate capture of Regional Training Systems.

Institutional capture	
Multiple Scale Phenomenon 	Characteristics of Institutional Capture of the Labor market in General: - Customized training packages. - Distorted local skill agendas and strategies. - Lack of wider business community involvement. - Recruitment of most talented workforce from the local business community and from outside the region. - Avoidance of knowledge share/exchange.
	Characteristics of Institutional Capture at Regional Training Systems: - Two types of capture. Permanent and temporary capture. - Teaching: customized training, which includes customized development of curriculums and courses, cost- and bureaucracy-free; co-teaching practices (firms' and education institutions' staff); provision of teachers to teach on-the-job; reimbursements for firms to pay for internal training; travel funding for firms to have workers trained in other plants; free use of education institutions' infrastructure and apparatuses. - Firm-specific training demands, meaning low degrees of portability or transferability of skills. - Juridical form: free-training followed by formal contracts in which students are considered workers; MNCs circumvent institutionalized incentive plans and parameters; low transparency. - Inexistent pre-requisites such as high wages, career paths, benefits, gender and race inclusiveness, etc. - Training initiatives reinforcing unequal class relations and labor segmentation.
	Institutional De-capture: Initiatives to reverse institutional capture such as fostering more inclusive, permanent, and generic training initiatives that target the local business community, and the working class.

Source: Phelps 2008. Author.

Conclusion

This chapter sought to examine whether different forms of local governance reinforce or minimize processes of corporate capture in regional training systems. Critiquing the GPN/GVC approach to workforce development systems, I elaborated upon the concept of regional training systems to argue that the capacity of local forms of labor governance to minimize or reinforce processes of corporate capture in training has to be comprehend alongside with their state form, accumulation strategy, and type of state selectivity.

In regard to the state form, it was explored how countries can attribute different degrees of autonomy to their subnational states, which can affect the role, relevance, and extent—like pure inward investment or wider developmental goals—of local forms of governance in the attraction and retention of FDIs and MNCs. Concerning the accumulation strategies of states, I argued that they shape the way forms of governance function and the initiatives and goals they

foster. Importantly, I asserted that the type of selectivity of states influences who receives centrality in mechanisms of representation like local forms of governance, and how governance actors represent their needs to state managers, which in turn influences whether some forms of governance reinforce or minimize processes of corporate capture.

Moreover, it was also claimed that even in regions where their forms of governance tend to minimize processes of corporate capture, MNCs are still able to influence and capture regional training systems despite subnational states' accumulation strategies and local forms of governance prioritizing domestic SMEs. This is due to the multiple interests of governance actors involved in the commodification of education and workers, as well as, the economic and political power of MNCs.

This understanding regarding why local forms of governance may reinforce or minimize processes of corporate capture demanded this research to reconceptualize how corporate capture is understood. Therefore, in the last subsection of this chapter, this study sought to conceptualize corporate capture in regional training systems as a process that goes beyond the binary view of states' interests versus MNCs' interests, or corporate capture versus externalization. This research sought to expand what is understood by corporate capture and to frame it as marked by uneven development and uneven class relations, which is related to different state scales and multiple outcomes.

Chapter 4: Variegated Forms of Corporate Capture: The Case of Charleston, South Carolina and Boeing

In the last decades, the state of South Carolina, in the United States, has been able to attract several manufacturing corporations. Bosch, BMW, Boeing, Mercedes-Benz, and Volvo are just a few examples. In this regard, the region of Charleston (composed by Berkeley, Dorchester and Charleston counties) has gained attention for receiving many of the newly established companies in the state. One well-known example regards how the state of South Carolina was able to attract Boeing South Carolina to the region of Charleston through the provision of nearly one billion dollars. To be able to attract such corporations, state managers have designed several mechanisms and initiatives—many related to training incentives and programs—which have definitely positioned the state in a competitive position when bargaining with firms. Amidst such aggressive policies of FDI attraction, processes of corporate capture related to training initiatives are expected to take place.

In this context, this chapter will be divided in three main sections. In the first section, I argue that the evolution of processes of corporate capture related to South Carolina’s educational strategies and some training initiatives is related to how the state, theorized as a “hidden developmental state”, has established a strategic selective state apparatus that privileges manufacturing MNCs and their interests. I reveal that state managers have designed educational strategies and training initiatives intentionally targeted to be captured by MNCs. Attention will be given to the following initiatives: Career Academies, Apprenticeship Carolina, and ReadySC.

In the second section, the structural coupling process between Boeing and South Carolina will be analyzed, where I will disclose how Boeing captured the institutional capacity of

ReadySC, a state program that provides customized training free-of-charge for firms. This section will comprehensively study the particularities of such a capture.

Finally, in the third section, this research will determine whether Charleston's local form of governance has reinforced or minimized processes of corporate capture in its regional training system. I argue that Charleston's local form of governance has reinforced corporate capture by embracing, implementing, and expanding its higher-scale state initiatives and educational agenda. Although, attempts have been made to minimize corporate capture. I explore how such attempts to minimize capture are related to how the region's formal sector-level strategy named One-Region, reduces single-firms' influence, such as Boeing over Charleston's local regional training systems. Moreover, I demonstrate how these attempts to minimize corporate capture have been problematic, mostly due a lack of power of local state managers and to local governance actors' attempts to solve corporate capture based on market relations.

4.1 South Carolina's State Form, Accumulation Strategy and Relationship to Corporate Capture

This section will reveal how processes of corporate capture related to public training initiatives in South Carolina have evolved as intrinsically related to its accumulation strategy. As this research will show, structural coupling processes lie at the center of South Carolina's accumulation strategy, revealing the specificities of processes of corporate capture in three training initiatives—Career Academies, Apprenticeship Carolina, and ReadySC. I argue that South Carolina has established and designed training programs and initiatives, such as ReadySC to be intentionally captured by MNCs. Nonetheless, classical processes of corporate capture continue to occur in the state through bargaining events between state managers and MNCs.

As revealed on the second chapter of this dissertation, the varieties of capitalism (VoC) literature has classified different countries based on firms' ability to solve coordinating problems, categorizing the United States as a liberal market economy (Hall & Soskice 2001; Schneider 2009). However, this framework has held problematic. One issue concerns its disregard to how national states can have subnational variations. Thus, the variegated capitalisms literature has demonstrated how subnational states can have sub-models of capitalism with diverging coordination and accumulation strategies from their national states (Rutherford et al. 2018; Peck & Theodore 2007; Schröder & Voelzkow 2016; Zhang & Peck 2014). Such variations challenge theorizations that claim liberal national states to be more likely to engender processes of corporate capture than developmental states, and stress the importance of scale (see Phelps 2008).

South Carolina exemplifies how subnational states can vary from their national economies if one classifies the United States as a liberal market economy. South Carolina resembles a developmental state, and as its "hidden developmental" national state form (Block 2008) is highly interventionist. Nonetheless it has significant similarities with the classical developmental states. As developmental states do (see Fine 2008; Woo-Cumings 1999), South Carolina has consciously enacted economic changes employing industrial governmental policies, which opposes the idea of having a free market economy. Moreover, as in developmental states, high institutional coordination levels mark South Carolina, where state managers continue to focus strategically on specific sectors to establish growth policies.

Subnational internal variations in the United States, such as the one in South Carolina, have resulted from the US federal system, which grants significant policy design autonomy to subnational states. Moreover, the historical uneven expansion of industries in the country has

resulted in varying subnational states in terms of policies and models of development. The uneven process of industrialization in the US was mostly significant during the late 19th Century, when some northern states, such as New York, Pennsylvania, and Illinois developed their manufacturing industries while several southern states such as South Carolina lagged behind. South Carolina maintained their agricultural economy, and specialized its industry in textiles and apparel, which were based on a low-wage nonunionized labor force (Rees 2016). Nonetheless, after the Second World War, attempting to transform its economy into a manufacturing powerhouse, as the northern states, South Carolina adopted an accumulation strategy based on attracting mature industries interested in relocating to lower operating-cost regions (Ford & Stone 2007; Porter 2005). As Jessop (2014) has argued about the nature of the state, South Carolina started to develop a selective institutional apparatus, centered on attracting large manufacturing corporations to foster accumulation and development. As Rutherford et al. (2018) revealed, states can select and focus on various global value chains segments to design developmental policies. In the case of South Carolina, state managers have established attractive pro-business mechanisms and initiatives, such as low taxes, land donation, low wage workforce provisions, right-to-work state policies, training incentives, minimum government regulation, and heavy subsidies and financial incentives to privilege, and thus, attract manufacturing corporations (Ford & Stone 2007; Porter 2005; Villa 2010). Therefore, structural coupling processes laid pivot around its accumulation strategy. Indeed, as some interview participants articulated, subsidies and incentives were, and remain, vital to South Carolina accumulation strategy. One interviewee from the Berkeley Chamber of Commerce declared:

[..]South Carolina was a poor state, so what they did is that they put their money in what they think would get the best outcome [...]. We did not have any industry until...our first industry was in 1973. Part of that was the lobby. They state decided “that is all we got, we need to get the most for this”, and doing that we can try to bring big industries to

bring jobs and get rural South Carolinians up. So, we have already been growing since 1950. It is a short time especially compared to other areas. But before that very poor.

While still in place, this strategy has altered since the 1980s regarding its sophistication and mechanisms employed to foster structural coupling processes. Such changes are related to the neoliberalizing process that the US has been undergoing since the late 1970s, which has fostered and shaped interactions among state managers and manufacturing MNCs subnationally (Harvey 2005). Interactions that have advanced in South Carolina, a pro-business institutional apparatus and programs crucial to foster structural coupling processes. The neoliberal movement gained prominence in the end of 1970s when the US Keynesian state encountered increasing problems due to the crisis of Fordism. By the early 1980s, President Reagan promoted American neoliberalism as a new economic orthodoxy (Harvey 2005), resulting in three processes:

1. Statehood denationalization, reorganizing US national state apparatus functioning on subnational, national, supranational, and trans-local levels (Jessop 1997).
2. “Destatization” of its political system, where the private sector becomes a key political actor in public decisions and strategies (Jessop 1997).
3. Internationalization of its policy regime (Jessop 1997), meaning that the US state apparatus increased its orientation toward facilitating internationalized investors’ accumulation (Glassman 1999).

Due to these three processes, the US Schumpeterian Workfare emerged (Jessop 2002). This new US state form started to place greater attention on policies that could advance technological development, innovation, enterprise, and human capital (Jessop 2002). Due to the internationalization of its policy regime in the 1980s, competition from low-wage offshore countries increased, challenging South Carolina’s developmental strategy.

In the 1990s, the augmented international competitiveness manifested in primary South Carolina industries, with textiles and apparel losing half their employees. Until the end of the 1990s, South Carolina stayed at nearly 80 percent of the national per capita income average, making one of the ten poorest states in the nation (Ford & Stone 2007; Porter 2005). Thus, South Carolina altered its state accumulation strategy in the 2000s, becoming much more aggressive and embracing a developmental project that could competitively situate the state in the new knowledge-based global economy (Ford & Stone 2007; Vila 2010).

Topics such as human capital and science, technology, engineering and mathematics (STEM), innovation, and research became central in South Carolina's political agenda. But this state agenda was difficult to accomplish given the state's under-funded and deficient public education system, lack of innovation and patents, the absence of tier-one research universities, and overall poor skill levels (Ford & Stone 2007; Porter 2005). South Carolina state managers, MNCs and their representatives, and Michal Porter's cluster-based developmental plan influenced the design of this agenda. This new accumulation strategy maintained its heavy reliance upon subsidy provisions and incentives but developed more sophisticated and aggressive mechanisms and initiatives to attract and retain firms, representing significant shifts. This will be explored in the three following subsections.

4.1.1 Flexibility, Inter-Scale Fluidity, and Efficiency

First, South Carolina has established mechanisms or an institutional apparatus flexible and efficient in attending to the interests of MNCs. As this research demonstrated in previous chapters, state managers, as a distinctive class, tend to pursue policies and initiatives that will result in investments in their localities (Block 1987; Rooksby 2010). This pursuit of policies and

initiatives constantly results in institutional apparatus experimentations and shifts. Hence, South Carolina has not only made the provision of fixed assets such as infrastructure, low taxes, and incentives an important instrument to attract and retain MNCs to their regions but has also developed an institutional apparatus that commits to “in-the-making” necessities and possibilities, or potentialities. In other words, state managers are open and eager to develop initiatives for MNCs that do not exist, that may be needed in the future, requiring or not new processes of institutionalization. Such openness and willingness reduce uncertainty for potential investors. Individual capitalists, such as MNCs base their decisions not only on fixed assets when examining where to invest, but also on their evaluation of the general political and economic environment of localities (Block 1987; Rooksby 2010). In South Carolina’s case, state managers have acknowledged this fact. As one representative from the South Carolina Department of Commerce stated, “we make ourselves available to listen to firms and to work collaboratively as a team to attend to their needs.”

The South Carolina Department of Commerce has mostly exerted such a role, recruiting MNCs and helping existing businesses to remain competitive. As one Berkeley County representative asserted, recruiting MNCs requires the South Carolina Department of Commerce to work closely with local states to develop attractive benefits packages and to offer corporations various potential sites (Interviewee 10). Therefore, successfully enticing corporations takes complex collective efforts involving various actors at different scales. This inter-scale collective work has unevenly developed across the state, a characteristic that Brenner (2003) has acknowledged in his theoretical work. Some regions have garnered more success than others in attracting firms. As Interviewee 6 detailed, Charleston has become a relevant player in recruiting firms only in the last 15 years, but “the Upstate, Greenville area, has been very aggressive in

economic development before.” This is because Charleston has built a strong form of governance, which has the capacity to compete for investments and to represent their interests and goals to state managers at the subnational scale. The Charleston Metro Chamber of Commerce (CMCC) and the Charleston Regional Development Alliance (CRDA) have remained primarily responsible for Charleston’s local governance agenda. Interviewee 10, a CMCC representative, professed:

we go together and try to be one-on-one with many legislators from our area and educate them. Here is what is on our agenda. Here is why it is on our agenda. Here is why it is important. Here is how it impacts the business. That is what needs to be done to fix this issue. Will you help us? And because we have been doing that for a long-term, we got good relations. So, with building lobbying, it is all relationships, it is building that relationship with that particular elected official, so they know when you call [...]

Interviewee 15, a representative from the Berkeley Department of Economic Development explained the significance of existing channels of interaction between the local and subnational scale in the recruitment process for MNCs stating:

The project came through the state. [...] we got tied in with the state and soon we were competing with the others (counties). These big industries when they are out there looking, they hire site selection firms to do research of potential sites. They go through the states’ department of commerce and tell them what the requirements are and what are their needs and the state department of commerce has all the information on sites. So, if there is a potential site that will work in our county, they will send a request for information and we will have to submit all the information on that sight. If the site selection firm presents our site to x y z companies, and they like our site, then they will initiate a conversation with the state and the state will be negotiating.” (Interviewee 15, 2016).

Phelps (2008) contended efficiency in state institutional coordination is crucial to foster externalization processes and avoid corporate capture. But in the case of South Carolina, the high inter-scale capacity of state managers to coordinate actions has vitally facilitated the state to meet MNC interests and consequently to attract such firms to their regions. At 2016 South Carolina Manufacturing Conference, Philip Morgan, a senior project manager at the South Carolina

Department of Commerce publicly asserted that the state has successfully recruited manufacturing firms due to the state's flexibility and capacity to work collectively:

We are a team; you can reach out to any one of us. So, we partner with regional representatives, with county representatives, we partner with them all, with private partners and utilities. Any company that wants to talk to us, please come and talk and we will put the right people in front of you. "One of our skills is the ability to be flexible." (Aerospace Conference 2016).

Interviewee 9, a representative from Trident Apprenticeship Program, also attributed the success of South Carolina in attracting companies, such as Mercedes Benz, Volvo, and Boeing, to state managers' capacity in working collectively to accommodate corporate needs. According to Interviewee 9, "Charleston has grown to manufacture more than any place in the United States..." and this is because

...[the state] gets people involved, when you get leadership, companies, high schools together, you get the college, technical schools, whatever, together, you see results and that is something else.

Researchers have explored such a role in several studies. For example, scholars like Phelps and Wood (2006) have demonstrated how states' and MNCs' interests have grown more mutually coincidental, transcending, or blurring the separation between public and private sectors. Therefore, the power of states when bargaining with MNCs does not only reside in specific regional assets, as GPNs scholars would argue but also on the trustworthiness, flexibility, inter-scale fluidity, and the state manager's willingness to meet present and future MNC interests. Accommodating the immediate and future MNC interests requires constant change, adaptation and experimentation of state institutional capacities and arrangements as well as locality intervention to create new assets.

4.1.2 Greater Commitment to Keeping South Carolina's Right-to-Work Status

One second significant aspect of South Carolina's accumulation strategy shift has concerned South Carolina's greater commitment to maintaining the state right-to-work²⁷ status. Although such a commitment is not new, South Carolina state managers have increased their efforts at the state and local level to discourage workers' attempts to unionize in the state. This plays an important role in its accumulation strategy, given that such efforts, as Block (1987) has pointed out, enhance business confidence in the state, encouraging potential investors like MNCs to come to the state. To explain South Carolina's success in attracting MNCs, Philip Morgan contended that: "We are a right-to-work state. We have the lowest unionization labor rate. The employees here don't want to be unionized. It is a culture within the workforce" (SC Aerospace Conference 2016). State managers' commitment has been relayed mostly through speeches, news statements, and online platforms, like Twitter. At an automobile conference in Greenville, Nikki Haley, a former South Carolina governor, spoke out about the state's view regarding unions:

We discourage any companies that have unions from wanting to come to South Carolina because we don't want to taint the water. [...] You've heard me say many times I wear heels. It's not for a fashion statement. It's because we're kicking them every day, and we'll continue to kick them." (Bell 2014).

More recently, the current governor of South Carolina, McMaster, has also opposed attempts of unionization in the state. Due to the International Association of Machinists (IAM)'s unionization victory²⁸ in 2018 at the Charleston's Boeing plant, the governor contended, "Their presence (IAM) in North Charleston is about as welcome as a Category 5 hurricane. [...] we aren't going to let out-of-state labor unions ruin the wonderful working environment in our

²⁷ The term right-to-work state refers to states that have passed a law which guarantees that no person can be compelled to join or not join or to pay dues to labor unions (Niznik 2018).

²⁸ In June 2018, flight line workers at the Boeing South Carolina plant voted in favor of organizing into a union with the International Association of Machinists (Moxley 2018).

state.” (Twitter, May 21st, 2018). As an IAM union representative, Interviewee 2, claimed, this state manager anti-union commitment has remained a principal part of South Carolina’s developmental strategy:

They (state managers in South Carolina) lend their face to the anti-campaign (unionization campaign). [...] She (Nikki Haley, former governor of South Carolina) chooses to try to make South Carolina look more attractive to companies to move here so she will help to keep the workers oppressed.

The anti-union commitment has extended to the local scale as this research will detail in another section. State accumulation strategies prioritize certain actors and their strategic needs and demands (see Jessop 2015). Regarding South Carolina’s accumulation strategy, manufacturing capital fractions’ strategic needs and demands have remained privileged while actors’ representational power such as the working class and their delegates have weakened. The lack of workers’ representation has resulted in direct foreign investment policy not having any significant involvement from the working class and their representatives. Issues like transparency regarding incentives such as customized training, plus solid wage gains guarantee, and workers’ benefits have been left to state managers working with MNCs to decide.

4.1.3 Greater Alignment Between Education and Businesses

A third aspect of South Carolina’s accumulation strategy, and most vital for this research, pertains to how South Carolina state managers have further aligned education with the interests of manufacturing MNCs in the state, transforming education into a crucial part of its accumulation strategy, or asset to foster structural coupling processes. State managers have pushed the commodification of education to a new level, framing education as an economic development matter, and the corporate capture of its educational system and educational initiatives as a developmental mechanism to foster structural coupling processes. Three primary

initiatives have revealed this further alignment: the development of career academies within schools; the development of Apprenticeship Carolina, and the reorganization of ReadySC. These three initiatives have been designed to foment structural coupling processes.

Further alignment between corporate interests and education does not hold unique to South Carolina. In the last four decades, US neoliberalism has reoriented education's purpose, structure, and priority, basing educational decisions more heavily on free-market policies and economic rationality (Saunders 2010). Such a reorientation has related to the American shift from a Keynesian state form to a Schumpeterian one. The state started to advance policies promoting labor market flexibility and developing flexible and enterprising workers suited to the evolving knowledge-based economy (Jessop 2002). This new vision regarding the emergent knowledge-based economy has held knowledge production, valorization, and application as the principal driving of competitiveness, profitability, and development (Jessop 2017 p 854). However, this does not mean that a new education model has emerged. American higher education has continued to attend the capitalistic ruling class²⁹. Nonetheless, neoliberalism has drastically accentuated this previous model, increasing profit-driven, corporate ends, and faculty, student, administrator, and policy maker adherence to market targets and priorities (Saunders 2010). This reorientation has resulted in trustee members at educational institutions increasingly coming from the private sector, bringing their corporate logic to decision-making strategies (Saunders 2010). Moreover, the vocationalization of community colleges in the US has advanced to the point faculty in some departments have considerably lost their influence over curriculum decisions. In this context, in some cases curricula continue to meet capital interests catering to

²⁹ The corporatization of the United States' higher education is not recent and started in the 19th century with the emergence of public education. Moreover, the vocationalization of the curriculum, the focus on meeting the demands of capital, and the corporatization of governing boards started more than a hundred years before the emergence of neoliberalism (Saunders 2010).

job training and career development (Saunders 2010). Although clearly represented in science, technology, engineering, and mathematics (STEM), it also has also affected the arts and humanities (Jessop 2017).

In South Carolina, the development of career academies at schools across the state exemplify how education and the private sector have been further aligned. This reorientation started in 2005 and was influenced by firms' representatives such as the South Carolina State Chamber of Commerce and the Charleston Metro Chamber of Commerce (CMCC), and by state managers. The key aspect of this reorientation was Michael Porter's 2005 plan entitled "South Carolina Competitiveness Initiatives: A Strategic Plan for South Carolina", which served as a guideline and justification for MNCs to represent their interests to South Carolina state managers, and to advance their goals regarding such an alignment. One primary recommendation in Porter's plan was to "align and link the educational system and local business so that education meets the workforce requirements of business, and business appropriately supports the educational system" (Porter 2005, 62). Porter's plan was based on a cluster-approach, and placed innovation and human capital at its center. One of the participants from the Aerospace Council of Competitiveness claimed:

“...it really started when Michael Porter from Harvard came down and did a study... They generated a report that had some co-foundational things that they need to do to help the industry grow and evolve here, and the reason the Department of Commerce did that was that the secretary (Bob Hyatt) had worked for BMW.” (Interviewee 18, 2016).

In the same year, the South Carolina general assembly, influenced by corporate interests passed the 2005 Education and Economic Development Act (EEDA), a document establishing requirements for schools, colleges, and universities to work collectively with businesses in the

state. Interviewee 12, a representative from the Trident Youth Apprenticeship Program, observed:

The 2005 Education and Economic Development Act was driven into existence by the State Chamber of Commerce, because the Chamber recognized a shortage of people with particular skills sets, the baby boom that has the skills sets are retiring, there are not enough students getting trained in these skills to fill these positions let alone to expand what is happening in the region and across the state. So, the State Chamber of Commerce pushed into existence this piece of legislation.

The 2005 EEDA moved significantly to further the state educational system's corporatization process by establishing that every South Carolina school must maintain a standards-based academic curriculum structured around a career cluster system, and must require students to take career-focused courses. The 2005 EEDA also determined the credits acquired in career courses at secondary schools would be transferable to four- and two-year courses at state colleges and universities. According to Interviewee 11, in the 2005 EEDA, career academies related curriculum mostly to STEM courses and vocational training. According to one participant from the South Carolina Department of Commerce, one major reason for passing this act held to develop channels with students, parents, teachers, and companies directing learners to pursue career paths that address existing skill gaps in the market.

This alignment is part of a broader US movement, where researchers, corporations, and not-for-profit organizations have claimed for the existence of a skill gap in manufacturing positions in the country (Lerman 2012). Yet there is debate in the US over the extent to which firms confront actual skill shortages (Cappelli 2015), and whether these are the result of short falls in firms' investments, or the inability of public institutions to meet firm demands as training becomes increasingly firm specific (Rutherford & Holmes 2011). This alignment epitomizes a cultural problem. This is considered a cultural problem because students and parents associate social and economic success with college degrees, creating disinterest in manufacturing-related

careers (Lerman 2012); hence, the 2005 EEDA sought to tackle this issue. A participant from the South Carolina Department of Commerce (Interviewee 14) remarked:

[...] it was really to make sure that students, teachers, parents, understood what kind of industry we have and make that connectivity. So, the students could understand the kinds of jobs were in the community, and potentially do internships and things in that nature, not only manufacturing but outside manufacturing. [...] With that law there was established regional workforce education centers across the state [...] really to make that connectivity between K12 and post-secondary education and families with the types of business and industries.

This further alignment seeks to support different fractions of capital in the state, attending to their skill formation needs, but has also been framed as an important component of South Carolina's accumulation strategy. One state representative from Berkeley county, Interviewee 15, voiced:

I think a lot of times, what a business looks at a location to go to, they want to know how serious is the commitment of the county, how serious is the commitment from the state, but also how serious is the commitment from the education system to not only make sure that if I move my business here, my kids are getting good education, but making sure that we are going to have a workforce, not just for today, not just 5 years from now, but 20 years from now, well trained and well educated to handle our needs.

Worthy of notice, such a reorientation in education is not just about meeting the interests of MNCs regarding skill formation. South Carolina state managers believe this educational model to improve state educational quality in a state hosting one of the worst public-school education US standards³⁰ (Bowers et al. 2018). As Poulantzas (1978) pointed out, state managers who sympathize with a specific force, interpret their interests in terms of a particular ideology, that of the 'neutral state' (Poulantzas 1978). As Interviewee 7 from the Charleston Chamber of Commerce explained:

[...] they (career academies) help engage students, high schools' students are bored, don't

³⁰ According to a recent report, in the 2017-2018 school year, more than half of students in grades 3 through 8 were not able to meet South Carolina's reading and math standards. S.C. state test also reveals that one out of three students graduates unprepared for the job market, number that is worse in rural and poor districts. In the test known as "the nation's report card", South Carolina failed, in 2017, in almost every category (Bowers et al. 2018).

see why they need that. So, they get into a point they drop out. They want to leave because they see no relevance. So, if you can bring the relevance and engage them in the learning process, they will stay. So, you increase the number of students that graduate successfully. [...] We found about career academies by doing research in other communities Nashville, Tennessee. They have a very successful program. They went from 68 percent graduation in high school to 82 percent in 7 years, and all the things that changed were the implement career academy. [...] It makes it relevant and then the other part, the teachers are more like a facilitator than a lecture. So, the kids are working in teams, which is what employers want. They work on projects. [...] So, it makes them excited about school and then the business community comes in and they offer jobs.

The reorientation of South Carolina's educational agenda did not only create career academies, but also established the programs Apprenticeship Carolina and ReadySC. Both programs are housed at the Economic Development Division of the South Carolina Technical College System, a System that administers 16 technical colleges strategically placed across the state. According to Interviewee 13 from Apprenticeship Carolina, the program was founded in 2008. As in the case of career academies, South Carolina State Chamber of Commerce influenced this program's establishment and structure, as an interviewee from Apprenticeship Carolina revealed in the following statement:

The history of that takes us back to 2003 when our state chamber of commerce made a report on workforce needs, and the benchmark was when recommendations came out, asking for a better apprenticeship system for South Carolina. So, it was staffed in 2008 at the Technical College System. [...] The state chamber of commerce was instrumental in driving the initial conversations. The industry responded to their report, saying "that is something we would support", and here we are today.

As a participant from Trident Apprenticeship Program (Interviewee 9) noticed, Apprenticeship Carolina sought to develop market-demanded skills, and as in the Career Academies case, the program also engendered the goal to alter students' perception regarding manufacturing careers, "We have a generation of millennials that have no sense of pride in becoming a welder or machinists. The problem is (...) the companies that are coming, this is what they are looking for." In the US, the apprenticeship system has remained decentralized,

where states have the autonomy to develop programs and to choose whether to register their programs in the registered apprenticeship system of the US Labor Department office (Lerman 2012). In the US, participation in apprentice programs has proven minimal when compared to other countries, such as Germany (Levesque et al. 2008). For this reason, the VoC literature has characterized the US vocational training system as focused on general skills training, lacking firms' participation in apprenticeships due to absence of mechanisms to avoid firms poaching apprentices from one another (Hall and Soskice 2001). However, evidence suggests that South Carolina varies from the US national state concerning vocational training. In the state of South Carolina, apprenticeship has gained relevance in the last decade, where the number of apprentices and apprenticeship programs across the state have greatly increased. This increase is related to the recent shift in the educational agenda of South Carolina, which has demanded local states to implement and expand apprenticeship programs. One feature in these programs is to register apprentices in the U.S. Dept. of Labor. For example, the number of active apprentices in the state increased from 3,198 in 2011 to 20,763 apprentices in 2018. This represents a rise of 649% in seven years. Moreover, South Carolina has the highest percentage of apprentices by population size in the US (see table 5 and 6).

Table 5. Increase of Apprentices and Apprenticeship Programs from 2011 to 2017.

South Carolina	2011	2012	2013	2014	2015	2016	2017	2018	Increase %
Active Apprentices	3,198	4,791	6,412	4,485	5,367	5,297	17,609	20,763	649%
Active Programs	283	565	619	463	524	569	964	1,054	372%

Source: US Dept. of Labor, 2011-2018.

Table 6. Percentage of Apprentices by Population Size.

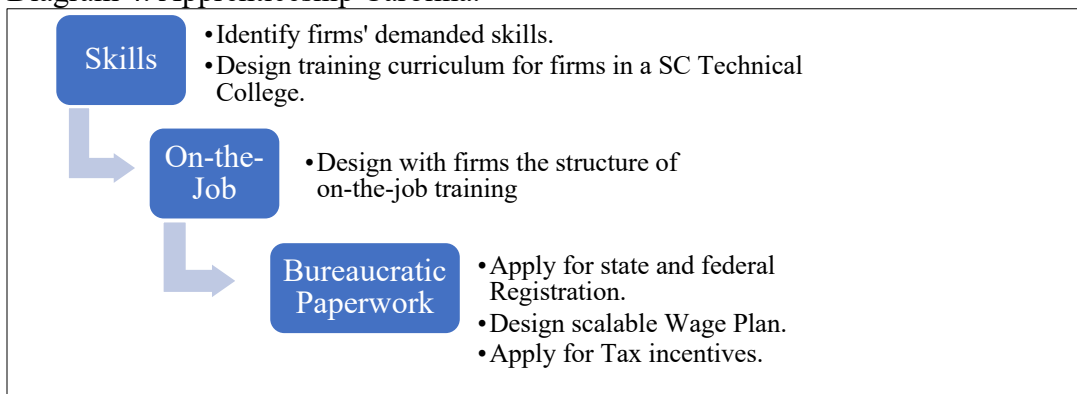
State	Population Size	Active Apprentices	Apprentices/Population
California	39,557,045	89,949	0,23%
Ohio	11,689,442	19,081	0,16%
Michigan	9,995,915	20,576	0,20%
South Carolina	5,084,127	20,763	0,40%

Source: US Dept. of Labor, 2011-2018; US Bureau Census, 2018.

The reasons why the state of South Carolina had such a high increase in apprenticeship programs and participants were not provided. However, in the last years focus has been given to strengthen apprenticeship programs in the state. To encourage firms' participation in the program, South Carolina state managers have designed certain mechanisms. To design such mechanisms, the corporate sector has played an active role as Interviewee 9 professed, "the State Chamber of Commerce idealized the State Technical College System and convinced state legislator to develop one division of apprenticeship." As this participant explained, the program has garnered success because the state adopted the State Chamber of Commerce recommendations. Regarding the program functioning, Apprenticeship Carolina does not perform firm training, but supports businesses to develop their own apprenticeship programs and to register them with the federal government. Hence, Apprenticeship Carolina has consultants meeting with company staff to guide them systematically in creating apprenticeship programs (Interviewee 13). This means consultants will freely guide firms to first identify what education or training the offered positions require. Consultants, after identifying the education type, connect the business representative with a state technical college. Second, consultants help firms to structure on-the-job training. For every 2,000 hours apprenticeship program, corporations must complete 144 education hours (Interviewee 12 and Interviewee 9). Third, consultants assist firms in setting up a scalable wage plan, completing bureaucratic paperwork, filling in forms,

and completing federal registration paperwork. Consultants also present the resources available for companies registered in the apprenticeship program, such as obtaining state and federal tax credits. South Carolina offers firms U\$ 1,000/month in tax credit per apprentice for up to four years (Interviewee 12 and Interviewee 9). Apprenticeship Carolina is structured as follows:

Diagram 4. Apprenticeship Carolina.



Source: Author.

Another program showing how MNCs have reoriented the educational system of South Carolina is ReadySC, which clearly typifies a process of corporate capture. ReadySC started in 1961 and was initially called Special Schools. One of the oldest training programs offering customized training for businesses, the program has trained more than 290,000 people and attended to more than 3,600 companies (ReadySC.org 2018). The program was initiated when South Carolina jobs were declining and young people were leaving the state, lacking training services. Fritz Hollings, a former South Carolina governor, understood to attract new corporations, the state would need to have an educational system providing the skills in demand (Ford & Stone 2007). In this way, the South Carolina College System was founded in the 1960s along with the program Special Schools, program which was created as a developmental instrument meant to entice firms to the state. The program Special Schools, reformulated in the

early 2000s, was named ReadySC, establishing a systemic, technical, and refined approach to recruiting MNCs.

ReadySC program exemplifies a process of corporate capture because this program, without the need of any negotiation, provides highly customized training and recruiting services for firms interested in moving to South Carolina or planning to expand. Both services are not only cost-free for firms, but also bureaucracy-free. According to one ReadySC's representative, firms can have access to ReadySC's services independent of their size; however, the focus has remained on large multinational corporations. For firms to receive services, they need to generate at least 10 new permanent jobs, pay competitive wages for the region, offer benefit packages with health insurance, and invest an appropriate capital amount (Interviewee 29).

Currently, ReadySC is a crucial mechanism to attract and retain corporations to South Carolina and is intrinsically related to South Carolina's accumulation strategy. As stated before, central to South Carolina's accumulation strategy is to foster structural coupling processes. Many participants consider ReadySC the major "trump" in their assets when bargaining with MNCs.

Interviewee 9, a representative from the Trident Apprenticeship Program declared:

ReadySC is the carrot that gets them in the door, gets things going... We are very attractable to foreign companies. It started with the leadership of the state. Leadership realizing that apprenticeships, ReadySC, getting companies up and going is the most important issue. In these cases, skilled labor. We are going to be really popular... It is not just the sunshine in our port, is what we offer [referring to ReadySC free customized training] to companies when they come. There is nothing wrong with building buildings. We hear that a lot, "if we just had this building, this equipment" [...]. I know places that built places and have the equipment and they are empty [...].

Generally, when working with businesses, ReadySC is structured in a 3D process: discovery, design, and delivery. First, ReadySC discovers what the company training needs not only from a technical perspective, but also from a cultural perspective, such as discipline. Second, ReadySC designs the training program, developing the curriculum according to the firm

specificities. Hence, ReadySC staff meet with the firm human resource representatives to discuss needs and interests. ReadySC does not outsource training but delivers the corporate training needed. Specific and customized training fits firms’ needs. The third program piece, training delivery, depicts the company establishing standards, and ReadySC training accordingly.

Recruitment and screening are other two services ReadySC provides. Companies reveals the skills’ characteristics for which they are looking, such as desired experience, diploma, college education, and ReadySC, through several partners, recruits the people to receive training. Project management represents a feature ReadySC offers. ReadySC assigns one project manager to the company being attended, manager who will be the primary contact point between the company and ReadySC.

ReadySC also tracks corporate metrics, varying according to firm requirements and serving not only for ReadySC to improve its services, but also for companies to ensure they attain the most qualified workers. Training can take place at the state technical colleges or at the firms. The training location varies according to the entity interests, but usually, ReadySC establishes a training center at a state technical college housing the necessary equipment.

ReadySC is structured in the following way:

Table 7. ReadySC Program.

Discover	•Discover what the companies' training needs are.
Design	•Design curriculum.
Deliver	•Establish a training center, and train customized workers.
Recruit and Screen	•Screen and recruit workers according to the skills' characteristics provided by firms.

Source: Author.

Therefore, this program typifies a process of corporate capture. However, ReadySC differs from the classical processes of corporate capture in which state institutional capacity capture results from bargaining events between state managers and MNCs. Rather, ReadySC was designed to be captured as a mechanism to recruit firms at the subnational scale. To further demonstrate how ReadySC represents a form of corporate capture, in the next section, this research will analyze the structural coupling process between the state of South Carolina and Boeing in 2009.

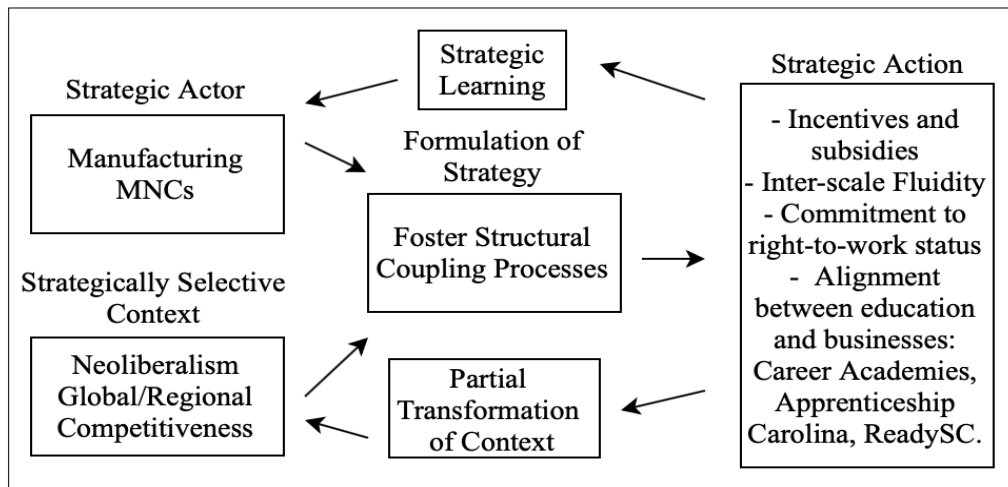
To conclude, the evolution of the corporate capture in South Carolina in training programs such as ReadySC, Career Academies, and Apprenticeship Carolina demonstrates how the specialized literature cannot fully explain how such processes evolve. On one hand, scholars such as Phelps (2008) have argued that national liberal states are more prone to have processes of corporate capture because their state apparatuses are marked by low levels of coordination. However, as the variegated capitalisms literature revealed, national states have internal variations, where their subnational states do not always comply with its national form. This is the case of South Carolina, which although its national state has been analyzed by the VoC literature as a liberal state, resembles a developmental form of state, having an accumulation strategy that is marked by a high level of state coordination, heavy state intervention, and a clear industrial policy. Still, corporate capture is a common practice in the state, which contradicts Phelps's (2008) argument.

On the other hand, the GPN literature has explained corporate capture based on the lack of distinct regional assets in certain locations (see Mackinnon 2012; Yeung 2016). This means that, regions that do not have distinct assets to meet the strategic interests of MNCs are in an inferior position when bargaining with firms, and thus, more prone to corporate capture.

Although such a rationalization sheds some light on how processes of corporate capture evolve, it still provides an incomplete explanation, being based on purely descriptive accounts of such processes.

As demonstrated, the accumulation strategy of South Carolina is based on mechanisms such as ReadySC that were designed or institutionalized to be intentionally captured. The corporate capture of ReadySC does not require negotiations and does not happen solely due to a lack of distinct assets in South Carolina. Although, as this research will show in the next section, in the case of Boeing and South Carolina, their bargaining event did matter in that it intensified the process of corporate capture of ReadySC. The diagram below summarizes South Carolina’s accumulation strategy:

Diagram 5. South Carolina’s Accumulation Strategy.



Source: Author.

Therefore, this section sought to argue that processes of corporate capture regarding training in South Carolina evolve—and should be understood—according to South Carolina’s accumulation strategy. In the case of South Carolina, the major goal of its accumulation strategy is to foster structural coupling processes. Thus, state managers have aligned their interests with

manufacturing MNCs. Such an alignment has allowed MNCs to advance their interests, fostering processes that could be framed as corporate capture in the educational system and educational initiatives of the state. More specifically in South Carolina's educational agenda and initiatives such as Career Academies, Apprenticeship Carolina, and ReadySC. Nonetheless, this alignment has also enabled state managers to develop complex mechanisms and assets that have been efficient in recruiting firms.

4.2 Boeing and South Carolina's Strategic Coupling: The Corporate Capture of ReadySC

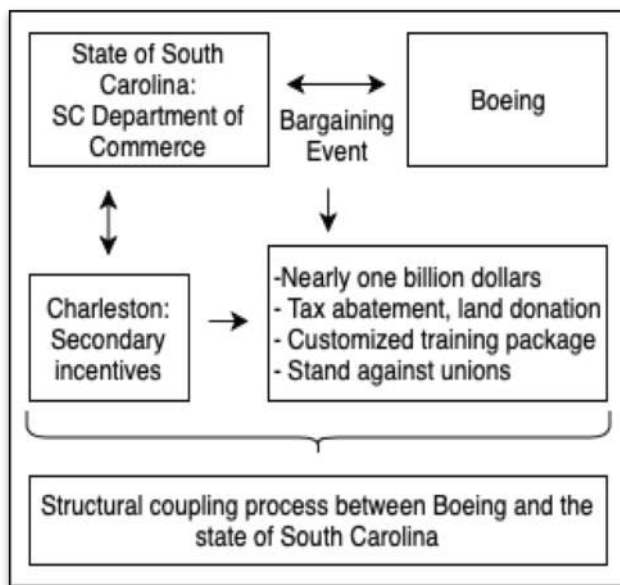
In 2009, the state of South Carolina announced the establishment of a new Boeing Company's plant in North Charleston to produce 787-airplanes. The Boeing Company, an American multinational corporation, designs, manufactures and sells rockets, satellites, missiles, and airplanes for the commercial and defense sectors. Considered one of the largest US exporters in terms of dollar value and the largest aerospace company worldwide, the establishment of a Charleston plant was acclaimed for its potential to generate thousands of jobs (Boeing.com 2019).

Boeing, founded in 1916, has continued to grow since World War I when the company established close links with the US Army. During WWI and WWII, Boeing was a major airplane and missile supplier for the US Army. After the end of World War II, the company started to manufacture commercial airplanes. Today, the company manufactures several commercial airplanes accommodating from 85 to 660 passengers, such as the models 737, 747, 767, 777, and 787. On January 1, 2018, the company employed 141,332 people across the world (Boeing.com).

The state of South Carolina played a crucial role in the attraction of Boeing. The GPN literature categorizes its role as facilitator, and its coupling process as a structural coupling. As a

facilitator, the role of the state is to promote, retain and attract firms, and to support the participation of local firms in global chains (Horner 2017). Structural coupling processes are based on proactive policies and strategies in which states provide competitive cost structures, fiscal and financial incentives, stable policy environment, and abundant labor supply to attract lead firms in GPNs (MacKinnon 2012; Coe et al. 2004; Yeung 2015).

Diagram 6. Structural Coupling Between Boeing and the State of South Carolina.



Source: Author.

The establishment of Boeing in the region of Charleston took place in a time in which unemployment was near a record high in the state due to the 2008-09 financial crisis and recession. The bargaining process was controversial, given the negotiations involving South Carolina state officials and Boeing were conducted secretly and were not publicly disclosed (Brundrett 2012). Some reports have stated South Carolina provided almost \$1 billion in public incentives and subsidies to Boeing, which ranged from cost-free training services, promises of infrastructure improvements and land donation, to tax credits and front money investments. The state also granted hundreds of millions of dollars in public loans at low-interest rates (Brundrett

2012; McDermott 2009; Slade 2010; Norman 2010).

As Mackinnon (2012) has asserted, regional coupling processes are connected to decoupling processes elsewhere, and involve an uneven development. Another major reason for Boeing's decision to expand its production in Charleston was related to the constant strikes the company had faced in Everett, Washington (Wojcik 2011; Slade 2010). A representative from the Defense Association (Interviewee 6) professed:

Why is Boeing here? Because we don't have unions. That is the biggest reason why Boeing is here...They knew they couldn't grow there [Everett] and it is cheaper to grow here. A lot of their facilities were closed and opened here.

Another significant reason of Boeing's decision to come to Charleston, South Carolina was the formidable incentives and subsidies the state provided to the company, as well as the existence of low-wage labor, a well-structured infrastructure, and the existence of a customized training program, which could start from scratch the establishment of a skilled workforce for the aerospace sector. The state, through ReadySC, committed to Boeing to recruit and train, free-of-cost, 3,800 workers, but the training has exceeded this number as one interviewee from ReadySC stated in 2014, "We trained for new hiring 2700, but we probably provided some training, one course or more, I be guessing close to 5000, all the touch labor...". At the beginning of 2018, Boeing had 6,749 employees in the plant located in Charleston.

In this context, since 2011 when the plant was launched, the region of Charleston has experienced the formation of an aerospace industrial cluster, which has not resulted from emergence of aerospace startups, but from Boeing's pull effect for suppliers. In this regard, the Charleston Regional Development Alliance has sought to attract aerospace-related companies, including Boeing's suppliers to Charleston region. However, as Interviewee 28 from the

Charleston Regional Alliance Development claimed, the results have proven unsatisfactory, for the aerospace firms in the cluster have not increased as expected:

In terms of the aerospace supplier growth, the growth hasn't been as 'fast' as anticipated due to the new approach of Boeing's 787 program. The focus [of Boeing] has been correcting supply chain issues, cutting production costs, and improving overall production efficiency. As the production rate increases, we suspect more suppliers will have a stronger business case to locate closer to the facility.”

Since the establishment of Boeing, South Carolina has received more than 400 aerospace-related firms, hosting in 2018 more than 90 firms in the region of Charleston (SC Dept. of Commerce 2018). Specialists have indicated aerospace jobs will grow drastically in the following years (Avalanche Consulting 2014), although it is unknown whether such a growth is related to the presence of Boeing.

4.2.1 The Evolution of ReadySC Corporate Capture

As stated before, the coupling process between the region of Charleston and Boeing is conceptualized by the GPN literature as structural coupling. According to Mackinnon (2012), this coupling has held more prone to processes of corporate capture than organic or strategic coupling, especially when states lack the distinctive assets to meet the strategic interests of firm. This is because the lack of regional distinctive assets leaves the state in an inferior position when bargaining with MNCs, fostering asymmetric power relations. In the case of Boeing and South Carolina, Boeing's mode of entry was as a greenfield investment. Therefore, when bargaining with Boeing, South Carolina had an unsubstantial aerospace industry, skilled aerospace workforce, and aerospace training programs. This means that the state of South Carolina and the region of Charleston did not possess distinctive or specific assets to meet the strategic needs of

Boeing. As a participant from ReadySC (Interviewee 8) noticed, when discussing the capacity of ReadySC to deliver training to Boeing:

To be honest with you, I think within Boeing there was a good bit of doubt. There is no aerospace industry in here, no background here. It is always been in Washington state. I think there was a good “can I do it?”. So, [participant’s name] and I were both back in 2010, 2011 trying to get this thing stood up. There was always a light degree of that, but, beginning about 2012 to now, that’s gone. They [Boeing’s staff] have total confidence in our work.

This lack of distinctive assets regarding skilled workers and training initiatives, as the GPN theorists have explained, resulted in South Carolina assuming an inferior position when bargaining with Boeing, and thus more prone to process of corporate capture. Nonetheless, this partially explains how the institutional capacity of ReadySC was captured. In fact, ReadySC was designed to be intentionally captured as a mechanism part of South Carolina’s accumulation strategy; therefore, Boeing captured the institutional capacity of ReadySC without having to bargain with state officials. Corporate capture was fostered by the fact that the company meets ReadySC’s criteria in terms of size of investment, and number and quality of jobs. Interviewee 9, discussing the size of firms able to obtain incentives, stated: “It is an equal footing, we don’t care as long as the company meets the requirements, we will do the training for them.”

However, the bargaining between Boeing and South Carolina also played a significant role in how the corporate capture of ReadySC evolved, given that the company was able to further intensify capture, by receiving greater incentives than other businesses generally do. According to one participant, MNCs such as Boeing receive more incentives for two reasons. First, while small- and medium-size firms acquire training incentives through local state managers or ReadySC’s staff, large MNCs like Boeing have direct access to the South Carolina Department of Commerce and high-level state managers to manifest their interests and bargain incentive packages. Second, MNCs receive more incentives because of the greater economic

potential these firms bring to the state in relation to small- and medium-size firms. One participant from ReadySC explained:

For big companies like Boeing, Mercedes, Volvo, it is through the Department of Commerce, government affairs, those kinds of folks...Once they get a good idea of what the company is looking for...then they will start reaching out to at a little bit lower level, maybe to a county, county economic development, and or ReadySC...Companies are going to provide 15 jobs we train them, but they are not going to get what Boeing gets. Funding depends on the size and scope of the company. Boeing being who they are, it was at a very high level. Boeing folks interact with the commerce, with state folks. I don't have visibility at that level of discussion...Incentives packages will be much more significant for companies like Boeing, which by the way, sometimes generates a little bit of challenge for folks at our level, because a company will come here and see what Boeing gets, and that is what they want. Even though it won't work in that way. That sometimes creates a little bit of animosity.

In this context, state officials committed to invest US\$33 million in the recruiting and training of 3,800 workers at the entry-level according to the company's needs. In exchange, the company committed to generating a minimum of 6,000 jobs in the state (Shain 2009).

The 3D process of ReadySC was not applied in Boeing's case. ReadySC did not have to discover the company's training needs, nor design from scratch a curriculum according to Boeing's interest. Boeing provided ReadySC with a very detailed curriculum with the courses, encompassing not only technical and cultural/ethical courses but also the hours that should be spent in each course, and the ways the ReadySC's staff should evaluate student performance, as a representative from ReadySC (Interviewee 29) articulated:

...the training pack we have with Boeing is very different than a lot of the other companies that we worked with...Boeing told us, we understand your 3D process, but we don't really want you to design any training. We have been building airplanes for one hundred years. So, we have the curriculum. So, our instructors actually delivered for Boeing curriculum. A little bit unique. For the other companies, we had to design the curriculum to meet their needs.

To deliver training for Boeing, ReadySC established a training center at the Trident Technical College with a simulated factory environment. The state bought and brought from

other technical colleges across the state aerospace equipment for training. To attend the needs of Boeing, ReadySC “has 9 people to run the training project...60 plus instructors that are full time, that teach over 100 courses...” (Interviewee 8, representative from ReadySC). The training process is structured to take between 10 and 14 weeks, 40 hours per week but can be shorter or longer according to the needs of Boeing.

Training takes place after candidates pass a phone interview, an assessment test, and a face-to-face interview; all delivered by ReadySC and its partner institutions. The training process at ReadySC is divided into three phases. Phase I – Pre-Employment Training consists of 32 hours of unpaid pre-hire training and completion of assessments. In this phase, the goal is to screen and recruit potential employees for the company. Boeing provides the skill characteristics of desired workers, such as their education level, experience, etc., and ReadySC recruits workers that fit the description. To do so, ReadySC works with several local institutions who advertise the open positions, conduct interviews, administer the assessment, and select the applicants matching the demanded requirements. ReadySC, after recruiting workers, obtains Boeing’s approval to start the training process. A representative from ReadySC (Interviewee 29) described the recruiting process:

Recruitment is another piece of what we do. We are partnered with a couple of other organizations around the state. We partner with the South Carolina Department of Employment and Workforce to be able to recruit for the company. Again, we don’t come up with what the companies are looking for. We work with the company. We have them telling us what kind of workers they are looking for. What type of experience do they want? Diploma, college education, all those types of things, and then we can build an ad and recruit from there. Again, at no costs to the company.

Phase II – New Hire Training is comprised of specific training in occupations required by the company, such as welding, machining, and assembly. This entails general curriculum and basic manufacturing industrial skills training. In this phase Boeing hires workers, receiving a

minimum of U\$12 per hour during their training. After 10 to 14 weeks, the employees start working at Boeing's plant. Phase III – Factory Skill Enhancement consists of courses offered at ReadySC for existing Boeing's employees to enhance their existing skills, improve proficiency, and quality level of production, encompassing onboarding processes, and on-the-job training. Boeing staff often visits the training center to make sure training is delivered according to their standards. Such visits are also marked by periodic meetings in which adjustments and changes concerning training are required. Boeing's staff, responsible for overseeing ReadySC training, are also in constant contact with managers working in the manufacturing plant to attain suggestions and feedback regarding skills and training.

In 2016, ReadySC had trained 2,800 entry-level workers for Boeing of which 94 percent of which were from South Carolina. Training was free for students and for Boeing. In 2015, the state of South Carolina had invested an average of U\$10 thousand dollars per trainee in Boeing's program (Brundrett 2015). Although South Carolina was able to get many local residents to be hired for manufacturing positions, the state failed to require Boeing, for example, to hire workers from within the state in top job positions such as administrative or engineering positions. Initially, ReadySC committed to Boeing training of 3,800 workers, but as Boeing expanded its presence in the region of Charleston, new rounds of negotiation resulted in new training incentives. For example, in 2013, Boeing announced a further investment of U\$1 billion and the additional creation of 2,000 jobs, resulting in more training services incentives. In 2016, Boeing established a new regional painting facility, requiring ReadySC to develop a new training project to deliver this specialized training. Incentives were not disclosed. A ReadySC staff (Interviewee 29) affirmed:

We are up to 2800 folks (trained people), newly hired folks that we trained for Boeing. It is the number we are at. We have recently taken on an additional scope of work with

them to train their painters. They are establishing a painting facility that is supposed to open later this year. We are now training their painters for them.

Boeing's influence has also caused Charleston regional training programs to expand. In 2019, the state of South Carolina will conclude the construction of its new S.C. Aeronautical Training Center. The state, the Charleston region, and other not-for-profit institutions will invest U\$79 million in this construction. The center will accommodate more than 5,000 students per year, where more than 100 faculty members and professors will teach aerospace-related courses. The Charleston Metro Chamber of Commerce played a crucial role in such an expansion as one of its representatives, Interviewee 7, declared in 2014.

...one of the other things we were lobbying in Columbia was money to build an aeronautical training campus at Trident College. That would be some really big building just for aeronautical training because now they (Trident College) have a wait list to get into it...Boeing has told us the long-term potential for Charleston is enormous. Our talent and our workforce, if we can't supply them the workforce they need, they are not going to grow as they wanted to...

As stated, to receive training services from ReadySC, companies have to meet criteria, such as generate more than 10 permanent job positions with benefits and competitive regional wages. However, ReadySC has failed to demonstrate whether firms receiving its free training services met the required guidelines. Bargaining processes involving ReadySC, such as the one with Boeing, often happen secretly, lack transparency, and do not have mechanisms to guarantee criteria is met.

For example, in 2000, a legislative audit of the program was performed, indicating several irregularities regarding whether firms have met ReadySC's criteria. The report analyzed the projects delivered by ReadySC to 43 companies between 1993 and 1998 (SC Legislative Act 2000). The 43 firms failed to display whether wages for jobs added were competitive as required by the program, and only 56 percent of the firms provided a commitment letter to South

Carolina. Moreover, only six companies revealed whether the workers trained by the program were hired (SC Legislative Act 2000).

More recently, the media has criticized the lack of transparency of South Carolina state officials, for they failed to fully disclose the deal with Boeing (Brundrett 2012). During interviews, ReadySC and South Carolina state representatives were asked to provide some metrics regarding the Boeing trained workers at ReadySC. Metrics entailed their average wage, the percentage of workers according to their gender, race and locale of origin, and the average number of workers with benefits and career plans. None of the participants provided such information. Interviewee 9 from ReadySC, after stating he would ask his leadership for permission to share the data, emailed the following response, “I wanted to follow up with you from our interview. After discussing your requests with leadership, unfortunately, I will not be able to provide you any additional detail.”

This lack of transparency regarding incentives for MNCs typifies a common problem in the US. According to Mattera et al. (2014), while nine out of ten states in the US have disclosed at least some data online about companies receiving job subsidies, the quality of the disclosed data has remained poor, especially pertaining to performance measures, such as job creation. This means the states offering job subsidies have failed to publish documents identifying the jobs created, workers trained, or wages earned. This deficient transparency poses a problem since it impedes the conduction of studies weighing costs versus benefits. South Carolina, in 2014 ranked as one of the worst states disclosing subsidy programs (Mattera et al. 2014) because it has failed to provide pertinent information regarding people trained, recipient names, and rarely gives information pertaining the subsidized jobs created, such as wages, benefits, and number of permanent job positions created (Mattera et al. 2014). Therefore, South Carolina has not released

ReadySC data for Boeing regarding the wages, benefits, job status (temporary/permanent), and trained workers' benefits.

To conclude, this section examined how the process of corporate capture of ReadySC evolved. The capture of ReadySC's institutional capacity by Boeing was intrinsically related to South Carolina's accumulation strategy and thus, part of a structural coupling process. ReadySC provides cost-free customized training services to firms meeting its requirements, and thus automatically grants its capture. This means South Carolina state officials intentionally seek having their training capability captured subnationally as a way to attract MNCs. Such an "automatic" capture is advanced further once firms engage in negotiations with South Carolina state officials, asking for more incentives or program adaptations. Although ReadySC requires MNCs to meet criteria, they are problematic. As demonstrated, ReadySC has successfully trained local people; however, in many ways, the program lacks transparency regarding whether Boeing has met its required guidelines.

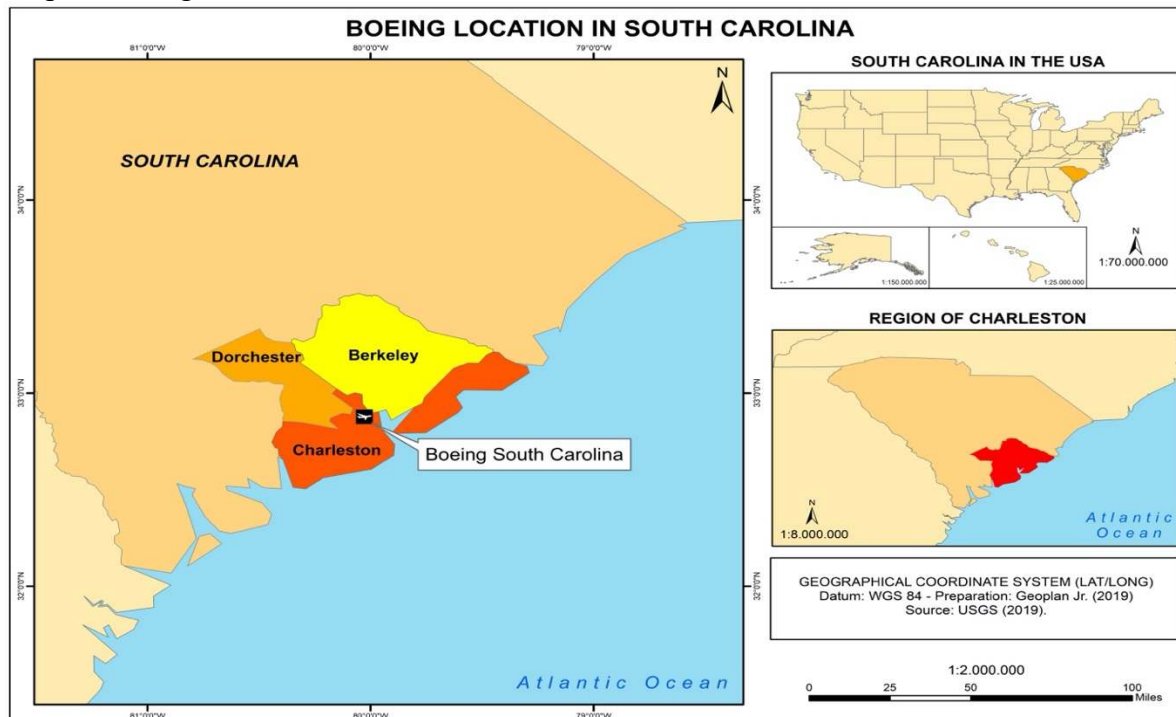
4.3 Labor Market Governance, Charleston Aerospace Regional Training System and Concerns over Corporate Capture

In this section, the following question will be addressed: Does Charleston's local form of governance reinforce or minimize processes of corporate capture in its regional training systems? It will be postulated that Charleston's local form of governance has reinforced corporate capture by embracing, implementing, and expanding its higher-scale state initiatives and educational agenda. Although, attempts have been made to minimize corporate capture. I explore how such attempts to minimize capture are related to how the region's formal sector-level strategy named One-Region, reduces single-firms' influence, such as Boeing over Charleston's local regional

training systems. Moreover, I demonstrate how these attempts to minimize corporate capture have been problematic, mostly due a lack of power of local state managers and to local governance actors' attempts to solve corporate capture based on market relations.

Every summer thousands of tourists visit the region of Charleston (see map 1). The region, comprised of three counties, Berkeley, Charleston and Dorchester, has a good reputation: nice beaches, good culinary dining, pleasant weather, and historical sites all make the region a popular tourist site. However, since the 2000s, the economy of Charleston region has drastically changed from tourism. The region has been transformed into a significant manufacturing hub, attracting in the last 20 years many manufacturing MNCs such as Boeing, Volvo and Mercedes-Benz. As one participant noticed “[...] we are not the same community. We got this enormous potential [...]” (Interviewee 7, 2014), referring to the success that the region has had attracting manufacturing companies, and consequently in increasing manufacturing jobs.

Map 1. Boeing South Carolina Plant Location:



Between 2015 and 2017, the region generated 19,200 new jobs, achieving remarkable growth rates and an unemployment rate as low as 4 percent (SCEAR 2018). This economic growth held impressive, especially for a region in a state known for its fragile historical process of industrialization as well as current economic and social situation (Rees 2016).

GVC experts have demonstrated how the establishment of new plants as well as firms' upgrading processes result in a demand for new skills requiring new workforce development initiatives (Gereffi & Fernandez-Stark 2016). Due to several recent manufacturing firms moving to the region, the aerospace/manufacturing local labor market of Charleston can be considered still under construction. Therefore, the manufacturing local labor market, and more specifically the aerospace sector, has faced challenges regarding skill gaps and training mismatches. As Interviewee 1 from Berkeley Chamber of Commerce mentioned,

We have people that do not have the skills [manufacturing skills]...Right now we are inundated with manufacturing jobs. That is the basic need. But Charleston (College of Charleston) is a liberal school. We are not going to have a lot of manufacturing people but liberal arts. Their needs are different.

Since the establishment of the Boeing South Carolina plant in Charleston, the regional aerospace sector has rapidly expanded, not only due to Boeing's presence, but also due to the existence of newly established regional suppliers, resulting in a lack of a skilled workforce. The primary skilled positions lacking in the market entail: general assemblers, aerospace assemblers, technicians and mechanics, general machinists, industrial maintenance, welders, and engineers with specialization areas such as industrial, aerospace, mechanical, and electrical (Avalanche Consulting 2016). Several managers of aerospace firms' human resource department claimed they had to compete hard with other businesses to hire skilled manufacturing workers.

Interviewee 26, an aerospace firm representative, remarked, “We struggle to compete for welders based on the number of welder jobs and what they pay in the area.”

One clear discourse in many participant interviews regards how the region manufacturing skill deficiency is not only related to the absence of technical and higher education programs, but also to cultural issues. The Dorchester County representative, Interviewee 23, affirmed:

The biggest challenge has been mom and dad...I was trying to figure out why mom and dad were so opposed to a career in industry...Most of the dads and moms I am dealing with, when they were in high school, manufacturing was dirty, nasty, hot. They have no clue that you can walk into Robert Bosch and eat out of the floor.

Therefore, according to participants, the lack of manufacturing skills has remained due to the negative connotation toward a certificate, or two-year associate manufacturing degree. As interviewees stated, students seeking to continue education after graduating from high school want to pursue bachelor’s degrees. Interviewee 9 from Trident Technical College remarked,

In America parents aren’t telling their kids they need to be mechanics. They tell them they need to be a doctor. You need to be a lawyer, an engineer. We have a generation of millennials that have no sense of pride in becoming a welder or machinists. The problem is that the companies that are coming to Charleston this is what they are looking for.

In this context, one regional concern has remained to develop a skilled workforce and a regional training system capable of meeting manufacturing firms’ skill needs, including the aerospace and automobile sectors. As demonstrated in the third chapter of this dissertation, local governance plays a crucial role in these processes. The development of a regional training system, and thus of a skilled workforce, happens through complex and uneven interactions among actors from different scales, such as individual firms and fractions of capital, educational institutions, public and not-for-profit institutions, and state managers, among others. Such an interaction defines which firms or sectors will be benefited, which skills will be provided, in

some cases who will finance training, which programs should be established and expanded, the level of vocational/academic integration, and the degree of skill transferability, among others.

In this regard, one question emerges. Does the local governance of Charleston minimize or reinforce the processes of corporate capture at its regional training system?

4.3.1 Charleston's Local Form of Governance and its Contradictory Dynamic of Corporate Capture

In the region of Charleston, the major educational institutions responsible for training people for the aerospace sector are Trident Technical College, Clemson University, College of Charleston, The Citadel, Lowcountry Graduate Center, and R.B Stall High School. The most relevant training institution for the aerospace sector has remained Trident Technical College.

The region of Charleston has a strong and very active form of governance that represents the counties of Charleston, Berkeley, and Dorchester. This situation did not come to fruition until 1993 when the US closed a Charleston Naval Complex, resulting in 20,000 people leaving the state, and in a loss of 15,000 spin-off jobs. This event pushed local actors to rethink their developmental policies, and to work collectively as one participant stated, "...it forced us to diversify and form alliances, to sit together at the table." (Interviewee 23, representative from Dorchester County Department of Economic Development). As an outcome, the Charleston Regional Development Alliance (CRDA) was created in 1995 under the Charleston's Metro Chamber of Commerce (CMCC) leadership. The naval complex closure "... put Charleston into action" (Interviewee 28, representative from CRDA).

Today, the CMCC and the CRDA have retained the responsibility for leading the primary initiatives of the local governance agenda of Charleston. Both institutions have identified

regional economic development problems and have found and proposed possible solutions. While the CMCC has represented and advocated for local firms, the CRDA, a not-for-profit institution, has focused on recruiting firms and talent to the region.

In the last 10 years, the Charleston aerospace and automotive sectors have expanded, where its local governance has sought to develop a regional training system that is capable of delivering the skills demanded by local firms. The development of this regional training system raises questions of whether the local governance of Charleston has reinforced or minimized corporate capture. As this research argues, the way Charleston's local governance has developed its regional training system demonstrates a contradictory dynamic in which it has reinforced processes of corporate capture, although fostering problematic attempts to minimize them. This research will start examining how Charleston's local form of governance attempts to minimize corporate capture.

Fieldwork evidence reveals that the main reason for local actors to develop a regional training system that is capable of delivering the skills needed by local firms is to prevent labor being hired by large corporations like Boeing from outside the state. As Phelps (2008) pointed out, one aspect of corporate capture concerns how MNCs receive high levels of subsidies from regions but end up recruiting out-of-state workers. In this regard, state managers have worked with the CMCC and the CRDA to establish and develop a training system that can train as many locals as possible; thus, seeking to minimize Boeing's corporate capture in this regard. In this way, manufacturing firms do not need to look for skilled workers outside the state. One representative from the CMCC (Interviewee 10), proclaimed the following:

The Talent Study really had us to change the conversation about the needs to build a pipeline of workers and to really make sure we are doing everything possible to prepare high school students. So, the jobs can be created in the region. If we are training incorrectly, then they don't have chances to get jobs. In the long term, it is not good for

the community...It means we will have more people moving into the community and we are left behind and that is what we don't want.

To do so, local governance leaders hired a research group in 2014 to analyze Charleston's labor market and identify its primary skill gaps and lack of related-training initiatives at principal local educational institutions. This study gathered information from the business community according to five regional sectors: aerospace, automobile, advanced security and IT, biomedical, and wind energy. When asked if the focus was given to the aerospace sector, one representative of the CMCC (Interviewee 10) responded:

We got shortages in all kinds of sectors. So, we cannot just focus on aerospace. We need to make sure we are offering programs for all levels. There is Trident College, higher education, other areas for companies.

The key skill gaps found in these five sectors were included in Charleston's four-year developmental strategy, where goals and delineating initiatives such as opening of new education programs and courses to tackle such gaps were established. Examining the list of participants interviewed for the establishment of One-Region strategy, hundreds of actors from the business community were involved in the process. Established in 2016, the One-Region strategy has been widely adopted as a guide by state managers, educational institutions, the CMCC, and the CRDA. The elaboration of studies and formal strategies such as the One-Region are important tools used for local governance actors to represent their interests and needs to state managers. Such tools are part of a dominant political culture in the United State, which scholars have termed managerialism. Formal studies and strategies demonstrate to be some of the main mechanisms of South Carolina state selectivity, through which state managers select which demands to attend. Through lobbying, the Talent Study and One-Region strategy are used as assets to convince state managers about the "real" needs of their region, and thus, to advance

local firms' interests. As Interviewee 7, a CMCC representative, stated, the Talent Study and One-Region strategy are used to "educate" many legislators about the region's needs and agenda.

However, although the One-Region strategy seems to minimize single firm's influence, such as Boeing, over the creation and expansion of courses, programs, and the local educational agenda, thus, reducing corporate capture, this strategy has major issues. First, the One-Region strategy only attempts to offer a long-term solution to skill gaps, overlooking more urgent needs. As we will discuss later, aerospace small firms are having issues with a certain lack of skills and with poaching, which require short-term solutions. Short-term solutions have been ignored by governance actors.

Second, while ReadySC has committed to train South Carolinians in manufacturing positions for Boeing, in this way preventing the company to hire workers from outside the state, Boeing South Carolina has not been required by state managers to hire local residents for job positions at the higher edge of salaries, the so-called white-collar workers. In this regard, the state of South Carolina has neglected in its bargaining agreement with Boeing, the fact that a high percentage of white-collar workers will be hired from outside the state, in this aspect, reinforcing corporate capture.

Third, initiatives and goals established at the One-Region strategy and fostered by the local governance to tackle skill issues are mostly based on training initiatives and programs designed by the state South Carolina such as Career Academies and Apprenticeship Carolina. Such initiatives and programs, as argued in the last section, represent a form of corporate capture in which the state manufacturing fraction of capital has greatly influenced the educational agenda and strategy of South Carolina, fostering their interests. Therefore, the local governance fosters a contradictory dynamic. It reinforces corporate capture by embracing, implementing, and

expanding higher state scale programs and initiatives, while trying to minimize some of its detrimental outcomes such as workers being hired from outside of the state. In the next subsection, this research will explore how Charleston's local form of governance has reinforced corporate capture with more detail by analyzing the development and functioning of two main programs in the region of Charleston: the Charleston Career Academies Program and the Charleston Youth Apprenticeship Program. The major goal of both programs is to tackle the regional skills deficiencies by altering the adverse cultural paradigm for high schoolers to join vocational careers.

4.3.2 The Charleston Career Academies Program

In 2014, the CMCC established the Charleston Career Academies Program through a partnership with Berkeley, Charleston, and Dorchester counties and school districts in order to develop career academies across their local schools. As explored before, this program is part of a process of corporate capture in the state of South Carolina in which the state manufacturing fraction of capital have influenced South Carolina's educational agenda and strategy in regard to expanding vocational training at schools. The program in the region of Charleston, although based on its state educational agenda and strategy, has its own characteristics. According to a participant from CMCC (Interviewee 10) the program was developed based on a Nashville, Florida program.

We have taken a group to go and visit academies in Florida in Nashville. That came about after several years of studying how it works in how to implement it here, so that's where the academies come from. Nashville now is sort of a national model and they actually do annual training sections twice a year in how to implement career academies.

In 2018, the CMCC had fomented partnerships with 22 Charleston high schools, creating 62 career academies focusing on science, technology, engineering, and math; business and IT;

culinary/hospitality; and health sciences; however, a representative from ReadySC (Interviewee 29) professed the focus had remained on manufacturing careers:

The other thing that has drawn a lot of attention, a lot of focus, and funding, since we talked last time, is the focus of school systems on STEM. A lot of the schools are making changes to the curriculum to support those types of courses to help with the development of the workforce.

One important component in these career academies concerns how businesses are also major partners with schools, counties and the CMCC. To design career academies in local schools, the CMCC interacts with teachers and counselors to structure the program to meet community job opportunities. The CMCC also organizes meetings where regional teachers interact with businesses to learn about the needed skills and training. According to one representative Interviewee 10 from the CMCC:

We have engaged 160 businesses and partners in the [career] academies. STEM, business and computers, hospitality and culinary, health sciences. The businesses are coming and meeting with the teachers once a month and they talk about curriculum and understanding how the teaching will be actually used in a job.

The Charleston Career Academies Program seeks to influence students regarding their career decisions, so they pursue locally demanded careers. When a participant from CMCC (Interviewee 7) was asked about the Charleston Career Academies Program goals, she responded:

The jobs are being created in this country, you don't necessarily need a four-year degree...So, how can you help prepare students that may stay in the work or maybe go into to tech, where they get a two-year degree? They can still be very successful...What our goal is, is to have more students leaving high schools and being career or college ready. That's a very difficult thing to get and we are struggling. We struggle to get students to study in specific careers that we have a lot here. Our goal is to make sure that local students are being prepared to be able to be hired in good jobs that are being created. So, we are trying to align education with employers' needs.

Explaining the obstacle to "get students to study in specific careers," Interviewee 7 described how students and their parents have held a negative view regarding manufacturing

careers. In this regard, governance leaders have developed initiatives such as talks and meetings with students and parents to de-construct this view and impression. Such an attempt to de-construct their views on manufacturing careers is also present in the Charleston Youth Apprenticeship Program, which will soon be demonstrated.

Although the Charleston Career Academies can be seen as an approach to minimize corporate capture by firms, for it seeks to stop corporations from hiring out-of-state workers, the program not only seeks to influence schoolers in following vocational careers of interest of manufacturing corporations but also opens possibilities for schools to be influenced or have their Career Academy Programs captured by individual firms like Boeing South Carolina.

One example regards how Boeing has influenced some schools in Charleston to establish career programs related to the aerospace sector. Since 2014, Boeing has partnered with R.B. Stall High School in North Charleston, creating aerospace courses. In the process, Boeing provided grants for equipment, creating teaching partnerships, and designing the curriculum of aerospace courses. When explaining the program development, Interviewee 19, a school representative, claimed:

We invested money from the state and from Boeing, a combination [to structure the courses]. More input from Boeing, advice regarding how we are going to set the room, what kind of material we need. Boeing provided some consultants to come over here and help our teachers, to set up the program, make sure we were on board, very supportive... They are trying to create a good workforce, and that one way of doing it.

Currently, R.B Stall High School offers a wide range of aerospace courses, such as computer integrated manufacturing, aerospace engineering, aircraft manufacturing 1/2/3, aircraft digital electronics, computer system, and intro to engineering design. Boeing has also impacted other schools' career academies in the region, such as North Charleston Elementary,

Morningside Middle, North Charleston High, Fort Dorchester High, West Ashley High, and Berkeley High.

4.3.3 The Charleston Youth Apprenticeship Program

In 2014, Trident Technical College created the Charleston Regional Youth Apprenticeships Program. This program, although functioning in conjunction with Apprenticeship Carolina, also has its own particularities. The program resulted from local governance initiatives in which representatives of the CMCC, several local businesses, the Trident Technical College, and some high schools embraced its state program, understanding that apprenticeship programs could be an efficient way to tackle skills gaps in their labor market.

The Charleston Youth Apprenticeship Program was created after the CEO of a German corporation located in Charleston contacted the Trident College Adult Apprenticeship Program to recruit youth apprentices, a participant from Trident Apprenticeship Program (Interviewee 9) explained:

In 2014 a company called IFA Rotarian reached out to me. They said they had a new CEO, German-born, when came to America, walked to the company and the first thing he asked was, “where all my apprentices?”. He was not talking about adults but talking about kids. In Germany, they start in 10th grade. In America, we don’t do that. So, he reached out to me and said, “they want to do this, can you help?” I said you know we have been trying this for years, but we never had an employer who was willing to hire 16 years old kids...I will figure it out, make it happen...We did a meeting and invited other firms like Bosch. We threw this proposal, saying why don’t we work together as a consortium of employers?

According to some participants, the Trident College department of adult apprenticeship was able to get firms interested in hiring 16-year-old kids at the same time that CMCC was developing and implementing the Charleston Career Academies Program. This resulted in CMCC’s interest in being part of the program. CMCC acknowledged that apprenticeships could

be an important piece of their own program. One participant from Trident Apprenticeship Program affirmed:

When the Charleston Chamber of Commerce found we had these six companies, they called us and said we want to help. Companies would have to pay the tuitions and books and fees, and CMCC decided to give a scholarship. They got companies to donate for the program to help kids. So, companies have only to pay the wages (Interviewee 9).

The next step was to hire an employee to promote partnerships with high schools in order to recruit students for the program. This employee role is to recruit and “connect the kid with the employers for interviews.” (Interviewee 9).

Today, the Charleston Youth Apprenticeship Program works in the following way. Charleston Youth Apprenticeship staff is responsible for connecting firms that are part of the Apprenticeship Carolina Program with 16-year-old (and up) high school students who are interested in participating in the program. The program has recruited students according to the firm skill needs. To recruit students, the program has partnered with 26 regional schools, where students can apply for the opportunities.

High school students go to school in the morning, take classes at Trident Technical College two to three times a week in the afternoon, and work part-time for firms (full-time during summer), gaining on-the-job training. After graduating, students earn a certificate degree, transferable to an associate degree, a national credential, and two years of working experience. CMCC provides scholarships to students/participants, paying tuition, fees, and textbooks; therefore, companies only pay wages, which can fully or partially be covered by tax credits.

After concluding the apprenticeship program, the Charleston Regional Youth Apprenticeship Program organizes a Signing Day event, where youth apprentices officially sign their employment contracts. Hundreds of business leaders and students, media channels,

educators, and politicians attend the Signing Day event. The event glamourizes students' choices for vocational careers and intends to counteract the negative view toward manufacturing careers.

The main goal of this program is to provide a long-term solution for firms in the local business community, struggling to recruit workers with specific skills. Although finding specific skills in the local market has been a general challenge for local aerospace firms, small- and medium-size firms have experienced greater difficulties due to their competition with MNCs like Boeing and Volvo. A participant from CMCC (Interviewee 10) articulated:

In the apprenticeship program...The majority of the companies offering apprenticeship are actually small and medium-size companies. Many of the 160 partners we have with the career academies are small and medium-size companies. So, they want to be involved, and in many cases, they have a harder time selling a job. So, I think there are efforts in all levels to make sure we are not dysfunctional.

One participant, talking about how large corporations receive access to the most skilled regional workers voiced, "They [Volvo] just started recruiting and they already have 24,000 applicants. And they will start with 2000 jobs." (Interviewee 9). Although MNCs, such as Boeing have also participated in the program. A representative from Trident Apprenticeship Program (Interviewee 9) continued:

we can change the mentality of their [students] work ethic sooner than when they become adults and already have the perceptions of how they should work. And I can tell you that is not the only reason why companies are involved, but everyone wants to help a kid. Companies always have recruiters, but you are throwing a fishing line, when there are other options, like grow your own.

To conclude this sub-section, Charleston's local form of governance fosters a contradictory dynamic. On one hand, it reinforces corporate capture by embracing, implementing, and expanding higher state scale programs and initiatives such as Apprenticeship Carolina and Career Academies. Such programs are part of a process of corporate at the subnational scales, which has been fostered by manufacturing corporations interested in

influencing schools to expand vocational training. Therefore, by embracing and implementing such initiatives, this research understands that Charleston governance reinforces capture. However, on the other hand, some attempts to minimize corporate capture have been made. More specifically in regard to how local governance actors have sought to address long-term skill gaps in order to prevent labor being hired by large corporations like Boeing from outside the state. Such attempts to minimize capture can also be seen in how apprentices are getting transferable skills, recognized outside of firms they train in. The initiatives of Charleston's local governance, and thus, its tendency to reinforce or minimize corporate capture, are related to South Carolina accumulation strategy and to the mechanisms through which its state selectivity functions.

4.3.4 Charleston's Local Governance, Boeing, and ReadySC Corporate Capture

In the second section of this chapter, this research explored the process of corporate capture between Boeing and ReadySC. As demonstrated, corporate capture resulted from interactions at the subnational scale. In this section, this study will pay attention to the local scale in order to analyze whether the local governance of Charleston has minimized or reinforced the process of corporate capture related to ReadySC specifically.

In the second section of this chapter it was revealed that ReadySC requires companies that receive its services to meet some criteria such as paying competitive wages. However, the lack of any parameter to determine what is meant by a "competitive wage" poses a problem. South Carolina is considered one of the ten poorest states in the United States. Moreover, the state has one of the lowest real median wages in the country (U.S. Census Bureau 2018). Therefore, corporations do not have to pay much to claim to be paying competitive wages.

In the case of Boeing, evidence suggests the company has failed to pay competitive wages compared to what aerospace workers make in other regions, such as Everett, Washington. According to the local union, the pay rate at Boeing's South Carolina plant has remained 35 percent less than the U\$31.04 per hour workers earn in Everett.

Moreover, in contrast to Boeing Everett, Boeing South Carolina lacks a pay scale. Hence, while material touch workers in Everett make U\$36 an hour after six years of work, in Charleston, workers at the same job position will earn U\$20. Different from Everett, in Charleston, raises in salary and career advancements are subjective and based on manager appraisal. Interviewee 2, a representative from the IAM union remarked:

...a worker here working for six years, and a worker working in Everett six years...In Everett, it would be a \$36 an hour. Here [North Charleston] they do not have a pay scale or anything. All based on forms of appraisal for managers, very subject you know. All I can tell is that here somebody here, a MT [material touch], after 6 years would make \$20 an hour. Boeing brags about it because in this area wages are kind of low in general.

Furthermore, according to the IAM representative, Boeing South Carolina released numbers that depicted the company to pay an average of U\$23 per hour; however, most of the workers, working in material touch positions, hardly earn U\$20 an hour, he asserted. According to the union representative, Boeing pays higher salaries to contractors than to their own workers. An interviewee from the IAM union contended:

They [Boeing] say the workers here are at the 95 percent of the area wages and their average wage there is \$23 an hour. It is really not for that MT [material touch] group. They are enrolled in with contractors. Boeing puts the numbers up. So, you are going to hear \$23 per hour from Boeing and from the newspapers, but I can tell you from meeting with the workers and getting an understanding of how the plant is laid out. MTs are the largest group, it is hard to find anybody near \$20 per hour. They pay more the contractors than they pay the workers (Interviewee 2).

Another criterion firms must meet to receive ReadySC's services concerns offering a benefits package. Besides not having a pay scale and a career advancement plan like workers do

in Everett, Boeing in Charleston has provided a health insurance plan that costs more than twice the price of the plan in Everett. This health insurance plan also has significantly fewer benefits. Moreover, workers have also faced overtime issues, working 12 hours six days per week with every other Sunday off. Overtime work has recently raised some issues regarding the quality of production at the Boeing South Carolina plant with its own workers putting in check the safety of Boeing's 787 Dreamliner airplanes (Kitroeff & Gelles 2019).

In this regard, Charleston's local governance has not attempted to foster changes in programs such as ReadySC at the subnational scale, which would minimize the detrimental outcomes of processes of corporate capture such as this one with Boeing. First, this is because local actors not only lack the power to advance structural changes at the subnational scale, where ReadySC is designed. This lack of power of local states is part of a tendency in the US, where subnational states are shrinking their local capacity and authority to govern (Kim & Warner 2018). As Kim and Warner (2018) disclosed, there is a trend in the US, where subnational states are increasingly transferring their expenditure responsibilities to local government as well as fostering constrictive revenue tools and preemption of policy authority. Therefore, the local forms of governance of Charleston finds itself in a position that, even if desired, changes are hard to be implemented due to a lack of power.

Second, the local governance of Charleston has not attempted to foster changes in programs such as ReadySC at the subnational scale because local actors problematically believe that market relations, or more specifically, firm competition for labor and workers investing in the right skills will fix problems related to wages. Governance actors share the belief that through the market, South Carolina and Charleston, by attracting more and more MNCs to the

region, will be able to increase wages due to firms competing for skilled workers. Additionally, participants believe wages will increase as the skills of local workers improve through training.

Therefore, while local governance actors, such as state managers, have increasingly embraced various responsibilities such as customized training to support business development; state managers have transferred the responsibilities concerning wages and benefits to the market and to individuals who are accountable for acquiring skills in order to have better wages. A representative from CMCC (Interviewee 10) mentioned the following when asked about the role of ReadySC in increasing wages as what has been done in this matter:

We believe that we will start seeing wage pressure and that will be a big thing. It is going to find qualified workers, so companies will start to pay a higher wage. We want the wages to go up. That is one of the challenges of our region is that our living costs are really high, and our wages are lower than the national average. Part of our strategies is to have wages to increase. So that is why the Chamber is with high schools and existing workforce, to make sure that they can give the skills they need to be able to compete for these jobs.

The potential and role of unions to increase workers' wages in the region is heavily criticized as well as attacked at the local scale. Boeing has received a full commitment from state politicians to thwart unionization attempts. The IAM union has attempted in the last years to unionize workers at the Boeing's Charleston plant, resulting in Boeing and its supporters to foster several initiatives to impede unionization.

According to an IAM representative, state politicians, and the local media have joined the fight against unionization at Boeing' South Carolina plant. For example, North Charleston mayor, Keith Summey, has sharply criticized IAM unionization attempts. When Boeing's employees voted on April 2015, Mayor Summey discouraged unionization, stating:

[...] Charlestonians that work at the Boeing facility need to remember what that union thinks of them. [...] So, they're not concerned about our employees. They're concerned about their employees on the West Coast and how they can keep the Boeing business there (Rolo 2015).

Moreover, the local media has played a crucial role supporting the anti-union discourse, joining state manager efforts. Several media outlets have attacked the Charleston IAM union, demonizing its intents. Interviewee 2, a representative from the IAM union claimed:

...when I first got down here, we participated in a Martin Luther King parade downtown. We had the biggest bus and 25 people walking with the bus carrying the American flag. We were singing songs for the race and labor movement and we never made in the tv. The float in front and behind us was on the tv. We were not. When I first got here the aerospace writer for the Post Courier, every chance he got bashed us...all these other entities are powerful including the mayor of North Charleston, he summed today a press release. He called one of those media things, where they all come out and lie. He said the only reason we are here is to take workers back to Everett. But we don't have that ability even if we are organized here.

Another issue is that although any firm-size can have access to ReadySC, the program is largely dominated by large corporations, reinforcing the view that ReadySC was designed to foment structural coupling processes. In this way, most of the investments have been directed to large corporations, such as BMW, Boeing, Continental, Volvo, Mercedes-Benz, Samsung, and Michelin while small- and medium-size firms, creating most of the state jobs have failed to receive similar attention.

In Charleston, human resource representatives of small- and medium-sized aerospace firms professed they were facing shortages in several job positions. An aerospace human resource representative, Interviewee 27, claimed many job positions confronted a lack of skilled workers because "Boeing hires them, and training at Trident Technical College is for Boeing's needs." The participant continued discussing about Boeing's influential power over training and state managers, "Boeing has got everybody in their pocket. Boeing says they [state managers and Trident Technical College] do whatever they ask. We are at the mercy of Boeing."

While local governance actors have attempted to address these skill issues through career academies and apprenticeship programs, such initiatives engender a long-term solution. At the

subnational scale, large corporations have captured what could be the short-term skill gap solution, ReadySC, limiting for small- and medium-size firms its local access.

Among all 90 existing aerospace companies in the Charleston aerospace industrial cluster, only Boeing, Senior Aerospace AMT (12 trainees), and TigHitco have benefited from ReadySC—less than 4 percent of the aerospace firms. When a ReadySC representative (Interviewee 29) was asked about why ReadySC has failed to provide substantial services for small- and medium-size firms, he responded:

I will not be able to answer why...It is free, effective. It is proven. I would venture to say that there is a fair number that doesn't know about ReadySC, what we do and what we are capable of doing.

Therefore, ReadySC has given centrality to Boeing South Carolina, overlooking the short-term needs of the aerospace business community, which has struggled to recruit skilled workers, like welders, mechanics, and assemblers, due to low unemployment levels and Boeing poaching skilled workers from these firms. As another aerospace firm human resource manager remarked: “The people we are looking for are already employed so we often have to use recruiters to try to pull them out of other places, particularly for our salary positions.” (Interviewee 26).

Conclusion

This chapter aimed at analyzing three main issues. First, this research sought to demonstrate how the state of South Carolina has gone through some significant processes of corporate capture related to vocational training. It was revealed how the state manufacturing fraction of capital has influenced the design of South Carolina's educational strategy and agenda, and consequently, the creation of state programs such Career Academies, Apprenticeship

Carolina and ReadySC. I argued that this process of corporate capture has evolved as an intrinsic element of South Carolina accumulation strategy, which has placed its manufacturing fraction of capital at the center of accumulation. In this regard, manufacturing corporations are structurally privileged by South Carolina selective institutional context, having advantages to strategically foster their interests.

Second, this research attempted to analyze how the structural coupling process between Boeing and South Carolina resulted in the corporate capture of ReadySC. As revealed, ReadySC “automatically” grants its capture to MNCs that meet its criteria. It was intentionally designed to be capture. Nonetheless, as bargaining events emerge, as in the case of Boeing, the intensity of corporate capture can be greatly advanced. In the case of Boeing, the company was able to receive much more incentives than regular firms would get.

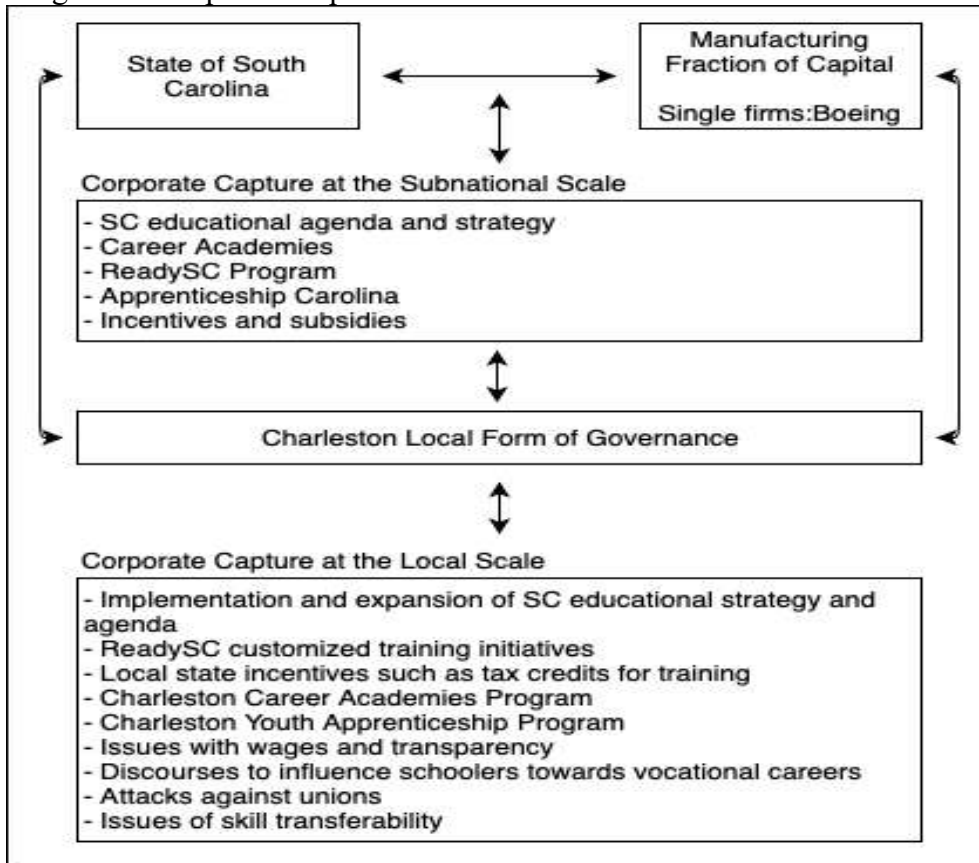
Third, this chapter analyzed whether Charleston’s local form of governance reinforce or minimize processes of corporate capture related to the state manufacturing fraction of capital and to Boeing. I argued that Charleston’s local governance has fostered a contradictory dynamic, where local actors have attempted to minimize processes of corporate capture; however, these attempts have been problematic and have actually reinforced such processes.

First, it was demonstrated that attempts to minimize processes of corporate capture at the local scale are related to Charleston Talent Study and One-Region strategy. As revealed, such study and strategy, based on sector-level demands, decrease single-firm influence, such as Boeing, over the local educational agenda of Charleston. Moreover, one major goal of the One-region strategy is to prevent firms from recruiting and hiring of out-of-the state workers. However, as claimed, such an approach gives provides a long-term solution, overlooking urgent skills gaps, given that ReadySC capacity has been capture by large corporations.

Second, it was demonstrated that Charleston governance embraces and expands processes of corporate capture fostered at its subnational scale, thus reinforcing it, by implementing programs such as the Charleston Career Academies Program and the Charleston Youth Apprenticeship Program at the local scale. As demonstrated, these two programs are contradictory. This is because while they reinforce processes of corporate capture that were established at the subnational scale, at the local scale, they can be seen as attempts to minimize corporate capture. As revealed, one major goal here is to prevent workers being hired from outside of the state.

Concerning Boeing's process of corporate capture in regard to ReadySC, the local form of governance of Charleston has failed to minimize its detrimental outcomes because local actors not only lack the power to advance structural changes at the subnational scale, where ReadySC is designed, but also because local actors problematically believe that firms' competition for labor and individual workers investing in the right skills will fix problems related to wages. As stated, this lack of power is part of a tendency in the US, where subnational states are shrinking their local capacity and authority to govern (Kim & Warner 2018). Boeing's corporate capture of ReadySC presents problems related to a lack of transparency, low wages, poor benefits package, and overtime work. Moreover, while ReadySC has been responsible for training and getting locals hired by Boeing in manufacturing vocational job positions, whether Boeing is hiring white collar workers from outside the state of South Carolina and Charleston is a subject that is ignored. Corporate capture in Charleston can be summarized as follows (see next page):

Diagram 7. Corporate Capture in South Carolina and Charleston.



Source: Author.

Chapter 5: Variegated Forms of Corporate Capture: The Case of São José dos Campos and Embraer in Perspective

São José dos Campos (SJC) is a medium-size city located 55 miles from the city of São Paulo. SJC is known in Brazil as “the capital of airplanes” due to the presence of Embraer, a manufacturing aerospace company specialized in the production of military, commercial, executive and agricultural aircrafts. Embraer is one of the major employers in the region, being responsible for the generation of more than 15 thousand jobs. This has granted the company significant economic, social and political power. Therefore, Embraer as a major local player has fostered processes of corporate capture in SJC’s regional training system, influencing many local public educational institutions. In this regard, this chapter will be structured in two main sections.

In the first section, this researcher will analyze how processes of corporate capture in training initiatives in SJC, São Paulo, Brazil have evolved intrinsically related to the Brazilian import-substitution accumulation strategy. Such a strategy privileged domestic industrial capitalists, having organic and structural coupling processes as its principal goals. This research argues that in SJC, the evolution of Embraer processes of corporate capture in training initiatives is associated with the organic coupling process fostered by the Brazilian national state in the 1950s, which resulted in the establishment of Embraer and the Brazilian aerospace sector in the city. Therefore, the capture of training initiatives does not happen through bargaining events, like in South Carolina, but organically through synergistic informal one-on-one interactions. To illustrate this argument, in this section, this research will explore the evolution of Embraer’s corporate capture in two training initiatives, one at the Aeronautics Institute of Technology (ITA) and one at the São Paulo State Technological College (FATEC).

Second, this researcher will examine whether the local governance of SJC minimizes or reinforces Embraer's process of corporate capture. I will argue that the SJC's local governance reinforces processes of corporate capture due to the nature of the interactions among state managers and other governance actors. State managers and governance actors identify the aerospace local training needs, and advance training initiatives based on informal relations and personal/professional ties, which function as the main mechanism of state selectivity. This combined with the economic and social power of corporations magnify single firm influence, such as Embraer, over educational institutions and their training initiatives, reinforcing processes of corporate capture.

5.1 The Brazilian Import-Substitution Accumulation Strategy and the Uneven and Combined Development of São José dos Campos, São Paulo, Brazil

This section entails two subsections. In the first subsection, I will analyze the particularities of the Brazilian import-substitution accumulation. First, the emergence of the Brazilian import-substitution accumulation strategy will be analyzed, revealing how accumulation was made possible and how domestic and international fractions of industrial capital were central in such a strategy. In the second subsection, I will demonstrate how the Brazilian developmental state promoted development based on top-down decisions, fostering an uneven development that benefited the industrialization of the city of São Paulo, and later, of SJC through a combination of structural and organic coupling processes. This is important because the creation of Embraer in SJC is related to these processes.

After the Second World War, the import-substitution model of development gained prominence in many countries in the Global South. In Latin America, Brazil, Argentina, Mexico,

Uruguay, and Venezuela, among others, adopted this model with the goal to develop their internal market by substituting product imports with domestic production. In Brazil, the import-substitution accumulation strategy, remaining in place from the 1930s to the 1980s, was adopted during the Great Depression when the Brazilian raw material exports severely declined. This waning in raw material exports encouraged the Brazilian state to diversify its economy, bolstering domestic industrial production to reduce foreign dependency (Oliveira 2004).

In this model, Dependency theorists played a crucial role not only by revealing how accumulation was fomented but also by influencing the design of such a policy (Souza 2016). The Dependency theory emerged in 1949 when Prebisch and Singer established the Singer-Prebisch thesis. Subsequently, other theorists, such as Furtado, Frank and Cardoso, also entered the scholarly discussion. According to Dependency theory, underdevelopment in Latin America remained predicated on the development of the Global North because the relationship between the core and periphery was based on an unequal exchange. In other words, less developed Latin American countries with economies based on “backward sectors” would sell raw materials below their real value, whereas core countries would sell their industrial manufacturing products at prices above their real value (Larrain 1989; Peet & Hartwick 2009). Such a dependence created a small elite as well as a vast population of poor peasants in less developed countries, where the profits gained through exports were used for luxury consumption rather than domestic investment (Prebisch 1950; Peet & Hartwick 2009). Dependency theorists understood that the import-substitution accumulation strategy encouraged development because internal domestic production would break the unequal exchange paradigm. In this regard, the backward sectors of Latin American countries, such as subsistence agriculture, posed an obstacle, necessitating industrialization replacement (Furtado 1964; Oliveira 1972).

However, Dependency theory, emphasizing core-periphery relations to explain the development (or underdevelopment) of Latin American countries, overlooked the role and significance of internal class relations in the import-substitution development model (Oliveira 1972). As Oliveira (1972, 36) stated, “the expansion of capitalism in Brazil happened by introducing new relations in backward sectors, relations that are not only unequal but also combined.” International regulation, seeking to break with the unequal exchange relations between core countries and Brazil, was not the only feature accounting for Brazilian accumulation during this period. According to Oliveira (1972), under this model, development in Brazil happened due to the combination of four main factors.

First, the internal industrial capital accumulation in Brazil did not result from the modernization, or industrialization of backward sectors—through a break from the core-periphery unequal exchanges—as the dependency theorists would claim. Accumulation was made possible due to how the backward subsistence agriculture sector and its surplus production was articulated with the interests of the newly emerging industrial fraction of capital. The new modern relations of capitalist production took advantage of this backward sector, providing food for urban workers at low-costs and enabling working class reproduction at low costs (Oliveira 2004).

Second, the existence of an urban reserve army of labor, working in informal sectors and living in slums, also reduced the labor reproduction costs. Third, different from the US Fordist accumulation regime, the Brazilian state did not assume a commitment to foster full employment and to establish fundamental social rights as a way to sustain adequate demand. Labor rights were established but with a low minimum wage. Moreover, gains in productivity were not tied with increases in wages, like those in the US, which were based on an institutional compromise

between unions and industrial capitalists (Souza 2016). In this accumulation strategy, but mostly under its dictatorship period from 1964-1985, the Brazilian state coerced labor unions, suppressing labor mobilization (Oliveira 2004).

Fourth, under this model of development, accumulation was made possible due to the Brazilian developmental state. The Brazilian developmental state forged an institutional compromise, where its national developmental project was mostly constructed along with the interests of the emerging Brazilian industrial fraction of capital. However, foreign direct investments also played an essential role in this project (Fine 1999; Oliveira 2004; Souza 2016). Industrial domestic and international manufacturing capitalists gained a privileged and hegemonic position in the Brazilian state.

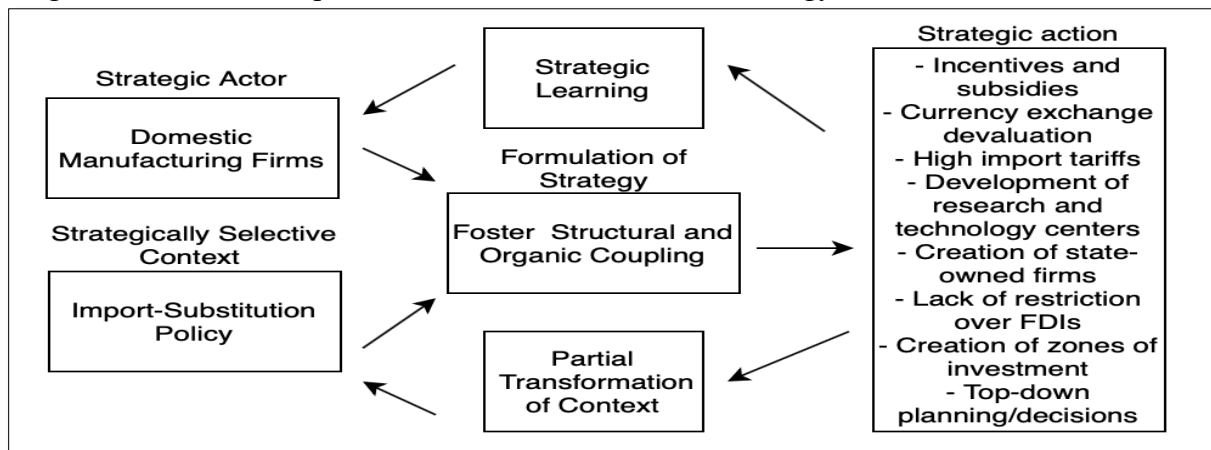
This means that the Brazilian import-substitution accumulation strategy developed several mechanisms and initiatives to foment two types of strategic coupling: Organic coupling based on the establishment of domestic firms mostly related to heavy industry and infrastructure, and structural coupling based on the attraction of foreign direct investments related to manufacturing firms of consumer and durable goods (Henrique & Muniz 2015; Santos 2015).

To enhance organic coupling processes, the Brazilian developmental state directed investments to create, strengthen, and develop national firms, and to advance specific sectors (Henrique & Muniz 2015; Santos 2015). The Brazilian developmental state also implemented several measures privileging domestic capitalists, such as currency exchange devaluation and increased import tariffs (Bruno 2005). In this period, the Brazilian state created several national companies, such as Companhia Vale do Rio Doce (today Vale S.A), Companhia Siderúrgica Nacional, Petrobrás, Telebrás, and Embraer (Santos 2015). As this research will reveal in the

next section, it is in this context that SJC was selected by the federal government to host the creation of Embraer.

While some Latin American developmental states limited or restricted FDIs in their countries to promote national firms, the Brazilian state rarely imposed restrictions on FDIs. Restrictions of FDIs were only imposed in some strategic sectors, such as the defense sector. In other atypical cases, restrictions were associated with certain conditionalities, such as requirements of association between FDI and Brazilian companies, or technology transference (Motta Veiga 2004). The Brazilian state was also successful in promoting structural coupling processes, and thus, in attracting FDIs—not only due to its lack of investment restrictions but also due to the existence of a large domestic market in Brazil combined with its imposed high import tariffs (Motta Veiga 2004). In the 1950s, the Brazilian state impressively attracted about a third of FDIs in developing countries (Oliveira 2001a). A summary of this accumulation strategy can be visualized in the figure below.

Diagram 8. Brazilian Import-Substitution Accumulation Strategy



Source: Author.

Under the import-substitution accumulation strategy, the Brazilian state was highly centralized, where the political decision-making reflected a top-down process. Mechanisms such as planning, coordination, fiscal centrality, and public investments proved crucial for the state to encourage development (Souza 2016). The autonomy of subnational states and municipalities in countries based on a federal governmental system such as in Brazil and the United States, as Ward et al. (2010) argued, behaves as a pendulum. In the Brazilian case, during the import-substitution model of development, the federal government, which was already centralized—given that under its dictatorship period, governors and many municipality mayors were political appointees from the federal government—gained more power, reducing the autonomy of subnational states and municipalities through the 1966 Tax Reform³¹. In this reform, the federal government increased its capacity to collect taxes. Such a centralization started to decrease after 1974 and continued until the end of the 1980s when Brazil went through a process of decentralization due to the 1988 Federal Constitution (Sallum Jr 1996; Souza 2016). The 1988 Federal Constitution reconfigured direct tax collection to subnational states and municipalities and established the right for citizens to elect their politicians (Souza 2016).

The Brazilian developmental state, as Souza (2016) stated, was responsible for elaborating and coordinating policies while subnational states and municipalities were tied to these top-down decisions. As scholars such as Jessop (1990) and Jonas (1995) pointed out, the state tends to privilege not only actors but also places through its accumulation strategy and hegemonic project. In Brazil, the import-substitution accumulation strategy not only privileged

³¹ In the 1966 Tax Reform, the Brazilian federal government further centralized its fiscal system and thus power of decision by directly receiving some taxes, such as the State and Municipal Participation Funds (FPM and FPE) and the Taxation on the Circulation of Goods (ICM) that before would be collected by subnational states. Before the 1966 Tax Reform, subnational states would collect the FPM and FPE taxes and transfer 30 percent to the federal government and 20 percent to their municipalities. After this change, the federal government started to collect the ICM and transfer to states and municipalities 12 percent of total collected (Piancastelli & Perobelli 1996; Souza 2016). After the process of decentralization in Brazil in 1988, the federal government started to transfer 20 percent of the FPM and FPE taxes to states and municipalities of the total collected.

industrial capitalists, but also fomented an uneven spatial development, which benefitted the Southeastern subnational states³², but mostly São Paulo (Souza 2016). For example, in 1956, the former president Juscelino Kubitschek launched the “Plan with Targets”, aimed at developing five primary areas and industries in Brazil: food, transports, energy, base industries, and education. This plan directed investment predominantly to São Paulo (Souza 2016). Such investments resulted in the state of São Paulo receiving the greatest amounts of public and private investments, and consequently, going through its most severe process of industrialization in Brazilian history (Loureiro 2006; Pereira 2018). For example, organic and structural coupling processes transformed São Paulo in the 1950s and 1960s into the largest Latin American aerospace and automobile production centers. The state attracted firms such as Ford, General Motors and Volkswagen (Takami 2018).

Subnational states and municipalities lacked autonomy to design significant regional and local development policies to attract FDIs (Conceição et al. 2015). Therefore, FDIs’ locational decision and the federal governmental assessments regarding where to establish state-owned companies were dependent on aspects such as political ties with state and municipal politicians, infrastructure, presence of a skilled labor force, and to a lesser degree, subnational states and municipalities subsidies and incentives. Although, subnational states and municipalities subsidies and incentives were made more critical after the 1988 Federal Constitution, which awarded states and municipalities greater autonomy (Conceição et al. 2015).

Besides receiving large public investments, the São Paulo metropolitan region also attracted and concentrated firms due to its significant presence of consumers and concentration

³² However, the Brazilian state also sought, although unsuccessfully, to decrease such an uneven development by creating regional developmental programs to support some states and cities lagging behind economically. For example, the creation of SUDENE in 1959 aimed at supporting the development of the Northeast region of Brazil (Conceição et al. 2015).

of skilled workers, state and municipal incentives, and a well-developed infrastructure previously established for coffee production and exports (Loureiro 2006; Pereira 2018). However, while the São Paulo metropolitan region enjoyed the highest agglomeration of firms in the country, the state's countryside, as well as other states, lagged behind regarding its industrial development (Lencioni 1991).

In the 1970s, São Paulo sought to decentralize its industry to benefit its countryside. The state invested in infrastructure, such as in the construction of modern roads connecting the countryside with the São Paulo metropolitan region. The state also created the Financial Coordination Committee of São Paulo Industrial Policy. The primary goal of this committee was to develop jobs in countryside cities by stimulating industrial relocation and decentralization from the São Paulo metropolitan region. The state also established more significant incentives for firms located outside the São Paulo metropolitan region (Lencioni 1991). Two other factors also promoted this industrial decentralization.

First, infrastructure problems related to fast, unplanned urban growth, pollution, increased wages, strong union presence, and high land costs in the São Paulo metropolitan region encouraged industrial decentralization (Santos 2015). Second, the federal government established research and technology institutes in São Paulo countryside cities to promote the development of specific sectors (Negri 1992). These institutions remained crucial for the Brazilian developmental state to grow a highly skilled workforce as well as to develop the required technology to foster organic coupling processes through the establishment of state-owned companies and specific sectors (Negri 1992). For example, one can mention the development of the IT industrial cluster in Campinas, of Embraer and its aerospace industrial cluster in SJC, and of the alcohol-related sector in Paulínia. This strategy, therefore, resulted in

several organic and structural coupling processes taking place in the São Paulo countryside as well as in other states.

The leading destinations for domestic and foreign firm in the countryside of São Paulo were cities such as Campinas, São José dos Campos, Taubaté, Jundiaí, São Carlos, Piracicaba, and Sorocaba (Henrique & Muniz 2015). This industrial decentralization began before the promulgation of the Brazilian 1988 Federal Constitution; therefore, subnational and municipal development remained mostly dependent on top-down decisions (Piancastelli & Perobelli 1996). SJC became one of the major sites for firms leaving the metropolitan region of São Paulo due to a combination of factors, which privileged its process of capital accumulation (Henrique & Ricci 2011; Henrique 2012). Besides providing incentives to firms, SJC also possessed a cheaper labor force compared to São Paulo city and was located alongside the Dutra Highway, a major road connecting two of the biggest consumption centers in the country: São Paulo and Rio de Janeiro (Henrique & Ricci 2011).

To conclude, under the import-substitution accumulation strategy, the Brazilian developmental state positioned domestic and foreign fractions of industrial capital at the center of its accumulation strategy, fostering several actions and initiatives that favored such actors. The Brazilian developmental state developed mechanisms and initiatives to promote organic coupling processes as well as structural coupling processes. Under this strategy, development reflected a top-down decision, where subnational states and municipalities like SJC lacked autonomy to design policies and provide considerable incentives. In this context, the Brazilian state advanced an uneven development privileging some states and municipalities over others by directing greater private and public investments. This is the case of SJC, which had several structural coupling processes, receiving companies such as Ericsson, General Motors, Parker,

Kodak, Panasonic, Johnson & Johnson and Petrobrás. SJC also went through an organic coupling process, where Embraer was established, as outlined in the next section. This organic coupling process is crucial to understand how processes of corporate capture between Embraer and educational institutions evolved in SJC.

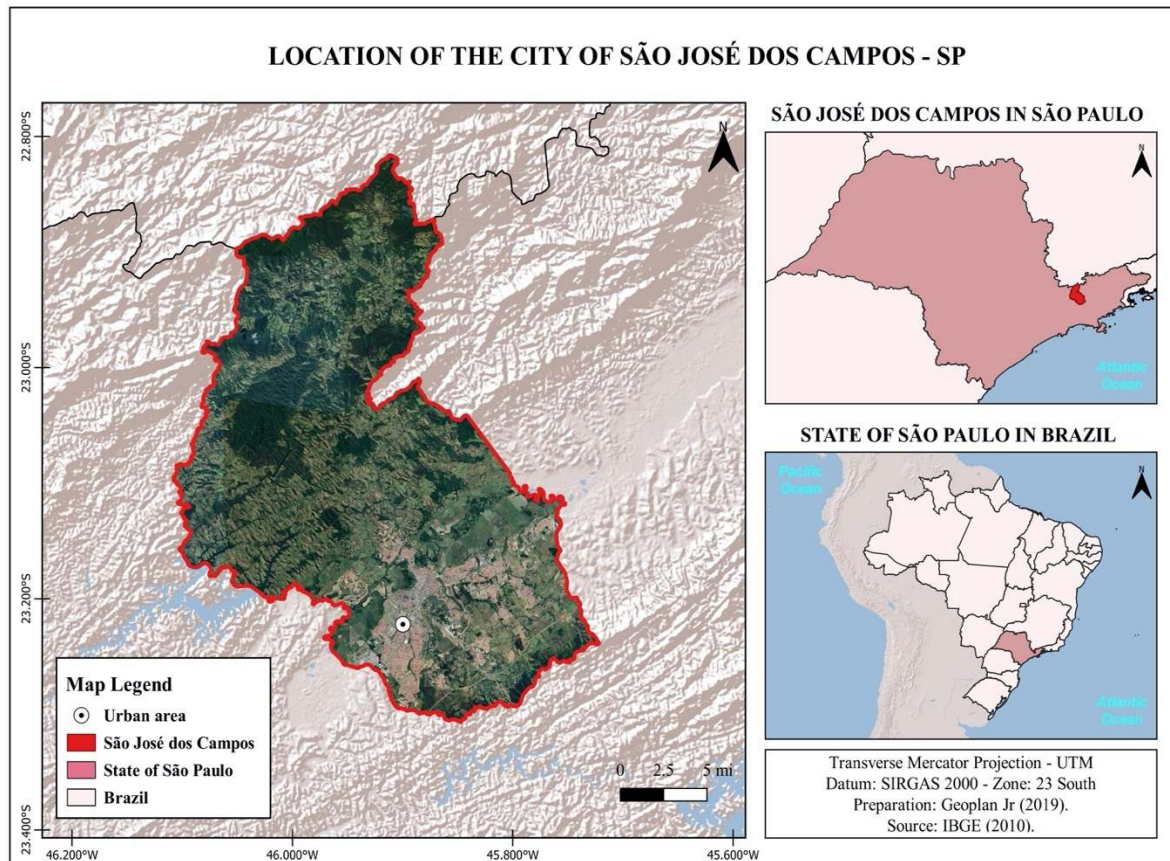
5.2 Embraer and São José dos Campos's Organic Coupling: The Corporate Capture of Training Programs at the Aeronautics Institute of Technology (ITA) and at the São Paulo State Technological College (FATEC)

This section will be structured in three parts. First, I will provide a brief contextualization of the city SJC regarding its economic and social situation as well as its labor market. Second, I will analyze the aerospace organic coupling process in SJC. Third, I will demonstrate how the evolution of processes of corporate capture between Embraer and public educational institutions in SJC is intrinsically related to this aerospace organic coupling process. This section argues that due to the Brazilian form of state and its accumulation strategy, and consequent aerospace organic coupling process in SJC, the corporate capture processes of programs at the ITA and the FATEC evolved organically through synergistic and informal interactions.

The history of SJC (see map 2) dates back to 1611, when Catholic Jesuit Priests established the São José village to assist outcast indigenous tribes from other São Paulo regions. Through the years, the village increased its non-indigenous population, becoming, in 1767, the city of SJC (Borba & Silva 2011). Presently, with a population of 713,943, SJC is a medium-sized city located 94 kilometers from the São Paulo city and is nearby other cities like Jacareí, Taubaté, Caçapava, Campos do Jordão, and Monteiro Lobato (IBGE 2018). Dubbed the aviation capital, SJC is the birthplace of Embraer, one of the biggest national firms in Brazil today, and

the third largest aerospace company worldwide. The city has remained admired for having one of the best qualities of life and education in the country and being highly industrialized (Henrique & Ricci 2011).

Map 2. The Location of São José dos Campos, São Paulo, Brazil.



Throughout its history, the city has had two distinct periods of development. In the first period, from the 1870s to 1940s, the city was economically based on the production of coffee, and in the provision of sanatorium³³ services. In 1924, the state of São Paulo established a public sanatorium named Vicentina Aranha in SJC, transforming the city into a national center for tuberculosis treatment. In 1935, the former president Getúlio Vargas turned SJC into an Estância

³³ SJC had several resorts and sanitariums to treat people with tuberculosis. This happened because SJC is located in the countryside and in a mountainous region. In the past, the city received federal investments to develop this sector (Santos 2014).

Climática. Under this title, the city acquired the right to receive higher federal funding to invest in infrastructure related to tuberculosis treatment (Borba & Silva 2011). However, after the 1929 Great Depression when the Brazilian state adopted its import-substitution accumulation strategy, the city entered its second period in the end of the 1940s, shifting its economic base to industrial production (Borba & Silva 2011). Under the import-substitution accumulation strategy, SJC was able to emerge as one of the most developed and industrialized cities in Brazil. This is related to how the Brazilian developmental state fostered an organic coupling process in SJC, which is directly tied to the creation of the Aeronautic Technological Center (CTA). One participant from the SJC Technology Park, describing the significance of the CTA to SJC, said the following:

SJC is a city that somehow was enormously benefitted by the federal government in the 40s with the creation of the Aeronautic Technological Center; today named Department of Aerospace Science and Technology. In 1956, SJC had 1/3 of the population of Taubaté. Today SJC has three times more than the population of Taubaté. Taubaté was the “capital” of the “Vale Region”; nowadays it is SJC. The city of Jacareí had the same level of development than SJC. Today Jacareí is undeveloped in comparison to SJC. Amongst all the cities in Brazil with a population average of 700 thousand, SJC is probably the city with the best socioeconomic rates [...]. The creation of the Aeronautic Technological Center generated DNA in the region of innovation and technology. The Aeronautic Technological Center attracted firms...originated many firms...It has important ingredients such as high skilled workforce, and the presence of the government with its strategic orientation and potential opportunities to develop programs of foment. (Interviewee 50)

The CTA dates to the 1940s when Lieutenant Colonel Casemiro Montenegro Filho, after visiting the Massachusetts Institute of Technology (MIT) in the US, decided to establish a Brazilian aeronautic research and education center (Coimbra & Hopfer 2017). Under the selective institutional context of the Brazilian import-substitution accumulation strategy, Casemiro’s project gained support from the federal government, which had an interest in developing its aerospace technological autonomy and aerospace defense sector (Henrique & Ricci 2011).

The federal government's initial plan was to create the CTA in the city of Guaratinguetá. Nonetheless, SJC was selected and privileged by the federal government as a site to receive the CTA for three main reasons. First, from 1935 to 1958 and 1967 to 1978, the São Paulo governor appointed SJC mayors (Coimbra & Hopfer 2017), which established a political tie between federal, state, and SJC state managers. In the case of the CTA, a former mayor of SJC, Jorge Zarur, worked with a local influential group to obtain a 500-acre donation from the state of São Paulo, which was transferred to the Brazilian Aeronautic Force as an incentive to establish the CTA (Coimbra & Hopfer 2017; Henrique and Ricci 2011). Jones (1995) argues that for a national accumulation strategy to be successful and achieve hegemony, its state apparatus has to mobilize forces of representation—strategically significant sectors and institutional agents—to support its strategy, structure, goals, and mode of operation. In this setting, the national accumulation strategy favors the places where forces of representation remain located. The state, therefore, privileges its social basis, which SJC typified. Second, the Dutra Highway construction in 1951 provided SJC a strategic locational position, attractive to firms, given that SJC is positioned between the cities of Rio de Janeiro and São Paulo (Henrique & Ricci 2011; Santos 2014). Third, as a sanitarium center, SJC established a well-developed infrastructure using state and federal investments, serving as an essential asset to firms.

In 1946, the Brazilian Air Force founded the CTA in SJC, which established in 1950, the Aeronautics Institute of Technology (ITA), a federal public university specializing in aeronautic-related engineering courses, and in 1953, the Institute of Research and Development (IPD). The CTA played an essential role in establishing Embraer³⁴. As Mackinnon (2012) asserted, organic

³⁴ The CTA was responsible for transforming SJC in a technological hub. After the establishment of the CTA, SJC started to receive many FDIs. For example, in 1959, the former president Juscelino Kubitschek inaugurated the establishment of a General Motors plant in city. Other examples are Johnson & Johnson in 1954, Ericsson in 1955, Kanebo, Eaton and Bendix in 1957, and Engesa in 1958. Therefore, the CTA was a major aspect propelling the industrialization of SJC (Coimbra and Hopfer 2017).

coupling processes happen through a co-evolution of regional assets and global firms in the same region. In the case of SJC, the IPD and the ITA provided the necessary assets, including the technological capacity and skills for the creation of Embraer. In this scenario, the IPD, funded by the Brazilian developmental state—which had the goal of developing its domestic aeronautic sector—hired 300 workers to develop a small-size airplane prototype in 1965. Workers included graduates from the ITA. Therefore, in 1968, the IPD developed its prototype known as Embraer EMB-110, Bandeirantes. One year later, in 1969, the federal government, along with some private investors, founded Embraer and started to produce the Bandeirantes (21 passengers) for its internal market but mostly for the government (Henrique 2012). One participant from the Institute of Development and Technology described the role of the CTA in the creation of Embraer as follows:

...when you already have experience [in producing airplanes], you are basically getting your experience and transferring to another location. That is easier than when you want to start from scratch. What did happen so that Embraer could be created? First, the federal government created the CTA, and then the ITA in 1950. Nineteen years later, in 1969, Embraer was created. So, we had an aeronautic labor market in SJC, who knew how to work in the aeronautic sector. The first group of engineers in SJC graduated in 1955. So, we had to wait for 19 years to form a sufficient labor market. It is a short time, but enough to have the skills to start. (Interviewee 51)

The creation of the IPD and the ITA not only resulted in the creation of Embraer but also in the emergence of an aerospace domestic production network. SJC hosts the highest concentration of aerospace firms in the country with 94 firms, mostly Embraer's suppliers, forming an industrial cluster. The emergence of this domestic production network and industrial cluster is related to significant technological spillovers that the CTA and Embraer enhanced³⁵. In

³⁵ Moreover, the creation of Embraer under the import-substitution accumulation strategy resulted in several international aerospace firms establishing production in SJC to supply parts to Embraer in a period marked by high import tariffs (Henrique, 2012). In general, the creation of the CTA by the federal government allowed SJC to become a technological hub with several research institutes such as the National Institute for Space Research, a research institute capable to produce and launch satellites created in 1971.

the years following the creation of Embraer, many of Embraer’s former employees, researchers from the IPD, and alumni from the ITA started their own business as Embraer’s suppliers but also, and to a smaller degree, as startups based on innovations developed by the IPD. As one participant explained, “Everybody who has an aerospace company here was from the IPD, the ITA, from Embraer, or the National Institute for Space Research (INPE). The majority comes from these institutions and Embraer” (Interviewee 57). Another interviewee from the ITA claimed:

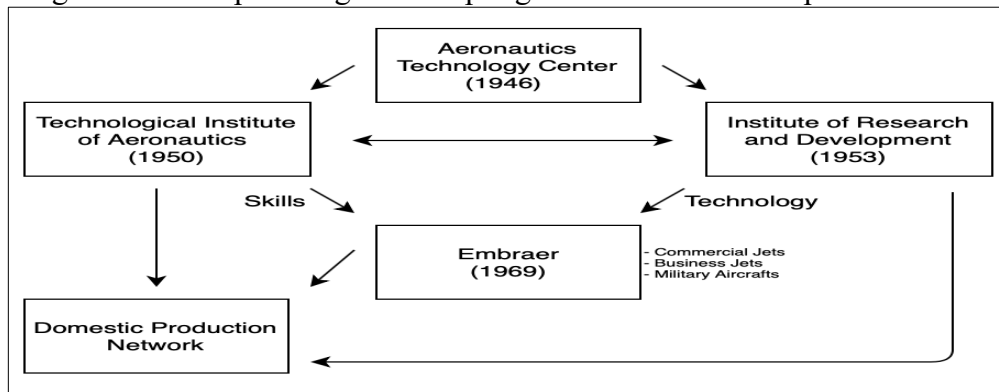
...the ITA came first. The government could have created Embraer first, and then the IPD, the ITA, and the INPE, but the government did not. The skilled workforce from Embraer induced everything. Through the history of the CTA, it has been created more than 150 aerospace companies in SJC, some small, but others very large like Embraer. The ITA received investments; it was created in a time and in a country that had nothing in the aerospace sector, let alone in other sectors. People here always say “in the 1940s we were not producing even bicycles”. Brazil did not have a mechanic or aeronautic industry, so training had to come first. (Interviewee 35).

Another participant also from the ITA further voiced:

The Technology Park has around 100 firms, and many of them are related to the ITA because they were founded by ITA’s alumni. Many aerospace companies in SJC were founded by ITA’s former students such as Avibrás and Mectron. There are many companies created by ITA’s former students. (Interviewee 39)

This aerospace organic coupling process in SJC can be summarized as follows:

Diagram 9. Aerospace Organic Coupling in São José dos Campos.



Source: Author.

This organic coupling process in SJC, happening through the co-evolution of the IPD, the ITA, Embraer, and then the SJC aerospace industrial cluster, established and fostered symmetric and synergistic power relations among local actors—prevailing today and remaining critical for this research to explain how and why processes of corporate capture in training related to Embraer evolve in SJC. One representative from the ITA asserted:

Institutions in São José dos Campos have a high synergy among them. Look at the director of CECOMPI, Marcelo; he is the dean of the ITA and a former student in our master's degree program. Look at the Secretary of Development of SJC, Cavalli; he was the dean of the ITA and a former student. Look at the director of the SJC Technology Park, Horácio Forjaz; he is an ITA's former student and a former director at Embraer. Look at Tozi, the dean of FATEC; he coordinates the expansion team at the ITA. Embraer and Avibrás founded by ITA's former students. Because of that, synergy is high.

This synergy among local actors is also related to how the Brazilian import-substitution accumulation strategy was based not only on material and political practices but also on a nationalistic developmental ideology. Under this strategy, there was a shared view of the Brazilian state to be defending the nation's interests (jobs through the support of national firms) against dependency and subordination to developed nations and their influence (Bresser-Pereira 2018). Such a “nationalistic developmental ideology” propagated the view that development required cooperation around common national interests, where the state was the major instrument of collective action (Bresser-Pereira 2018). In the case of SJC's organic coupling process, local actors embraced Embraer's establishment as part of this collective national—and local—project in which cooperation towards a common good was required. One participant from CECOMPI, talking about how collectiveness is essentially related to local actors' connection to the aerospace in SJC, professed:

We have strong interactions here because of the CTA. Inside the CTA today we have six Institutes of Research and the ITA. There is also the INPE, which is a spinoff of the CTA

founded in 1971. The ITA is a spinoff of the CTA. As spinoffs, we have Embraer, Avibrás, Mectron, and others. The government believed 70 years ago, and that's the government success. Someone said "Let's build an Aeronautic Center here? From where do we start? From education, education of excellence. (Interviewee 49)

Interviewee 52, a representative from the Sao Paulo State Secretary of Development, talking about the interactions among the actors in the SJC aerospace industrial cluster, and more specifically, how aerospace local actors work collectively, mentioned: "Companies, educational institutions, the municipal government, they interact, they are all involved (in collective initiatives). They all interact. We don't have problems with conflicting initiatives." Another state representative, but from the federal government, claimed that many actors related to the SJC aerospace sector possess a great degree of articulation because they emerged organically in connection to one another. The participant contended the following:

The São José dos Campos aerospace industrial cluster has a closer connection to the government because everything started from a public initiative. You had the creation of the ITA but also Embraer, which later was leading everything. Who pushed development? The government is creating institutions and Embraer but also the government buying airplanes. Because this cluster has always had a close relation to public policies, they need to interact, to have articulation in order to work together to reach the government goals." (Interviewee 56).

In conclusion, as GPN scholars revealed, the state can have a vital role in the initial development of GPNs and the configuration and restructuring of existing ones (Yeung 2016). The GPN experts have sought to analyze how the state, as a mediator, meets the strategic needs of firms in GPNs to foster strategic coupling, and consequently capture value (Horner 2017; Lee et al. 2014; Yeung 2009). Less attention has been given to other state roles, such as states as producers (Horner 2017). In this regard, this sub-section sought to reveal how the Brazilian developmental state, as a producer and a buyer, played a crucial role in establishing Embraer and its aerospace domestic production network through what researchers have conceptualized as an organic coupling process. In SJC, organic coupling process happened through the co-evolution of

several regional assets seen in the creation of the IPD, the ITA, Embraer, and in the subsequent spillovers resulting in the emergence of several other local aerospace firms and related institutions. Such an organic coupling process, related to the Brazilian import-substitution accumulation strategy, was based on symmetrical and synergistic actions and relations under a national—and local—collective project, i.e., the development of Embraer and of the Brazilian aerospace sector in SJC. This researcher will argue in the next sub-section that this dynamic has left significant imprints regarding how processes of corporate capture evolve in the post-privatization era.

5.2.1 The Evolution of the ITA and the FATEC Corporate Capture

In this sub-section, I will analyze how Embraer processes of corporate capture in training initiatives evolved in SJC. According to the GPN literature, corporate capture happens as a result of states lacking specific or distinctive regional assets that meet the strategic interest of firms. This feature, scholars argue, puts such states in an inferior position when bargaining with FDIs, making them vulnerable to having their institutional capacity captured (Coe & Hess 2011; Mackinnon 2012; Yeung 2016). However, in the case of SJC, the process of coupling occurred organically. Therefore, process of corporate capture in SJC cannot be solely explained based on the lack of distinctive regional assets or due to asymmetric power relations through bargaining processes between the state and FDI resulting in the coupling. I will assert Embraer's processes of corporate capture in training initiatives at the ITA and the FATEC evolved organically due to its past organic coupling process. Capture evolves based on professional ties through synergistic local and informal one-on-one interactions rather than through bargaining events like in Charleston. In this sub-section, I will first provide a contextualization of Embraer's privatization

process and how its approach to skill formation has changed. Second, I will analyze the processes of corporate capture mentioned above.

In the last two decades, Embraer underwent severe transformation from a state-owned company with domestic production to a private global corporation. This transformation has affected Embraer's internal training, SJC aerospace labor market, and the company's relation to local educational institutions. Embraer represents one of the largest Brazilian companies, generating more than 16 thousand national jobs, of which more than 10 thousand are employed in SJC (Embraer Report 2018). While the company started manufacturing military cargo airplanes, today Embraer also manufactures commercial small- and medium-sized airplanes (30 to 130 passengers), having subsidiaries in five locations: Brazil (the largest), the United States, China, and Portugal.

Embraer was privatized in 1994, but its context dates back to the 1980s. The 1980s were marked by important changes in Brazil. First, José Sarney, having assumed the Brazilian presidency in 1985, restored democracy in the country, and three years later established the 1988 Federal Constitution. Second, neoliberalism gained significance in this period, driving the major changes in this new Brazilian phase of post-democracy, as in many Latin American countries. As scholars have revealed, since the 1970s, the ecological dominance of neoliberalism has advanced across the globe through dramatic ruptures and through incremental forms, rebuilding state-economy relations in tendential, uneven, discontinuous, conflictual, and contradictory ways (Jessop 2014; Harvey 2007, Peck and Tickell 2002; Brenner et al. 2010). This has resulted in variegated capitalisms under the shadow of neoliberalism (Jessop 2014). Brazil has not been immune to such influence.

The neoliberal agenda began to influence Brazil after 1989, initially when Fernando Collor and Itamar Franco assumed the presidency (Fine 1999). As Braga (2017) pointed out, starting under the presidential administration of Fernando Collor and influenced by the Washington Consensus, the Brazilian state adopted a new model of development, which the author termed a “post-Fordist, peripheral and financialized” model of development. In 1990, Fernando Collor launched an economic liberalization and privatization program; this was later led by Itamar Franco, due to Collor’s resignation in 1992, and then in 1994 by Fernando Henrique Cardoso. Under Itamar Franco and Fernando Henrique Cardoso, the Brazilian state sought to dismantle regulatory rigidity, to privatize state-owned companies and to decrease protectionism bias. Industrial policy was abandoned, a mark from the older development model. Under this new accumulation strategy, the Brazilian state also integrated its economy with the global economy (Arbix & Martin 2010). This model of development received continuation with the Workers Party under the presidential administration of Luis Inácio da Silva and Dilma Rousseff. However, significant changes were implemented in regard to social policies such as Bolsa Família, and in regard to a return of strong industrial policies (Braga 2017).

The emergence of this new accumulation strategy in Brazil directly affected Embraer. Embraer had arrived in the 1990s on the edge of bankruptcy and became a target of the Brazilian privatization program. Embraer’s economic problem was due to the world Fordist crisis, which affected accumulation in Brazil and resulted in the “lost decade”. The principal buyer of Embraer’s airplanes was the Brazilian federal government and due to the Fordist crisis, purchases significantly decreased, affecting the company. Itamar Franco decided to privatize Embraer during his presidential term, and Fernando Cardoso concluded the company’s privatization in 1994. Although the company was on the brink of bankruptcy before its

privatization, it only took two years after its sale for the company to turn impressive profits (Henrique 2012; Souza 2008). However, to reach this position, changes were made.

After privatization, Embraer laid off 11 percent of its employees, invested in its production process thus increasing productivity and quality, expanded exports, changed its career plan and internal training practices, and outsourced services related to cleaning, security, computing, and cooking (it had four internal restaurants). The company also reduced its average salary and changed its private governance with suppliers (Bernardes 2000). The production of the airplane ERJ 145, launched in 1989, was successful and resulted in numerous sales across the world. The National Bank for Economic and Social Development (BNDES) enabled the insertion of Embraer into the global economy as a global competitor when it provided public funding investments and incentives for Embraer to manufacture airplanes for international buyers (Bernardes 2000; Catermol 2010). The internationalization of Embraer and its coupling with the aerospace global production network were also made possible due to the federal government's creation of a special tariff regime: drawback and Recof, allowing firms to import products tax-free. Firms remained exempt from significant tariffs if they imported products used to manufacture products for export. Embraer's privatization and insertion in the aerospace GPN resulted in the company reconfiguring its private governance with suppliers, having 95 percent of its 500 suppliers located outside of Brazil. In 1996, two years after Embraer's privatization, the company rose to status as a major international player in the aerospace sector.

Until 1995 Embraer maintained an effective educational policy with significant internal training practices (Bernardes 2000). However, since its privatization, the company has increasingly relied on external training. After its privatization, the number of Embraer's employees in the training department for technical courses decreased from 107 workers in 1990

to only three in 1996. Before its privatization, Embraer even offered courses for workers to acquire junior high and high school diplomas through partnerships with local educational institutions (Bernardes 2000). Even though Embraer has a training center offering nearly 900 different courses, third-party organizations administer training. Currently, Embraer requires a minimum of a certificate degree for touch labor (hands-on production); recently hired workers must go through a 3-month training process, called Famiero, as one participant from the Union of Metallurgists in SJC expounded:

In the 1990s, Embraer established some criterium. First, to work for Embraer workers are required to have a certificate degree. Those courses that last six months, or a year. Touch labor at Embraer they normally have electrician or mechanics certification from SENAI. After they are hired, workers go through 3 months of internal training in which they are under probation. Training focuses on getting workers familiar with aeronautics. When Embraer has a volume hiring, workers instead of going to work in production, they go to their study center in the morning and spends the day training. Sometimes training lasts less than three months. It depends on their need. But normally training lasts three months, and we learn about aeronautic manufacturing, concepts of avionic, structure, and many other things. When Embraer has little hiring like 20 workers, then training is only in the mornings, half of a period, and in the afternoon they work. (Interviewee 47)

Although internal training has remained a common practice due to the highly specific nature of aeronautic skills, after the company's privatization, Embraer has focused more on external training than before (Bernardes 2000). Moreover, the cyclical aerospace sector is characterized by peaks in which companies hire and lay off workers according to market dynamics. Embraer represents a large corporation, employing "5,900 technicians, engineers and technologists, the company has a 3 percent turnover, having to replace between 150 to 200 engineers and technicians that retire every year" (Interviewee 44). This requires the company to intensify interactions with local educational institutions to present its skills needs and to shape training according to the company's needs. It is in this context of privatization and increasing reliance on external training that processes of corporate capture in SJC have occurred.

Currently Embraer and Boeing are negotiating a joint venture. As the Brazilian federal government holds a ‘golden share’ in Embraer, it has the majority power over Embraer strategic decisions. Therefore, for Embraer and Boeing joint venture to happen, it requires governmental approval. While it is uncertain to know whether the Workers Party with Lula and Dilma would have approved or denied this joint venture, the liberal government of Jair Bolsonaro has announced in January 2019, it will approve the fusion of Boeing and Embraer. It is estimated that the joint venture will be concluded by the end of 2019 (Venture 2019). Boeing will invest \$3.8 billion to acquire 80% of Embraer (Jiménez 2018).

5.2.2: Embraer and its Training Partnership with the Aeronautics Institute of Technology (ITA)

The business community has applauded the training partnership between the ITA and Embraer. However, this research will not highlight it as a case of success, but as a case of permanent corporate capture. In this sub-section, this research will analyze how the creation of the Embraer Program of Specialization in Engineering at the ITA evolved organically as a process of corporate capture. As this research will reveal, this program offers highly customized training designed to deliver specific skills for Embraer alone. The program lacks transparency and privileges Embraer, rather than the general business community and also presents class issues.

The Embraer Program of Specialization in Engineering (PEE) was launched in 2002 through a partnership between Embraer and the ITA, a federal higher education and research institute that focuses on aerospace science and technology. Ranked as one of the most prestigious engineering schools in Brazil (“the Brazilian MIT”), the ITA offers 5-year bachelor’s degrees in

engineering courses³⁶ as well as master's and doctoral degrees (ita.br). The PEE foundation is related to the significant restructuring process Embraer underwent after its privatization in the 1990s, when the company laid off hundreds of engineers from 1994 to 1996. However, even though Embraer was not performing well economically before its privatization, two years later, the company started generating profits. In 1996 the airplane ERJ-145 reached international sales success. An increase in sales required Embraer to hire workers, including aeronautic engineers. However, the company encountered difficulties recruiting aerospace engineers in the market.

One participant from Embraer, describing the changes Embraer underwent in the 1990s, voiced:

In the 1990s, we (Embraer) fired many employees, decreasing to 4,000 employees, but before (privatization) we had almost 20,000 employees. So, after privatization, Embraer started to sell airplanes and obtained great success in a short-term. So, the company could not find enough skilled people to hire. Moreover, Embraer has a turnover... (Interviewee 44)

According to some participants, from 1996 to 2000, the lack of aeronautic engineers in the market forced Embraer to hire engineers from several different fields, such as electrical and mechanical engineering, requiring months of on-the-job training to teach them aerospace-related skills and the “Embraer way to work”. In 2000, a former CEO of Embraer decided to contact the ITA to develop a short-term course to provide non-aeronautic engineers not only the basic skills of aeronautic production, but also highly customized and specific skills according to the internal interests and skill needs of Embraer. The program could drastically reduce on-the-job training.

One participant from the ITA explained:

“At the time, a former CEO of Embraer said “Besides not being able to recruit aeronautic engineers in the market, I lose too much time training on-the-job...getting workers familiar with aeronautics. So, the goal was to have workers trained before hiring them. I hire an electronic engineer, from anywhere, and a mechanic (engineer), the guy does not

³⁶ The ITA offers 5 undergraduate courses: Aeronautical Engineering, Aerospace Engineering, Civil-Aeronautical Engineering, Computer Engineering, Electronic Engineering, and Mechanical Engineering. The ITA is so competitive and prestigious that its admission rate in 2016 was 1.12% (ita.br), while Harvard University 2015-2016 admission rate was 5.6% (see <https://college.harvard.edu/admissions/admissions-statistics>).

even not the aeronautic jargon. He gets here lost. So, he (former CEO of Embraer) said “we need a program that helps all engineers to have a minimum common base (in aeronautics), and to get to know the systems of Embraer, to learn the ways of Embraer. Then once at the company, the worker can perform, work eight hours (Interviewee 34).

Therefore, the program initially entailed a three-month, short-term training initiative offering a certificate degree, and the first graduates were hired as Embraer engineers during the training process. However, in 2001 the federal government created a norm allowing public universities to establish vocational master’s programs, enabling students in any Brazilian postgraduate vocational training program to apply for public federal scholarships. Hence, the ITA proposed to Embraer to shift the short-term program to a long-term vocational program with a master’s degree. However, this training would require significantly more time, resulting in higher salary costs for Embraer. The ITA suggested to stop hiring students as engineers during training, and instead pay them as apprentices. The ITA committed to providing Embraer’s students a monthly scholarship. This combination of salary and scholarship would reduce Embraer’s costs related to salaries and labor contract taxes and benefits, making long-term training viable. One representative of the ITA articulated:

“The first group of students, Embraer hired as engineers, but someone from Embraer suggested to have students (in the next group) as trainees. Then I said “you are behaving as a fool. If these students are engineers why don’t you (Embraer’s employees) typify them as students, and so, you pay them as students and not as engineers. You (Embraer) pay what the government pays as a scholarship to master’s degree students. In this way, you won’t have to spend with payroll taxes and labor contract benefits.”...Then I added “we can turn this training initiative into a vocational master’s degree program. These engineers will then be typified as students from the ITA...studying full time...but also as an apprentice of Embraer. In this way, you (Embraer) can have very low-cost training.” (Interviewee 34).

Under this model, the PEE was launched in 2002, typifying a process of corporate capture due to its structure and goal to provide highly customized training and specific skills for Embraer. To meet this objective, the program was structured according to the interests of

Embraer but with insights from the ITA. At present, the PEE has a long-term, 16-month duration and provides a master's degree. Student enrollment is flexible, varying from 30 to 120 according to the needs of Embraer. Students are hired as apprentices, receiving a much lower salary than an engineer and a scholarship from the ITA. The ITA and employees from Embraer teach the coursework cooperatively. The ITA is responsible for teaching slightly more than 50 percent of the curriculum while employees from Embraer deliver the remaining in the curriculum. A participant from the ITA professed:

...the ITA was charged with teaching a little bit more than 50 percent of the total curriculum grade. The curriculum includes lectures from Embraer's employees, who help students to understand how Embraer functions and also to understand some aeronautic projects that could not be approached formally through academic classes. (Interviewee 34)

The program is divided into three phases, five months each. In the first phase, students learn aeronautics production basics. In the second phase, students choose and further specialize in specific careers. These two phases take place at ITA and Embraer establishes numerous mandatory classes. In the third phase, students are grouped into teams and charged with developing conceptual projects according to Embraer directives. This phase occurs at Embraer, where students work as full-time apprentices. The outcome culminates in a master's thesis developed cooperatively under the supervision of a professor from the ITA and an engineer from Embraer (Interviewee 44). One participant from the ITA contended:

This is a collective program, so, there is a part of the ITA and a part of Embraer. The part of the ITA is to release professors to teach at the master program, to release professor to advise students in their thesis, to provide classrooms and laboratories, given that research is done in our labs. Embraer provides some employees to help advising students, to teach some classes at Embraer. Embraer also helps the ITA in the recruitment process, and offers employment for participants, aspect that gives credibility to the program and raises students' interest because they know that in the end they will be hired. (Interviewee 35)

Under this program, Embraer pays the ITA instructors by hours taught, creating problems

and issues of transparency for two reasons. First, the ITA hires professors under a 40 hours per week contract regime where professors prepare and teach classes, advise graduate students, and perform ITA administrative tasks. Nonetheless, professors are dedicating some of these 40 hours to teaching the Embraer Program of Specialization in Engineering. Although this is considered legal since, theoretically, the PEE is an ITA's program, in reality, the program is designed to serve Embraer's interests. Therefore, Embraer provides a partial salary to professors working in this program. Second, it is illegal for public universities in Brazil to deliver customized teaching for private corporations and to develop research for specific companies. Such a practice is considered lobbying, which is not regularized in Brazil³⁷. Thus, the ITA and Embraer had to circumvent the law to obfuscate this issue. The ITA created a not-for-profit institution called Casemiro Foundation, responsible for receiving funding from Embraer and paying professors from ITA. Hence, the ITA is not directly receiving payments from Embraer, but through the Casemiro Foundation, depriving it status as a lobby. One participant from the ITA stated the following:

We have an algorithm for professors' remuneration, from Embraer via the Casemiro Foundation. We have a scheme that Embraer pays part of the hours taught by professors...The Institute of Aeronautical Technology allows its professors to use some of its 40 hours to teach, and professors will even receive for it. A professor is allowed to use part of the 40 hours because if you do the math; professors do not use all these hours. So, the Institute of Aeronautical Technology has zero-cost by allowing them to work because professors will continue doing the same. But there is always that issue; nobody is safe from having the Public Prosecutor's Office to come and pressure us. If someone reports then "oh, what is going on here? (Interviewee 34)

To recruit students Embraer uses ITA's institutional support to attract applicants countrywide. In this regard, while the ITA elaborates and administers the admission exam to select students (a calculus test), Embraer interviews and recruits the students with the highest

³⁷ Under the law at. 321, CP of the Brazilian constitution, it is considered illegal for any state manager to use the government apparatus in order to sponsor private interests, benefiting one entity over others (Brazilian Criminal Code 1998).

scores. Given that the ITA is portrayed as one of the best engineering schools in Brazil, Embraer boosts its capacity to attract applicants in order to recruit the most qualified workers in the country. Generally, less than three percent of applicants are selected to participate in the program. One participant from Embraer asserted:

So, first, the ITA elaborates an admission exam and selects the best applicants. We decrease 1,200 applicants to 200, and then after interviews, we recruit 30. At present, I have 3,680 applicants for 40 vacancies. The magic of the Program of Specialization in Engineering is that we have a great power of attraction for young people who like engineering. (Interviewee 44)

Therefore, this program is remarkably beneficial for Embraer, for it not only selects and recruits the best national market candidates but also receives customized training from the best Brazilian engineering school at a meager cost. As one representative from the ITA claimed, “Embraer invests in the Program of Specialization in Engineering, but many times, what Embraer is investing does not pay even 5% of what the company should pay” (Interviewee 35). Even though the ITA provides scholarships for Embraer’s students and allows Embraer to use its facilities for the program without any charge, the program does not establish after-course conclusion requirements, such as the payment of competitive and scalable wages or insertion in career plans.

Moreover, another feature typifying this program as a process of corporate capture resides in the fact the program reveals significant implications for class relations, given that the program was initially a form of precariatization of work, used to lower wages and benefits by replacing long-term employees. Long-term engineers were hired while Embraer was a state-owned company. Therefore, such employees were hired under a differential scalable wage plan, where earning wage had greater increases over the years. This means many senior engineers receive higher salaries than newly hired engineers. In this way, the program has replaced senior

engineers with junior but highly skilled engineers at lower salaries. One participant mentioned: “The program brought some problems because long-term employees felt threatened. They were like, “there is all these new young employees, well-prepared, receiving lower wages than us. So many related problems emerged” (Interviewee 34).

The program has become so entrenched that most of engineers at Embraer graduated from the PPE. One representative of the ITA stated, “We trained through this program 1,500 students for Embraer. Soon we (the ITA) believe that at least 80 percent of all engineers at Embraer will be from the ITA” (Interviewee 35). The same participant from the ITA explained how the program displaced long-term engineers, saying:

But this is a matter of costs as well. The workforce is the main asset of Embraer...The company brings young skilled workers and creates an internal pressure, and many workers are replaced. The company has old engineers at the top of its career plan, and Embraer is not able to maintain that. So, Embraer hires a skilled young engineer and replaces older engineers. I think this is a tendency that companies have to increase their profits. (Interviewee 35)

According to several participants, the process of corporate capture of Embraer of the PEE at the ITA evolved organically, through symmetrical and synergistic relations locally, and is related to the aerospace organic coupling process, which took place in SJC in the 1950s. For example, when asked about how the ITA interacts with Embraer, one representative of the ITA claimed:

With Embraer it easier to cooperate because many Embraer’s employees are alumni from the ITA. When these employees have needs, they know who they have to look for at the ITA. There is no need to bring Embraer and the ITA together. This is natural. When we are done with one project, there is another start. Students get their master’s degree in our program, go to work at Embraer and come back with ideas and proposals. They have come with many projects such as a project in the metallic structure, one in composite materials, another in aero-electronic systems... (Interviewee 39)

Therefore, given that Embraer was developed by people who graduated at the ITA, and that most of Embraer’s engineers graduated at the ITA, the employees from Embraer and ITA

maintained a high degree of interaction and predisposition to establish joint projects. The development of this partnership did not face obstacles. One representative of Embraer explained the establishment of the PPE, citing:

These things (partnerships) happen naturally because one (Embraer) is the son of the other (the ITA). You have professors from the ITA as academic advisors and co-advisors from Embraer coming with the company's problems, and this comes from our DNA. So, our (Embraer's) interaction with the ITA is very easy because we have the same way to teach classes, we were a state-owned firm, we were part of the Brazilian Airforce. The guy from the ITA, who helps me to coordinate the program, was my professor at the ITA. I know him for 40 years. It is a student-professor relationship. (Interviewee 44)

In this regard, although Embraer has shifted its nature and goal from a state-owned company with a national developmental purpose to an international private corporation with profit-driven targets, the ITA still supports the company as if Embraer were still a part of the former national developmental and collective project. As one representative from the ITA stated, "In reality, Embraer is just collaborating with the ITA in an activity that the ITA is doing because it is of the interest of the state, Embraer is cooperating, but who financially sustains the program is the government" (Interviewee 35). When representatives from the ITA were asked about the existence of training partnerships with other corporations in the business community, they claimed the ITA to have a purpose of benefiting the aeronautic sector, and thus, Embraer. For example, one participant from the ITA professed:

Companies come to us to establish training partnerships, but the ITA is not interested. With Embraer we do because our mission is to work in this sector; after all, we are the Institute of Aeronautic Technology. Although we have other specialization, they are all focused on aeronautics." (Interviewee 34).

To conclude, this program typified a process of corporate capture due to three primary elements. First, process of corporate capture was demonstrated in how such a program delivers customized and highly specific skills for Embraer at a meager cost. Second, the program lacks transparency and circumvents its illegality using third-party institutions to deprive issues related

to lobbying. Third, the program is marked by issues in which workers are typified as students and later as apprentices, receiving much lower salaries. Moreover, the program was used to replace senior employees with junior highly skilled employees, who receive much lower salaries and were hired under a different career plan. Importantly, the evolution of corporate capture in regard to this training initiatives happened based on professional ties related to participants relationship to the ITA—as alumina, or co-creator of Embraer—through synergistic and informal one-on-one interactions.

5.2.3 Embraer and its Training Partnership with the São Paulo State Technological College (FATEC)

In this subsection, I will analyze how the process of corporate capture of the Embraer Designer Program (PEE) evolved. As this research will reveal, process of corporate capture, as in the case of the ITA, evolved organically. To do so, first this study will explore the establishment of the FATEC in SJC, and second, this research will analyze how the PEE evolved, typifying a process of corporate capture.

FATEC, founded in 1969, is the dominant higher educational institution administering vocational associate degrees in the state of São Paulo. Under the administration of the São Paulo State Secretariat of Economic Development, Science, and Technology, the São Paulo State Technical College System consists of 71 college campuses located in 65 cities across the state, offering a wide range of courses and skills (<https://www.cps.sp.gov.br/#>). As a state public higher educational institution, FATEC delivers free education to students.

One of these 71 FATECs is located in SJC and seeks to attend to firms' local skill demands, having therefore many programs, courses, and initiatives related to the aerospace

sector. FATEC at SJC also attends other sectors, such as IT. In SJC, the FATEC offers 3-year courses, forming technologists³⁸ with associate degrees in the following courses: system analysis and development, database administration, industrial production management, logistics, advanced manufacturing, aircraft maintenance, and projects in aeronautic structure. FATEC pioneered in the Brazil the formation of technologist, a relatively unknown degree, where many firms still have the view that technologists epitomize a better version of technicians.

The establishment of the SJC FATEC campus happened in 2006 and is connected to the Technology Park in the city. In 2006, the state of São Paulo created a policy of industrial development in which the establishment of Technology Parks played an important role. In such a policy, Technology Parks were required to have three major components: research centers, institutions of higher education, and firms. In this context, the Technology Park in SJC induced local state managers to request that São Paulo establish a FATEC campus. Such a request took place through a proposal elaborated by SJC state managers, ITA professors, and Embraer employees. Including aeronautic courses, the proposal was sent to the São Paulo State Secretariat of Economic Development, Science, and Technology, who established the FATEC SJC campus in 2006. One participant from the FATEC detailed the foundation of the FATEC in SJC as follows:

SJC and the state of São Paulo established an agreement. SJC committed to build a building and invested 10 million reais to do so. The establishment of the FATEC here is also related to the Technology Park. The state of São Paulo has a regulation saying that Technology Parks need to have institutions of higher education. So, the Technology Park was used to attract the FATEC. Regarding the creation of the courses, there was other entities involved like Embraer. Embraer asked, or better, Embraer suggested and supported the creation of some aeronautic courses. (Interviewee 40)

³⁸ In the United States, technologists are known as practical engineers. Technologists in Brazil are able to continue their education in master's and doctoral programs.

Since the creation of the FATEC in SJC, the principal purpose of this institution has remained to attend to the needs of the aerospace sector, mostly represented by the needs of Embraer. The first director of the FATEC SJC stated:

When the state of São Paulo decided to have a FATEC in São José dos Campos, the state had the intention to attend the skill needs of the aerospace, industrial cluster. So, working together, the ITA, Embraer, which gave some suggestions, and SJC state managers, they elaborated a proposal, which had the clear goal of providing skills to the aerospace sector... We talked to Embraer to see which course the company had more urgency. Embraer is basically the aerospace, industrial cluster, right. Embraer recommended to us a course in light structures to work with composite materials. (Interviewee 38)

The influence of Embraer over the existing aerospace courses offered at the FATEC was expanded when the company proposed the development of a customized training partnership with the college in the same model of the Program of Specialization in Engineering with the ITA. This partnership between Embraer and the FATEC originated when Embraer was experiencing difficulties finding a specific skill: aeronautical designers. Embraer had to hire and internally train workers from scratch. One participant from the FATEC asserted:

Embraer started to notice that there was a skill gap in the area of design. Designers are retiring and not being replaced. Educational institutions are not training people in this occupation. So, Embraer looked for us and proposed the creation of a program similar to the one they have at the ITA, but at the ITA Embraer has a master's program, here we have a specialization, an undergraduate course. So, we recruit a person who has a technical degree, and then we provide a specialization. We do not give a diploma, but a certificate. (Interviewee 40)

When one representative of Embraer was inquired about how the training partnership with the FATEC was established, he noted:

When the FATEC came to São José dos Campos, they wanted us (Embraer) to give suggestion about the courses. So, since then, every year, we (Embraer) have conversations with professors from the FATEC to talk about the courses, to say what needs to be improved in their courses. So, because the FATEC had this relationship with us, we naturally saw the possibility to use the FATEC to train aeronautic designer. (Interviewee 44)

This significant ease for Embraer to interact and establish a partnership with the FATEC is also related to how the ITA, Embraer, and then later the aerospace industrial cluster organically emerged in connection to one another under the collective developmental view of the Brazilian developmental state. In this regard, evidence suggests actors that are related to these institutions have greater propensity to establish collective actions, such as a training partnership. For example, one of the co-founders of the FATEC in SJC stressed one of the reasons for him to be hired as the director was his relation to the aerospace sector and to the ITA. He indicated:

They (SJC state managers) invited me to be the director. They did not invite me; they impelled me. They said, “You are going to be the director of the FATEC. You are a FATEC professor at the city of Guar. You worked in the aeronautic sector, and you graduated from the ITA. So, you have all the skill requirements. (Interviewee 38)

Another participant from the FATEC also pointed out that this training partnership was made possible due to the close ties between the director of the FATEC and Embraer; he expressed: “...the director here, his father was a long-term employee of Embraer, part of the board of directors. So, there is an interaction that goes beyond...” (Interviewee 32). Moreover, this partnership was made easier because this former director of the FATEC—responsible for working with Embraer to establish this training partnership—received his master’s and doctorate degrees from the ITA and was a coordinator at the ITA’s Department of Expansion (Interviewee 39). A director from FATEC added, “Many professors are part of the aerospace industry...The synergy is really high. There are professors who own aerospace firms; some professors work for Embraer or worked for Embraer, or work for another aerospace firm” (Interviewee 37).

In this context, the Program Designer Embraer at the FATEC was founded in 2011. The 12-month program offers a FATEC certificate degree in aeronautical design, training highly skilled aeronautic designers for Embraer. Therefore, as the goal is to attend to the interests of Embraer, the course and its curriculum were designed by the company. Talking about program

customization, one participant from the ITA remarked, “We had meetings with Embraer, and Embraer had the curriculum designed” (Interviewee 38, former FATEC director). Another participant from the FATEC further detailed:

It was a collective work, but Embraer said, “I need aeronautic designers, and this is what aeronautic designers have to know... This is the number of hours: X hours. People from our (Embraer’s) engineering department said they have to know this...”. We said, okay we can do that, but some areas are too specific, so Embraer will have to teach these areas. So, the structure of the program was collectively established, but Embraer basically said, “Look, I need an employee like this. (Interviewee 32)

In this regard, the Program Designer Embraer, as typical of processes of corporate capture, was customized to meet Embraer interests. Similar to the ITA program, the Program Designer Embraer was structured in four phases. In the first phase, students learn the basic aeronautic production. In the second phase, students choose between two career paths: systems or mechanics. In the third phase, students develop joint projects in CAD, where they have to design airplane parts. The fourth phase sets up students as apprentices who perform on-the-job. Only after these four phases, which take three months each, will Embraer hire successful students. The program is based on a full-time schedule. The program is taught at Embraer’s office building, where professors from the FATEC and employees from Embraer work cooperatively to teach several theoretical and practical courses. Such a customized and long-term program allows Embraer not only to provide highly specific skills for its workers, but also to evaluate the performance of these workers before hiring them as employees. As one representative from Embraer noticed, “this program is a way to interact with workers for one year before we hire them. So, we can be sure that these workers are fit to work for Embraer” (Interviewee 44).

The recruitment for the Program Designer Embraer is also like the program at the ITA. Embraer uses the institutional image of the FATEC to attract applicants and to select students.

The FATEC administers the registration of applicants, and the admission exam. The minimum education required to enroll in this program is a technical or technologist degree related to the aerospace sector, and to have an intermediate English level. The number of vacancies is flexible and determined according to the needs of Embraer, varying from 30 to 60. After taking the exam, students with the best grades go through group interviews with Embraer, which recruits the best candidates for the program. In 2016, the program received more than five hundred applications. Since the FATEC remains a public educational institution, students do not have to pay fees or tuition (Interviewee 32, participant from the FATEC).

Corporate capture processes in training are characterized by corporations receiving cost-free training. In this case, although entailing some cost, the program has dramatically benefited Embraer, for the company has received institutional, recruiting, and training services from the FATEC at scanty costs. The only economic responsibility of Embraer is to pay FATEC's professors for hours taught in the program. As in the case of the ITA, professors from the FATEC receive payment for their teaching via the Casemiro Foundation to avoid legal allegations of the benefiting of single private firms through customized training services.

Regarding the costs of the program for Embraer, one participant from the FATEC affirmed:

One reason for this partnership is the cost of training. Training is expensive, and although Embraer pays for our teaching hours, the logistic is ours (FATEC), the coordinator is a professor from the FATEC. So, there is the side of costs. (Interviewee 38)

Moreover, this low cost is associated with how Embraer, through the FATEC, is able to typify its workers as students. During the program, Embraer hires students as apprentices, paying a scholarship of one thousand reais (US\$300) per month. Although receiving public support to train customized workers, Embraer is not required to hire the students at the end of the program, to pay competitive wages, or to offer a career plan for students after graduation. Noteworthy, the

FATEC has faced issues with Embraer, which has hired the FATEC's students as technicians (certificate degrees) and not as technologists with associate degrees. Therefore, the FATEC's alumni have received lower salaries as if they did not have higher education degrees. One participant from the FATEC declared, "one difficulty is to make Embraer see the students from the FATEC as having a higher education degree. This is a struggle" (Interviewee 32). Another FATEC participant added:

The first students graduated at the FATEC were only able to be hired as technicians by Embraer, but they are not technicians...The initial vision of Embraer was that the company was an engineering company, which had no space for technologists. But they are the same, however, technologists' skills are narrower than engineers'. Embraer has evolved in understanding this, and today, our students from Logistics are able to be hired as analysts... (Interviewee 40)

Although this program characterizes a process of corporate capture, the FATEC also benefits from this partnership. One participant from the FATEC affirmed that the PEE program has proportionated some reformulations at FATEC's aerospace-related courses, and thus, in more suitable curriculums to attend to the general interests of the aerospace sector. This resulted in FATEC's programs being more successful in terms of attaining students hired after concluding their studies, consequently enjoying higher enrollment levels (Interviewee 32).

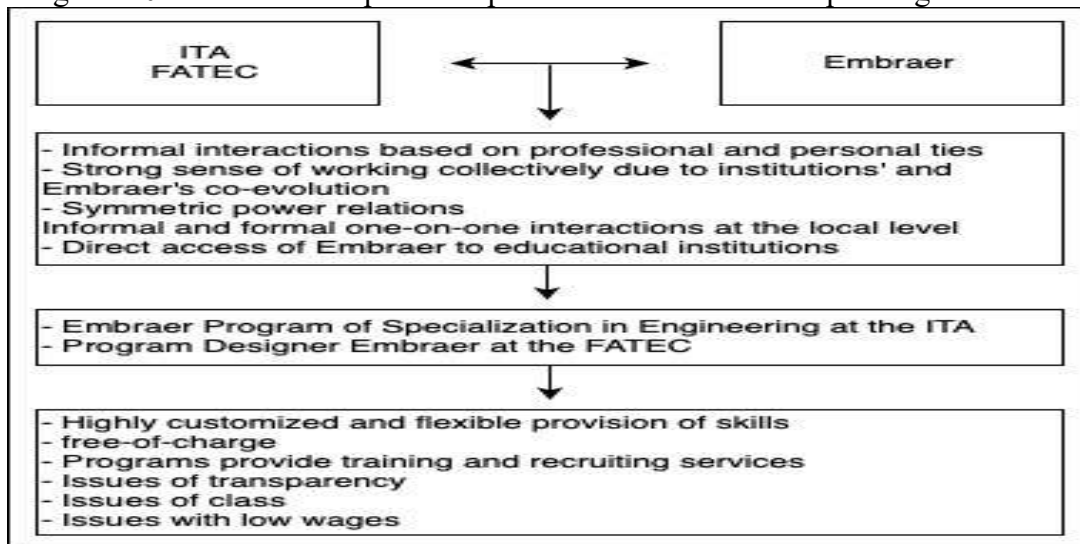
"...the FATEC learned a lot because professors started to teach inside Embraer and were able to capture its essence, its needs, and this made us reformulate some courses due to this partnership. This helped us a lot to see the needs of firms." (Interviewee 40, FATEC participant).

To conclude, the Program Designer Embraer was established organically and demonstrates a case of permanent process of corporate capture for several reasons. First, this provides an excellent example of how firms influence training at educational institutions, receiving specific training—a unique training initiative not offered to the general business community. Like in the ITA program, Embraer is able to design the program, the curriculum, the

hours, to use FATEC's institutional image and institutional staff to recruit and train students. This program model maintains its potential future workers as students and apprentices for 12 months, discharging labor contract and salaries, and expanding the time for Embraer to decide whether students fit Embraer's profile. Second, this program does not guarantee students will be hired, receive competitive wages and scalable salaries and career plans, or provide benefits packages. Importantly, the evolution of this program, and thus, process of corporate capture, happened organically based on synergistic and informal one-on-one relations between employees from Embraer and professors and administrators from the FATEC. Such synergistic interactions, and ease for Embraer to advance its interests are related to how the aerospace organic coupling in SJC resulted in many actors at local educational institutions like the SJC FATEC and Embraer coming from the ITA or being former Embraer's employees. This fact established close professional ties among local actors and facilitates collective efforts.

In summary the Embraer's processes of corporate capture in SJC can be summary in the following way:

Diagram 10. Embraer's Corporate Capture in São José dos Campos Regional Training System.



Source: Author.

5.3 Labor Market Governance and the Aerospace Regional Training System of São José dos Campos

In this section, this research will investigate whether the SJC's local governance reinforces or minimizes process of corporate capture in SJC's regional training system. I will argue that the SJC's local governance reinforces processes of corporate capture due to the nature of interactions among state managers and other governance actors. State managers and governance actors identify the local training needs and advance training initiatives based on informal relations instead of formal strategies, like in Charleston. In this regard, among state managers and local governance actors, professional and personal ties—created through the aerospace organic coupling process in SJC—function as a mechanism of state selectivity concerning which training initiatives will be advanced. This form of state selectivity combined with the financial and social power of Embraer magnify its influence over educational institutions' initiatives. To develop this argument, first, this research will provide a context of the aerospace local labor market of SJC, examining how actors part of SJC's local governance identify and address local training needs and how this is related to the Brazilian state form. Second, this study will reveal how and why such a characteristic magnifies the power of influence of MNCs, such as Embraer, therefore reinforcing processes of corporate capture in SJC's regional training system.

The co-evolution of the Institute of Research and Development, the Aeronautics Institute of Technology, and then later, the creation of the National Institute for Space Research (INPE) and the FATEC has greatly benefited SJC. SJC today is a technological hub with one of the highest innovation rates and concentration of workers with graduate and postgraduate degrees in

the country (www.inovacao.unicamp.br; Souza 2008). For example, in 2015 SJC ranked sixth in registered patents in Brazil. In 2006, the aerospace sector in SJC boasted an impressive 34 percent of employed workers with graduate and postgraduate degrees (Souza 2008), presented in the following table.

Table 8. Level of Workers' Education Attainment at the Aerospace Sector in SJC in 2006.

Education Level	Number of Workers	Percentage
Without Higher Ed. Degree	12,720	66%
Graduate and Postgraduate Degrees	6,475	34%
Total	19,195	100%

Source: Souza 2008, 154.

SJC has a well-developed and established public aerospace regional training system and labor market. The aerospace regional training system in SJC remains composed of public educational institutions, meeting the present and future sector needs. The primary public educational institutions depict federal, state and municipal vocational high schools, SENAI (a not-for-profit institution with certificate degrees), the FATEC, the ITA, and the INPE. These institutions collaboratively offer certificate, associate's, bachelor's, and post-graduate degrees. Different from the state of South Carolina, the state of São Paulo and SJC do not provide training initiatives and programs as assets to attract and retain firms, or incentives related to training, as one representative of the Investe SP³⁹ declared:

Investe SP does not provide incentives, or subsidies to attract firms. So, we do not offer training services as a way to attract firms to the state. Investe SP functions more as a mediator between firms and municipalities across our state. If you are interested in establishing a firm in the state of São Paulo, we can do a research for you and provide a

³⁹ Investe SP is a public institution of the state of São Paulo that seeks to attract firms to the state. To do so, Investe SP does not offer incentives, but provides information regarding the municipalities' skills, infrastructure, logistic, existence of supplier, market, and environmental regulations, helping firms to choose the best location in the state to establish their businesses. Investe SP also intermediates municipalities and firms' initial interaction (www.investe.sp.gov.br).

list of municipalities that match all your requirements. We also give support in terms of environmental regulations and taxation... (Interviewee 58)

Nonetheless, the presence of a well-developed aerospace regional training system and local aerospace labor market in SJC does not mean the local aerospace firms are without skill gaps and issues. Fieldwork evidence revealed that the aerospace business community, although not in the same proportion of Charleston, faced some skill gaps. As one interviewee from the FATEC explained, skill gaps in SJC are related to highly specialized areas, such as specific software use and advanced manufacturing and design, while general aerospace skills such as touch labor are abundant in the labor market (Interviewee 33). An aerospace firm representative added:

We have difficulties hiring people to work with aeronautic processes. The applicants did not have 50 percent of the skills we needed. Talking to other aerospace firms' employees, they said to have the same problem in relation to this job position... We also have issues hiring mechanic and manufacturing engineers with skills in Mastercam, AutoCAD, or the new software Top Solid. Another skill lacking is knowledge in CNC (computer numerical control), and aeronautic sealing. (Interviewee 42)

Due to the economic crisis Brazil is currently facing, competition for skilled workers has not been as severe as in the past. Nonetheless, poaching has remained one issue in the local aerospace labor market, and more specifically, regarding how Embraer, or corporations from the city of São Paulo pilfer skilled and experienced workers from small-size aerospace firms, as one firm representative affirmed:

It is hard to compete with large companies for some skills in the region. The higher the skills, the higher is the workers' wage and benefits pretension, and small-size firms cannot compete in this regard. But at the present crisis context, we have not "lost" skilled workers for other firms. (Interviewee 42)

Another participant from the FATEC expressed how the labor market has some issues related to poaching:

It is normal a worker to start in a small aerospace firm, and then after he acquires skills, Embraer poaches them. Workers prefer a higher wage... Small firm owners get mad. Third-tier firms hire a young worker, train them, workers who were doing everything wrong, then when they are good, Embraer poaches them... At small firms, workers don't have the same wage and benefits they get at Embraer. Here in SJC, working for Embraer is also about status, even more than about wage... (Interviewee 40)

In this context where the aerospace business community in SJC faces training problems, such as skill gaps and poaching, Embraer tackles its skill problems by capturing the institutional capacity of local educational institutions, like the ITA and the FATEC, through the development of highly specific and customized training partnerships. In this regard, one question emerges: Does the SJC's local form of governance reinforce or minimize processes of corporate capture in its regional training system? As I will argue, the SJC's local governance reinforces processes of corporate capture. This is because the way skill problems are identified and addressed magnifies the power of influence of single large firms, such as Embraer, over educational institutions. However, to develop this argument, first the main characteristics of the SJC's local governance must be unveiled.

As demonstrated before, the rescaling of national state power to international and regional scales represents a neoliberal trend that has taken place in different countries (Ward et al. 2010). In Brazil, the devolution of state power to subnational and local states was materialized mainly by the 1988 Brazilian Federal Constitution. This legislation provided greater administrative and financial power to subnational and especially to local states and thus, greater autonomy in the designing of local developmental strategies (Souza 2016). This decentralization was influenced by two theoretical streams, fostering a mix of institutional experiments at local states (Frey 2007; Martins et al. 2010). The first one, termed neoliberal social democracy, has advanced attempts to make subnational and local governments more efficient by reducing their size and adopting managing practices used in the private sector. The second one, termed

participative democracy, has sought to promote mechanisms of collective decision in which the population receives greater access to public administration and decision-making. One well-known example of this approach epitomizes the case of Porto Alegre city. However, generally, local states have adopted a mix of both approaches (Frey 2007).

In the case of SJC, local government has remained more closely related to the neoliberal social democracy governance. Since the 1990s, SJC has embraced a type of public management where the logics of capital, privatization, and regional competitiveness have assumed a central position (Korin & Moura 2004). This also means the city has transferred its responsibilities to not-for-profit institutions. In terms of economic development, the Center for Competitiveness and Innovation (CECOMPI) was the main institution responsible for local governance.

Nonetheless, the CECOMPI was recently absorbed by the SJC Technology Park. SJC created the CECOMPI in 2003 as a not-for-profit institution in a context where local large corporations were relocating to other regions. In this regard, SJC state managers, after consulting with professors from the ITA, decided to create the CECOMPI to foster a new and more diversified developmental path in the city. As part of this new public management, the CECOMPI sought to overcome the city's strong dependency on large corporations by promoting industrial clusters and fostering innovation. For example, after its creation, the CECOMPI created the Aerospace Brazilian Industrial Cluster Program, an initiative to support local aerospace firms. The existing synergistic relation among local actors due to the past organic co-evolution of institutions and aerospace firms made the establishment of the CECOMPI a smooth process. One former SJC state manager described the creation of the CECOMPI as follows:

The CECOMPI was an idea born with the staff of the ITA. We (SJC state managers) talked to the former director of the ITA, Michael Gartenkraut, and the president of the Casemiro Foundation. I was working for the SJC municipality, and the mayor at the time, Manoel, he was from the ITA... We were seeing large companies leaving the

city...Kodak, Panasonic, Phillips... The companies that were coming were small...So SJC needed to have a program that would make the next leap to make a more sustainable economy to develop the city...At the academy, I was just discussing these issues related to the development of clusters. Then we made an articulation with this group from the ITA, and with some companies...How do we resolve this? How do we create a new cycle of development?" And there was the idea of forming a group that would discuss these issues together. This work group made up of five or six people...decided to create the CECOMPI...So we came to this consensus, with the academy, represented by the ITA, local state managers, and companies. We reached a consensus regarding the need to gain competitiveness through innovation...The group (behind the creation of CECOMPI) was very concerned with technological issues. They were former workers from the INPE, the ITA, Embraer, so they were in the government but also connected to the market... (Interviewee 30)

Following the creation of the CECOMPI, in 2006 SJC sought to advance this new strategy of development by founding a technology park. The SJC Technology Park is based on an approach called Triple Helix, which seeks to generate innovation and development by bringing "together the state, industries, and universities..." (Interviewee 49). Therefore, the Technology Park of SJC hosts several startups and well-established firms, three public universities and several research centers and laboratories, providing a thriving environment for firms to become more competitive (Interviewee 50). In 2016, SJC Technology Park absorbed the CECOMPI and has become the primary institution steering economic development policies in SJC. The Technology Park manages SJC's industrial cluster programs: The Brazilian Aerospace Cluster and the Information Technology and Communication Cluster. The Brazilian Aerospace Cluster program consisted of 105 aerospace firms meeting monthly at the Technology Park to discuss their common problems and possible solutions. As one participant from the CECOMPI asserted, "the main asset of our program is our networking...rarely you will see it in other industrial clusters. The level of trust among aerospace firms in our program is really high." (Interviewee 49). In this program, Embraer is depicted as a crucial participant, and as the lead

firm, the company influences initiatives and uses the program to promote needed supplier changes.

Although the creation of the CECOMPI and the SJC Technology Park appeared to engender a process in which the local government transferred some of its power of decision-making to other non-public actors, this transfer, in reality, stood only as symbolic. SJC financially maintains both institutions and the mayor of SJC appoints their CEOs. The local state remained behind these institutions' developmental decisions. Although local states in Brazil held greater administrative and financial autonomy (able to establish taxes) and power after the 1988 Federal Constitution, they were not federally enabled to become the major protagonists in local development. Primarily concerned with addressing problematic infrastructure and public services, local states have based their local development policies mainly on the provision of incentives, such as tax breaks and subsidies (Martins et al. 2010). Therefore, the Brazilian national state as well as subnational states, such as the state of São Paulo, are still significant players in promoting local development through spatial selective and uneven top-down policies favoring some regions over others (Martins et al. 2010).

This has been the case of SJC. The establishment of the program Aerospace Brazilian Industrial Cluster, although locally implemented by CECOMPI, is a national and subnational initiative to which municipalities with industrial clusters can adhere and, afterwards, receive public investments. For example, to promote a positive international trade balance, the federal government has directed investments to industrial clusters such as the SJC Brazilian Aerospace Cluster program to promote firm exports. Moreover, the establishment of the Technology Park, although requiring significant infrastructure investments from SJC, was designed by the state of São Paulo, as one representative of the Technology Park professed:

The state of São Paulo started a program called “São Paulo System of Technology Parks”. This initiative benefited SJC because the state of São Paulo selected five cities, and due to their characteristics, these cities were indicated to host the first Technology Parks. (Interviewee 50)

Although SJC Technology Park, a not-for-profit institution, is responsible for the local government regarding economic development policies, the state has remained a principal actor in steering such policies. SJC’s local governance resembles an associational governance (Almond et al. 2017), given that local actors engage with local MNCs such as Embraer to improve location-specific advantages. The Brazilian state, as one of Embraer’s main buyers and provider of incentives and loans, pressures the company to support local suppliers and to foment cooperative practices.

A critical feature of the SJC’s local governance regards how issues such as skill problems are identified and addressed, and this partially explains why the SJC’s local governance reinforces processes of corporate capture in training initiatives. Different from the region of Charleston, local governance initiatives in SJC are not based on sectoral level studies, data, and formal strategies, like the One-Region, but mostly on informal interactions. Marked by practices of clientelism, the existence of local professional ties, acquired from its aerospace organic coupling process, reinforces this interaction in SJC and serves as the main mechanism of state selectivity regarding the establishment of state initiatives, such as training initiatives at the aerospace. This form of state selectivity combined with Embraer’s financial and social power magnify the company’s power of influence over educational institutions such as the ITA and the FATEC.

Clientelism (see glossary for definition) was a form of political relation under the mode of public management named patrimonialism, prevailing in the Brazilian state until 1930 when the developmental state emerged and introduced a more professional public management form

(De Oliveira 2017). Although the Brazilian state and its prevailing modes of public management have drastically changed over the years⁴⁰, practices of clientelism are still present in the Brazilian state, but not as hegemonic as before (Seibel & De Oliveira 2006). Currently, the residues of clientelism in Brazil are still seen in practices such as: restricted access to the state and unequal control over material and symbolic resources; lack of formal/legal institutional channels to access resources; state-market-society relations based on personalism, reciprocity of benefits, and personal loyalty; political appointees occupying significant positions in the state; and fragmented demands and discontinuous initiatives (Bahia 2003; Seibel & De Oliveira 2006; De Oliveira Estevam 2010). Clientelism as a form of political relation intermediating the interests among state managers, private actors, public and not-for-profit institutions, and society still plays a crucial role as a mechanism of state selectivity regarding which actors and initiatives will be privileged by the state (Seibel & De Oliveira 2006).

In the case of SJC, such a form of interaction reinforced by personal and professional ties of actors related to the aerospace sector—former Embraer employees, alumni from the ITA and the INPE, among others—explains how local issues, such as skill problems, are identified and addressed through informal one-on-one interactions. This form of interaction also elucidates why the SJC’s local governance reinforces processes of corporate capture in training initiatives. According to participants, the SJC’s local governance is marked by three significant elements, revealing how local actors identify and address issues or demands related to training: individualism, discontinuity, and access to the state based on informal one-on-one interactions. Individualism is concerned with how the SJC’s local governance lacks articulation among state

⁴⁰ As De Oliveira (2017) pointed out, the Brazilian institutional structure and political-administrative culture represent a mix of modes of public management: patrimonialistic, bureaucratic, and managerialism.

managers and fosters initiatives based on individual interests instead of collective. One state manager from the state of São Paulo voiced:

Inside São Paulo State Secretariat of Economic Development, Science, and Technology there is no interaction among the departments, we do not have this culture of sitting and planning things collectively. The way we work is too individualistic. Everyone does their individual work, and we don't work together... So I think there is a huge lack of articulation. For example, our department of science and technology never interacts with our department of regional development, and industrial clusters are related to innovation. Not even that. So, the lack of articulation is huge... The federal government also does not interact with us, the state. For you to have an idea, the Ministry of Development, Industry and Foreign Trade does not talk to the states. The Ministry is formalizing the existence of industrial clusters in São Paulo without talking to us... Clusters that do not even have a considerable number of firms to be considered a cluster (Interviewee 52)

Discussing how the SJC's local governance works, another participant added, "Initiatives are disconnected. We do not have a formal local strategy that I can present to firms to show what we plan for the future. Skills, workforce, training, logistics, safety, these are not sold as an asset to attract firms..." (Interviewee 46). This lack of articulation among state managers at different state scales and local governance actors is problematic and reinforces individualism, as well as initiatives fostered based on informal mechanisms related to political, professional, and personal ties. One state manager from SJC contended:

There is a lack of articulation among the different entities of the state and other actors. So, the university does not talk to firms, and firms do not talk to local state managers. This results in several different and disconnected demands for initiatives, which we have a hard time to tie together... Interviewee 53)

Another state manager from the state of São Paulo further described how initiatives and demands are based on political and personal interests instead of on the collective needs of the local business community. One state manager from the state of São Paulo, talking about how local governance actors demand investments and initiatives, declared:

I think that one of the biggest problems is that many of the demands are political. Meaning that the demand comes through the local state but from a group of firm owners and does not represent the sector needs. For example, the representative of a chamber of

commerce from a city demands investments from us to do something for the industrial cluster of their city, but in reality, one can see that the initiatives are not for the cluster in general but to benefit a firm or small group of firms. (Interviewee 52)

This lack of collective initiatives and strategies is not only due to the absence of articulation among state managers and other actors but also due to political interests outplaying such actions. One state manager from SJC claimed collective actions involving different state scales are not so common because they often require political ties among the political leaders governing these spheres. One state manager from SJC affirmed:

The governor of the state of São Paulo is Geraldo Alckmin. He looks at the state and has goals established for the macro-regions...He has policies of development for regions, but this is still too distant from the municipalities. Why? Because of political issues. If the mayor of the city of São Paulo is from the Workers Party, and the governor of the state of São Paulo is from PSDB, then it will hinder any collective action, common development for the general good. State managers they tend to defend more their interests and projects than the interests of the country. (Interviewee 53)

Another issue reinforcing informal one-on-one relations in directing state initiatives relates to the presence of political appointees and a consequent discontinuity of public initiatives. Political appointees strengthen decisions being made based on political and personal interests and advance a less technical approach to state problems as well as a discontinuity in public initiatives. As one state manager from the state of São Paulo pointed out:

We do not have a long-term strategy. Every four years we have someone new, a new mayor and governor. For you to have an idea, I have been here for seven years, and I have had seven political appointees running the Secretariat. What can they do in one year? You can have a 20-year strategy, but the next politician will revoke. This is cultural... (Interviewee 52)

Other participants corroborated this view. A former director of the FATEC claimed:

We do not have a state policy of continuity. When you change the political party of São José dos Campos, you change everything, change in the mode of thinking, new personnel. In the first year of a new government, state managers will have to learn everything, in the last year they have to run for the election, so they have basically to years of work. (Interviewee 30)

This lack of articulation and continuity impedes the SJC's local governance from identifying and addressing training issues based on formal broad collective strategies. Strategies play an essential role in bringing players together, establishing regional needs and demands as well as the collective goals and targets to be pursued. This collaboration constructs discursive narratives of what was needed to initiate development—characteristics present in Charleston, but not in SJC. As one participant from SJC local state described:

We do not have strategies because we in general change political parties every four years. This change has not allowed the elaboration of long-term strategies. We have four years with one administration. After that then we have new elections, and everything changes. We have permanent workers that do not leave their job positions after a new political party assumes power, but these workers do not have the power to influence policies. So, we have projects that are often interrupted in the middle. So, we need more structuring, continuous, and permanent projects, independent of the political party in power. This is also aggravated by the lack of interaction among different spheres of the state. (Interviewee 57)

When one representative of the FATEC in SJC was asked if they established and updated their programs and courses based on technical studies and SJC formal sectoral strategies, he answered, “There is no formal strategy... moreover, we do not trust in municipal studies. The municipality is normally too influenced by political factors” (Interviewee 33). Therefore, since formal collective strategies are not employed in the SJC's local governance, the identification of skills has been based on informal one-on-one interactions. One participant from the FATEC articulated:

How technical is this plan, how political is this plan? There are plans that are much more political than technical. There are few technical plans. We have a hard time having technical plans. Today, SJC and the FATEC do not have a gold map, a guide to steer us. In São José dos Campos, we find things through individuality, we go and talk to people. (Interviewee 33)

Another representative from SENAI (a local not-for-profit educational institution) further described this mechanism, explaining:

...I participate in industry meetings, such as CIESP, where firm owners meet, and there I make myself available to listen to their skill needs...For example here in São José dos Campos, we have the Association of United Chácaras, which is an association of firms...I attend this meeting, they serve breakfast, and then I present my programs and ask about their needs to that I can update my course and curriculums. (Interview 31)

Although interaction involves small- and medium-sized aerospace firms, this form of interaction tends to reinforce the power of single firms over training initiatives, such as customized programs. In SJC, informal one-on-one interactions magnify the power of influence of the aerospace sector in the city, and more specifically of large firms, such as Embraer, who are privileged by local actors due to their economic and social power as employers and as anchor firms for the aerospace industrial cluster. Due to its size, Embraer is able to have permanent customized training partnerships with educational institutions and to hire the trainees after conclusion. One participant from the ITA explained, “Embraer has this program with us for 17 years...even during economic downturns, Embraer keeps the program with a small number of students just to not stop it...” (Interviewee 34). Another representative from the FATEC added:

...to have a partnership, there is a need to have benefits from both sides. There is a need for resources to pay professors (worked hours)...and the only companies that can pay for this process are large companies. You cannot have professors teaching for free...You need numbers; you need resources...companies have their staff to teach some hours...Small firms cannot put their staff in a training program to teach for ten months. They cannot take it. (Interviewee 40)

As stated before, the power of influence of Embraer over training is magnified not only by its financial and social relevance but also by the fact that the organic coupling process in SJC—and thus the co-evolution of educational institutions, research centers, aerospace firms—has resulted in many important job positions in the local state, in educational institutions, in private firms and not-for-profit organizations being occupied by the ITA graduates and people who worked for a local aerospace company, such as Embraer, or for an aerospace-related institution. This professional bond functions as a mechanism of state selectivity, which

facilitates the interactions among local actors, granting actors more direct access to public institutions and initiatives. The professional-personal ties and socioeconomic power of Embraer explain why the SJC's local governance reinforces processes of corporate capture. Regarding the economic power of Embraer, one participant from the ITA responded with the following when asked why the ITA has only partnered with Embraer:

There is a difficulty (for other firms to have training partnerships with the ITA) because the ITA is a military base, and there is not a department, where firms can go and speak about a training partnership. The ITA does not have an office of projects...Firms don't know where to go, or who to speak with, which professor? The ITA does not have someone to explain how the aerospace business community can try to establish a training partnership. Firms owners can go there (to the ITA), and they will be jilted. So, they don't come back. If you look at the ITA's projects with firms, you will see that small aerospace businesses do not have any...The CECOMPI knows how hard it is to have the ITA opening for other firm-education relations (Interviewee 35).

In conclusion, as demonstrated in the two previous subsections, processes of corporate capture in training initiatives in SJC happened through direct firm-university interactions, facilitated by employees from Embraer, the FATEC, and the ITA having close professional and personal ties, inheritance of its past aerospace organic coupling. In this regard, the SJC's local governance identifies and addresses skill gaps and training issues in the aerospace sector through informal one-on-one relations. This occurs due to the local governance interactions being marked by a lack of articulation—beyond the aerospace sector—, thus failing to build collective formal strategies. Such a form to advance training initiatives privileges aerospace initiatives in SJC due to how the aerospace organic coupling process in the city established strong personal and professional ties among governance actors, who are somehow related to the ITA, Embraer, INPE, IPD, or other aerospace firms. These bonds function as a mechanism of state selectivity where Embraer's training interests are privileged over the general aerospace business community

due to its economic and social power. This explains why the SJC's local governance reinforces processes of corporate capture in training.

Conclusion

This chapter sought to analyze the evolution of Embraer processes of corporate capture in SJC. More specifically, this chapter aimed at analyzing two main issues. First, this research demonstrated how processes of corporate capture at the ITA and the FATEC in SJC, São Paulo, Brazil evolved intrinsically related to the Brazilian import-substitution accumulation strategy. Such a strategy, I revealed, privileged domestic industrial capitalists, having organic and structural coupling processes as its principal goals. This research claimed that in SJC, the evolution of Embraer processes of corporate capture in training initiatives was associated with the organic coupling process fostered by the Brazilian national state in the 1950s, which resulted in the establishment of Embraer and the Brazilian aerospace sector in the city. Therefore, the capture of training initiatives does not happen through bargaining events, like in South Carolina, but organically through synergistic informal one-on-one interactions.

Second, in this chapter, this research examined whether the SJC's local governance reinforces or minimizes Embraer's processes of corporate capture in the regional training system of SJC. In this regard, it was argued that the SJC's local governance reinforces processes of corporate capture due to the nature of the interactions among state managers and other governance actors. More specifically, I claimed that SJC state managers and governance actors identify the aerospace local training needs and advance training initiatives based on clientelistic informal relations and personal/professional ties, which function as the main mechanism of state selectivity. This combined with the economic and social power of corporations magnify single

firm influence, such as Embraer, over educational institutions and their training initiatives, reinforcing processes of corporate capture.

Chapter 6: Variegated Forms of Corporate Capture in Regional Training Systems: São José dos Campos and Charleston in Comparison

In this chapter, I will present the major findings of this research. To do so, I compare the major similarities and differences between the processes of corporate capture in SJC and Charleston. First, I will compare both states and their relation to corporate capture. Second, I will juxtapose their forms of governance and whether they reinforce or minimize capture. Finally, I will compare their processes of corporate capture.

6.1 The Evolution of Corporate Capture Processes in Charleston and São José dos Campos in Comparison

In the second and third chapter of this research, I sought to demonstrate not only how mainstream literature has defined corporate capture but also how researchers explain its evolution and relationship to the state and to different forms of governance. Although mainstream literature brings important contributions to the topic, when their theoretical explanations are contrasted with the empirical findings of SJC and Charleston, their associated rationalizations are problematic.

As revealed before, two main bodies of literature have attempted to explain the relationship between the state and corporate capture: FDI studies and the GPN literature. Regarding FDI studies, scholars have claimed that liberal forms of the state are more prone to have their institutional capacities captured than developmental states (see Phelps 2008; Almond et al. 2013, 2014). Such explanations are based on different aspects (e.g., MNC opportunism), but mostly in regard to the level of efficiency of state institutions to coordinate inter-scale actions (Phelps 2008; Almond et al. 2013, 2014). The primary argument is that liberal states have low

levels of coordination among their state apparatuses, which create power asymmetries and allow MNCs to foster their interests over the interests of governments (see Phelps 2000, 2008; Pavlinek 2016; Dawley 2007; Phelps and Fuller 2010). In the case of the GPN literature, scholars have not attributed power asymmetries to the level of state coordination. Independent of the state form of regions, GPN scholars assert that processes of corporate capture are related to the lack of distinct and specific regional assets that meet the interests of MNCs, which puts states in an inferior position when bargaining with firms (Mackinnon 2012; Coe and Hess 2011; Yeung 2016). However, as argued in previous chapters, such generalizations are problematic.

When contrasting the cases of SJC and Charleston, four major features stand out. The first is that there is no correlation between particular forms of the state and specific levels of coordination—for example, liberal states having low coordination and developmental states having high levels of coordination. This particularity concurs with the variegated capitalism literature and Marxist scholars such as Poulantzas (1978), who have argued that the economy is not outside of the state but mutually constitutive. The second is that power asymmetry is not due to low degrees of coordination among states institutions, or a lack of specific assets but is mostly due to structural advantages that MNCs have over the state. Thirdly, corporate capture is associated to the accumulation strategies of each state. Finally, an approach sensitive to state scale is central to understanding the evolution of corporate capture.

Regarding the levels of state coordination in SJC and Charleston, the empirical findings of this research point out to an opposite direction of what mainstream literature has claimed. As explained before, the VOC literature has analyzed the US and the UK as liberal market economies, which would lead this research to explain corporate capture in Charleston, South Carolina as based on their potential low-level of state institutional coordination. Nonetheless, as

argued in previous chapters, the US should not be pictured as a liberal market economy, or as marked by low levels of coordination. The examination of Charleston, South Carolina points to the direction of Block's (2008) research, which depicts the US as a hidden developmental state. Charleston, South Carolina resembles the developmental state of Brazil. For example, South Carolina is characterized by a strong interventionist state with clear industrial policies of development, strong alliances with local fractions of capital, and direct forms of investment in specific sectors, such as manufacturing.

Moreover, Charleston, South Carolina—as described in chapter three—has extremely high levels of coordination when compared for example with SJC, São Paulo, and yet corporate capture is still a common process. SJC, São Paulo—in a developmental state with supposed high levels of state coordination—has many issues regarding state-institutional coordination. For example, state managers in Charleston, South Carolina base their initiatives on formal sector-based strategies and studies, and have developed a flexible, efficient, and inter-scale fluid institutional apparatus to attend the needs of MNCs. On the other hand, initiatives in SJC, São Paulo are based on informal, often disconnected, one-on-one interactions which could be characterized by low levels of coordination when seen side-by-side with Charleston. Moreover, even though SJC presents a low level of state coordination in relation to Charleston, during the interviews some participants stated that SJC has higher degrees of coordination than most cities in the country. Therefore, it becomes problematic to frame national states according to different levels of coordination, given that internal variations and deviations from the national state are common. Such findings prove it to be misleading to associate liberal or developmental forms of state with different degrees of institutional coordination, and thus, to propensities of states having processes of corporate capture.

These findings also oppose the supposition that power asymmetries between the state and MNCs—and thus consequent processes of corporate capture—result mainly from deficient levels of coordination among states’ institutions in contrast to the efficiency and opportunistic behavior of MNCs, or from a lack of specific assets. When comparing the similarities of the evolution of corporate capture in SJC and Charleston, it becomes evident that power asymmetries are not only due to dysfunctionality in all levels of coordination (like in the case of SJC), or a lack of distinct assets like in the case of Charleston but due to how MNCs have structural advantages over the state. Such structural advantages are not only due to how MNCs are able to push their interests over the interests of states given their ability to shift operations between locations (Featherstone and Mackinnon 2017) in the context of the ecological dominance of neoliberalism, but also due to how such advantages are institutionally inscribed in the state apparatus. One major similarity in the cases of Charleston and SJC demonstrates that the evolution of corporate capture in training is also related to how these states created models of development based on a strategic and selective institutional apparatus that privileges manufacturing corporations (see Jessop 2014). Understanding that the state apparatus of both regions is selective and privileges manufacturing MNCs alludes to how power asymmetries between MNCs and the state are structurally inscribed in the capitalist state and are not just the result of a lack of specific assets or coordination.

One important difference between SJC and Charleston resides in the fact that while the accumulation strategy of South Carolina is based on the attraction of FDIs by fostering structural coupling processes, SJC—although still giving centrality to Embraer—has a subnational strategy that is much more concerned with developing SMEs through, for example, the SJC Technology Park. As the empirical evidence revealed, however it does not mean that by placing SMEs at its

center of accumulation strategy, SJC has been able to avoid the influence of Embraer and consequent processes of corporate capture in educational institutions. This indicates that corporate capture results from a combination of how states are based on a selective institutional apparatus and of how MNCs behave as strategic actors pursuing their interests (see Hay 2002; Jessop 2007). For example, in the case of Charleston, as discussed before, the ReadySC Program grants to firms training incentives automatically—as part of its selective institutional apparatus. However, in the case of Boeing, the company strategically advanced its interests in order to increase ReadySC’s incentives. Nonetheless, acknowledging that MNCs are able to influence the state in advancing their interests and agenda to a point known as corporate capture, does not mean that the interests of state managers and state institutions are fully suppressed.

Corporate capture in Charleston and SJC reveals that it is more a process of accommodation than imposition, e.g., corporate capture is not a process in which Boeing and Embraer simply imposed or forced their interests over the interests of SJC and Charleston. State managers—from the government and other subsidiary public institutions like educational institutions—have their own interests in such articulations, and for corporate capture to happen there is a need for MNCs’ and state managers’ interests to be accommodated, and somehow beneficial for both parties. Block’s theorization of state managers as a distinct class, and Rikowski’s (2000) theorization of education as a capitalist social form, are useful to understand this process of accommodation. State managers, as Block (1987) noticed, are influenced by MNCs due to their self-interest in power, prestige, and a healthy economy. While in SJC state managers’ success is not so attached to their ability to attract MNCs, in the case of South Carolina, they were almost synonymous. This is because the accumulation strategy of South Carolina is primarily based on fostering structural coupling processes, (e.g., attracting FDIs),

meaning that state managers' success in having a healthy economy is dependent on their capability to attract and retain manufacturing MNCs. In the case of SJC, state managers since the 1990s have pursued a wider accumulation strategy that is not solely based on the attraction and retention of large MNCs but mostly on the creation of aerospace and IT sector start-ups. In South Carolina, such a characteristic has resulted in processes of corporate capture, such as the one between the ReadySC Program and Boeing to be more frequent and significant than processes of corporate capture in SJC. This commitment of South Carolina state managers to success through the attraction of manufacturing MNCs can be seen in how the state has embraced the agenda of MNCs, such as Boeing, for example by battling against unions and by transforming its educational agenda by placing emphasis on vocational training, and by establishing training incentives. Therefore, corporate capture is a characteristic of capitalist states, as Phelps and Wood (2006) and many Marxists have argued, the interests of capitalists and the state have become intersected or blurred.

Another important difference is related to the scale in which Embraer and Boeing influence the state of their respective regions, and to the mechanisms through which their structural advantages are exerted and interests advanced. This demonstrates the importance of the variegated capitalisms literature, which is not only sensitive to matters of scale, but also to the existence of national sub-models of development and internal variations (Peck and Theodore 2007; Zhang and Peck 2014; Schröder and Voelzkow 2016).

In the case of SJC, the evolution of ITA's and FATEC's processes of corporate capture by Embraer is intrinsically related to the import-substitution accumulation strategy of the Brazilian national state, which was adopted from the 1930s to the 1980s (Oliveira 2004). As previously highlighted, the Brazilian developmental state and its accumulation strategy had, at its

core, development based on a mix of organic and structural coupling processes. Based on top-down decisions, the Brazilian national state, under the ideology of a nationalist developmental collective project, created the ITA, the IPD, and Embraer in SJC. The co-evolution of these institutions and Embraer established a synergistic and symmetric power relation among the aforementioned actors, which has been maintained even after the privatization of Embraer in 1994. In this context, such an organic coupling has created the conditions for corporate capture to evolve at the local scale in an organic way through one-on-one and informal interactions. The evolution of corporate capture happened through Embraer's direct access to public educational institutions and did not involve state managers from SJC municipality, nor from the state of São Paulo.

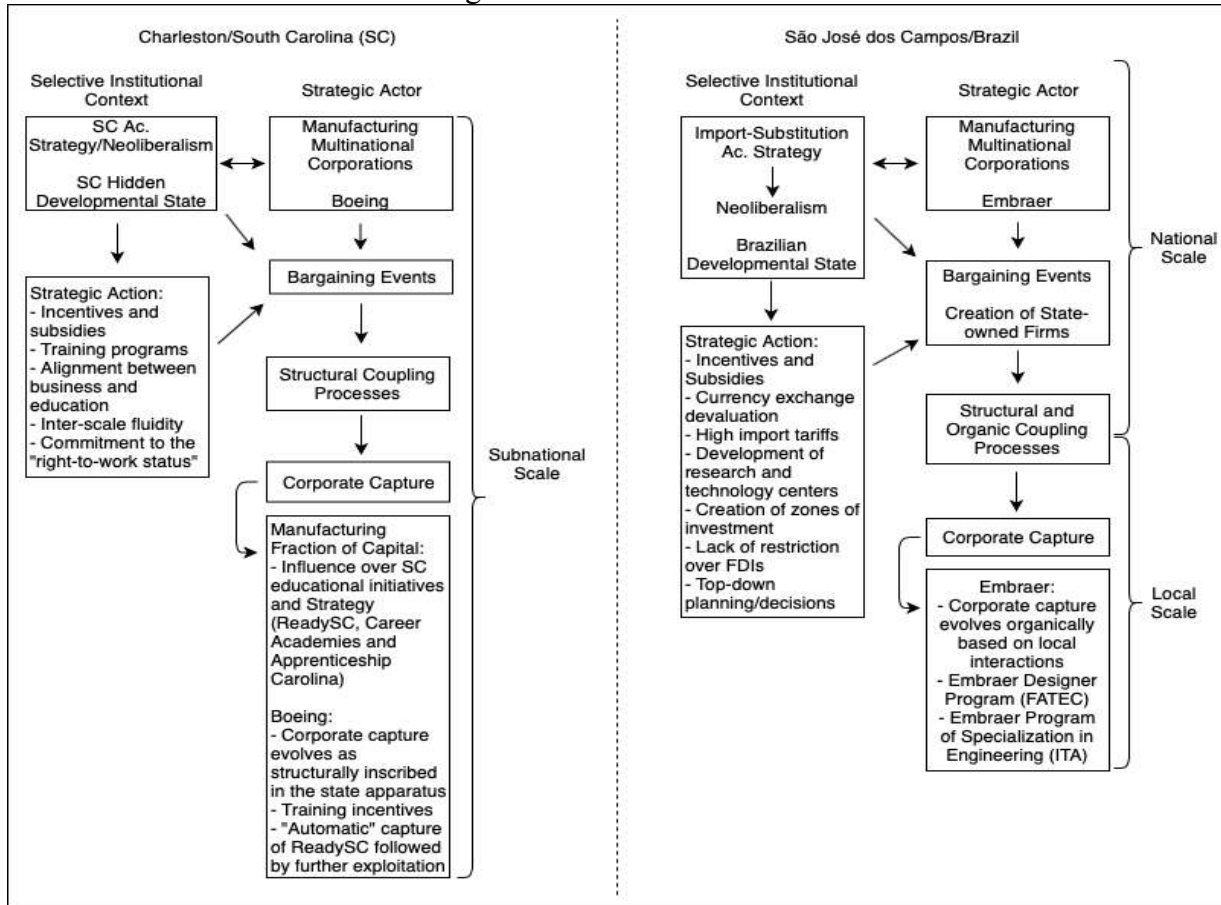
In contrast to SJC, the process of corporate capture of the ReadySC Program by Boeing evolved at a different state-scale and involved different types of interaction. As analyzed previously, the evolution of corporate capture in Charleston happened based on a bargaining process between Boeing and state managers at the subnational scale and was part of its structural coupling process. Initially, there was no direct communication between Boeing and the ReadySC staff until capture was established. Training incentives and levels of customization were decided at the state-level as part of the bargaining process to attract Boeing to the region. The same applies to how the state manufacturing fraction of capital have influenced the education agenda and strategy of South Carolina.

Such differences in scale are related to the differential state power of both states. Although Brazil and the United States have a similar institutional architecture, i.e., a federalist system in which state power is distributed at three different levels of government, state power across such scales is distributed differentially in both countries. In the United States, in terms of

intervention, subnational states have much more power, or autonomy when compared to Brazil, where the federal government is still the major player. Such a greater autonomy and power enable subnational states in the United States to have a more active role than in Brazil, and to design singular types of developmental policies that can greatly differ from their federal government approach. Although, in Brazil, the promulgation of the 1988 Federal Constitution fostered a devolution of power from the national state to states and municipalities, and thus granted to these state levels greater autonomy. Nonetheless, the Brazilian federal government has not transferred enough power for subnational states to become the major players in designing developmental policies and steering development at the local level. Such features demonstrate why processes of corporate capture are concentrated in some scales rather than others.

To conclude, the evolution of corporate capture in both regions suggests that such a process is not a phenomenon of specific forms of state, nor an outcome relative to the existence or lack thereof effective state coordination and specific regional assets. Corporate capture is a common, general feature in capitalist states. Instead of associating corporate capture with different forms of state or types of assets, both case studies reveal that the influence of MNCs over the state is primarily due to the structural advantages that such corporations have over the state, which is related not only to the state accumulation strategy and different scales, but also to certain mechanisms through which firms are able to exert their influence. Moreover, scale poses a relevant feature in the explanation of how firms influence the state and how capture evolve. The diagram below summarizes the findings in this regard.

Diagram 11. The Evolution of Processes of Corporate Capture in SJC and Charleston in Relation to their States' Accumulation Strategies



Source: Author.

6.2 Charleston and SJC Regional Training Systems, Local Forms of Governance and Corporate Capture in Comparison

As established in the introduction, one of the main research questions of this study was, do the local forms of governance of each region reinforce or minimize processes of corporate capture in the regional training systems of SJC and Charleston? The response to this question has proven to be complex. In the last two chapters, this research analyzed how the local forms of governance in Charleston and SJC reinforce processes of corporate capture in training at the local scale. Although, as discussed on chapter three, in the case of Charleston, attempts have been made—without much success—to minimize some of its detrimental outcomes. In this

subsection, by comparing the tendencies of the local forms of governance of SJC and Charleston to reinforce corporate processes, I will reveal two major things.

First, the tendency of SJC and Charleston governance to reinforce processes of capture is intrinsically related to their state form, accumulation strategy, and type of state selectivity. Second, their tendency to reinforce or minimize corporate capture is related to their governance mechanisms through which skill problems are identified and addressed, and through which MNCs foster their private interests. This subsection will be structured as follows. First, I will compare both forms of governance, demonstrating their relationship to their state forms, accumulation strategies, and type of state selectivity. Second, I will contrast their governance mechanisms, and explore whether such mechanisms tend to reinforce or minimize corporate capture.

The cases of SJC and Charleston present important features regarding the nature, characteristics and functioning of local forms of governance. While some scholars have argued that systems of governance are marked by shared power and interests, a collective mode of coordination and a strong autonomy from the state (Rhode 2007), the cases of SJC and Charleston reveal a different narrative. Their forms of governance, as Davies (2011, 2014, 2015) theorized, are marked by a strong relation to the state, hierarchical power relations, and can function as an instrument for single capitalist such as Embraer and Boeing, or fractions of capital to advance their interests (see Lovering 2011). As both local forms of governance tend to reinforce processes of corporate capture in training, theoretical rationalizations become crucial to provide explanations of the reasons behind these processes.

Scholars such as Almond et. al. (2013, 2014, 2017) have argued that systems of governance tend to reinforce processes of corporate capture in regional training systems due to

their forms of state. According to the authors, subnational states within liberal market economies often have less active systems of governance in regard to fostering processes of externalization, and thus, are more prone to processes of corporate capture. Coordinated market economies, the authors argue, in general have systems of governance with wider developmental concerns. Despite this, the authors also acknowledge that national states can present, at the subnational scale, deviations from such a correlation, given that their state forms (e.g., federalism), can present some autonomy for variation (Almond et al. 2017; Tregaskis and Almond 2017; Almond et al. 2014). Understanding local forms of governance and their relation to processes of corporate capture according to their extent or commitment to wider development goals is valid, but to correlate such forms of governance with specific types of state becomes problematic.

In this regard, the governances of Charleston and SJC (both within national states with a federalist system) have wider developmental goals, but processes of corporate capture are still present and reinforced. For example, one of the major goals of Charleston governance is to train and hire local residents by newly established MNCs, while the SJC's local governance has greater concerns with developing Embraer's domestic value chain. Therefore, their wider developmental goals do not nullify their tendency to reinforce corporate capture in training. Consequently, it implies that the tendency of their local forms of governance to reinforce or minimize capture is beyond the extension of their developmental goals.

When comparing the cases of Charleston and SJC, one major evidence, which indicates how to understand the tendency of their local forms of governance to reinforce processes of corporate capture, is how such forms are related to their state accumulation strategy. As revealed previously, the accumulation strategies of SJC and Charleston are based on a selective institutional apparatus that privileges certain actors, fractions of capital and their sectors, and

some initiatives (see Jessop 2015; Rutherford et. al. 2018). This particularity affects local forms of governance in two main ways. First, some actors will be more successful than others in shaping the governance agenda of their regions and in advancing their interests, given their privileged position in their state apparatus and accumulation strategy. Second, local forms of governance tend to pursue development based on methods and initiatives that are congruent with their state accumulation strategies. Different state strategies tend to result in different methods to attract, embed, retain, and/or develop firms.

In this context, the local forms of governance of SJC and Charleston tend to reinforce processes of corporate capture in training due to their state accumulation strategies and, more specifically, due to the centrality and power of representation given to MNCs in the balance of forces among existing actors. As discussed, South Carolina state managers have given centrality to the state manufacturing fraction of capital, having a strategic accumulation strategy based on fostering structural coupling processes. In this context, local economies across the state must compete with one another for such investments. Such competition has forced regions like Charleston to develop local forms of governance adapted and congruent to the logics of this accumulation strategy. In this regard, manufacturing corporations have a privileged position in the governance agenda of Charleston, where governance actors have pursued development based on compatible practices related to its state accumulation strategy.

To be more specific, Charleston's local form of governance reinforces processes of corporate capture in its regional training system by embracing South Carolina accumulation strategy as part of its own developmental strategy. By doing so, the local governance of Charleston seeks to locally implement higher-state scale training initiatives, which are understood as corporate capture. In this respect, this research demonstrated how processes of

corporate capture in South Carolina are related to its accumulation strategy, and thus, to broader structural occurrences that involve not only single-firms influence over educational institutions and their training programs (as exemplified in the case of Boeing and ReadySC) but also the influence of an industrial/manufacturing fraction of capital over broad state educational agenda and policies. To foster structural coupling processes, the state of South Carolina has developed an institutional apparatus that is flexible, inter-scale fluid and efficient, has committed to keep the state's right-to-work status, and has further aligned its educational agenda and initiatives with manufacturing corporations' interests, which this research explored as a form of corporate capture. In this respect, the local governance of Charleston reinforces processes of corporate capture fostered at the state level by embracing and implementing such practices at the local level.

For example, Charleston's local form of governance reinforces corporate capture at the local scale by implementing state programs at high schools, such as Career Academies and Apprenticeship Carolina that are of great benefit for manufacturing MNCs, and part of the recent further alignment between South Carolina's educational agenda and the interests of private manufacturing corporations in the state. Local governance also reinforces corporate capture in Charleston's regional training system by supporting the state's right-to-work status. Local governance also has a crucial role in shaping the imaginaries of students concerning vocational education and the local community regarding the relevance of unions. One example in this regard is related to how governance leaders, such as the Charleston Chamber of Commerce and the Charleston Regional Development Alliance, enforce the idea that increasing local wages is a matter of individuals learning the right skills or improving their skills and not of unions fighting for workers' rights. It is worth mentioning that in Charleston, processes of corporate capture also

result from single-firm influence over educational institutions and their training programs, which this research will reiterate later in this chapter.

As in the case of Charleston, the local form of governance in SJC also reinforces processes of corporate capture, and this tendency is related to the Brazilian import-substitution accumulation strategy, which was adopted from the 1930s to the 1980s. As demonstrated before, this strategy sought to foster accumulation by privileging domestic corporations. The Brazilian developmental state sought to foster a mix of organic and structural coupling processes. As a result, the Brazilian state fostered an organic coupling in SJC in the 1950s, which culminated in two major features. First, this organic coupling resulted in the co-evolution of the Aeronautics Institute of Technology, the IPD, Embraer, and later, of the local aerospace industrial cluster. Second, it resulted in SJC having many important job positions in local state, educational institutions, private firms, and not-for-profit organizations being occupied by graduates from the Aeronautics Institute of Technology as well as people who have worked for a local aerospace company, such as Embraer or for aerospace-related institutions.

This organic coupling and consequent spillovers have created personal and professional bonds among local governance actors that facilitate governance interactions around aerospace issues, and grant Embraer direct access to public institutions, including public educational institutions, such as the ITA and the FATEC. Therefore, the ease with which Embraer employees represent the company's needs to governance actors along with its socioeconomic power and central role in local development explain why SJC form of governance tends to reinforce Embraer's processes of corporate capture. Several examples can be given to illustrate this argument. Most major job positions in SJC city hall, such as in the Secretary of Economic Development of SJC, are occupied by alumni from the ITA, or former employees from Embraer.

This is also the case for the SJC Technology Park, the FATEC, and the CECOMPI. The evolution of the processes of corporate capture at the ITA and at the FATEC happened based on the personal and professional bonds.

Another important finding, which demonstrates whether forms of governance tend to reinforce or minimize corporate capture is related to their governance mechanisms through which skill problems are identified and addressed, and through which MNCs foster their interests. Up to this point, this research has emphasized how Charleston's local form of governance reinforces processes of corporate capture at the local scale, which is related to a dynamic fostered by a manufacturing fraction of capital at its subnational level, and in regard to South Carolina's educational agenda and training initiatives. Nonetheless, corporate capture in South Carolina is not only structural and due to fractions of capital permanently influencing South Carolina's educational agenda and policies, but also due to single firms' influence over training initiatives. One particular case explored was the case of Boeing structural coupling and the consequent capture of the ReadySC program. In this respect, it is also important to analyze whether and why the local governance of Charleston reinforces or minimizes this particular process of corporate capture. As stated before, such a tendency is related to the governance mechanisms through which skill problems are identified and addressed, and through which MNCs foster their interests.

When contrasting both cases, findings in this matter reveal their forms of governance are shaped by the way their states select which interests, actors, and initiatives to attend—an aspect that this research explored as state selectivity. So, as local forms of governance seek to present their local actors' interests, they function according to the specificities of their state selectivity. In the case of Charleston, governance actors identify and address skills gaps and training issues

based on formal studies and four-year local strategies, which are used as instruments to present their needs to state managers and to justify public investments in educational institutions, in new training centers, and in new training initiatives and programs. In this context, Charleston's local form of governance while reinforcing processes of corporate capture initiated at higher-scale, has attempted to minimize processes of corporate capture at least in relation to some of its detrimental outcomes at the local scale such as workers being hired from outside the region. Such attempts to minimize processes of corporate capture are related to how its formal local strategy One-Region is based on sector-level studies that pay particular attention to the skill needs of the business community in general instead of single firms. Such formal studies are also used as an instrument of power, through which local governance actors use in order to do lobbying. As one participant from the Charleston Metro Chamber of Commerce explained, formal studies are used to educate legislators regarding their training demands, and to convince them about investment needs.

It is also worth recalling that such attempts to minimize corporate capture are limited and problematic, only partially addressing existing issues. While Charleston's local governance actors seek to develop a regional training system based on the needs of the local business community, such an attempt is a long-term solution, which ignores the short-term skill demands of local small aerospace firms. ReadySC Program could address such problems. Nonetheless, the program has prioritized and been captured by large MNCs, such as Boeing, where the skills needs of local aerospace firms in the business community have been overlooked. Moreover, ReadySC demands MNCs that have received its services pay competitive wages. In the case of Boeing, this has not happened, and such a negative outcome has been addressed by governance actors in a problematic way. In Charleston's regional strategy, governance actors link increases

in wage to local residents getting the right skills, overlooking how possible changes in ReadySC requirements could foster important increases in the wages and benefits of the local working class. Such an action is supported by regional business actors, who are against raising workers' wages via unions, collective bargaining or by the state raising minimum wages. Additionally, local actors lack the power to advance structural changes at the subnational scale, where ReadySC resides. Therefore, Charleston's local form of governance contradictorily reinforces the broader and structural processes of corporate capture while attempting to minimize some of the detrimental effects of such capture.

In contrast to Charleston, SJC presents a significant difference regarding its governance mechanisms through which how skill problems are identified and addressed, and MNCs such as Embraer foster their interests. Different from Charleston, such governance mechanisms reinforce processes of corporate capture. This is because skill problems are identified and addressed based on informal one-on-one interactions among governance actors. Such interactions are characterized by clientelistic practices (see De Oliveira 2017), where the governance actors' local professional ties (acquired from its aerospace organic coupling process) serve as the main mechanism of state selectivity regarding the establishment of training initiatives. This form of state selectivity combined with Embraer's financial and social power magnify the company's power of influence over educational institutions such as the ITA and the FATEC, and thus explain why SJC form of governance has a tendency to reinforce processes of corporate capture.

In conclusion, the tendencies of SJC's and Charleston's local forms of governance to reinforce or minimize processes of corporate capture in their regional training systems are related to their state forms and accumulation strategies. Moreover, such tendencies are also associated to their governance mechanisms and, more specifically, to how governance actors identify and

address skill needs, and allows MNCs to advance their interests. The table below summarizes such findings.

Table 9. Charleston’s and SJC’s Local Forms of Governance in Comparison.

Local Forms of Governance	Charleston	São José dos Campos
Leadership	<ul style="list-style-type: none"> - Charleston Metro Chamber of Commerce (CMCC) - Charleston Regional Development Alliance (CRDA) 	<ul style="list-style-type: none"> - SJC City Hall - Technology Park (CECOMPI)
State Selectivity	<ul style="list-style-type: none"> - Interests are presented to state managers through formal strategies and studies. - Strong lobbying to “educate” politicians at the subnational scale. - Formal governance meetings at the local scale to establish goals and strategies and to create common discourses about the needs of Charleston. - Manufacturing corporations such as Boeing with structural advantages over the state. 	<ul style="list-style-type: none"> - Interests are presented to state managers through informal one-on-one interactions, and marked by individualism and discontinuity. - Personal/professional ties are important for actors to present their interests and to be attended by state managers. - MNCs such as Embraer with structural advantages over the state.
Institutional Legacy/Political Culture	<ul style="list-style-type: none"> - Urban Entrepreneurialism. - Skill needs identified through formal studies. - Skill needs addressed collectively through four-year strategies 	<ul style="list-style-type: none"> - Political culture/legacy marked by a mix of clientelistic, bureaucratic, and managerialist relations. - Skills needs identified through informal one-on-one interactions. - Skill needs addressed through firms directly access to educational institutions.
Reinforcing Corporate Capture	<ul style="list-style-type: none"> - Governance actors implement and expand higher-state programs seen as forms of corporate capture. 	<ul style="list-style-type: none"> - Clientelistic relations at the local governance (based on professional ties related to the aerospace sector) along with Embraer’s economic and political power allow the firm to influence educational institutions, and thus, to reinforce corporate capture.

		- Lack of collective strategies and studies benefit single firm influence such as Embraer.
Minimizing Corporate Capture	- Formal studies and the One-Region strategy minimize single firm influence. However, attempts to minimize Boeing's corporate capture of ReadySC have focused on long-term training initiatives. Additionally, the responsibility regarding issues of corporate capture related to low wages and lack of transparency have been transferred to individuals. Local governance actors not only lack the power to address these issues but also believe that providing the right skills along with firms' competition can deal with such wage problems.	- Attempts to minimize corporate capture have not been made. However, educational institutions like the ITA and FATEC do take advantages of their processes of corporate capture. They do so by learning through their relationship with Embraer the skill needs of the sector. Therefore, these educational institutions are able to update their courses, create new ones and to make their programs more relevant to other firms in the aerospace sector.

Source: Author.

6.3 The Processes of Corporate Capture of Charleston and São José dos Campos in Comparison

The findings regarding the processes of corporate capture in both regions suggest that such dynamics are significantly more complex than mainstream literature has suggested. When comparing the major characteristics in the processes of corporate capture within SJC's and Charleston's regional training systems two major findings stand out. First, corporate capture in regional training systems is a multi-scalar process. Second, the detrimental outcomes of corporate capture should be understood beyond the binary view of corporate capture versus externalization, MNCs interests versus government interests, incorporating its relation to class and uneven development.

As discussed in the second and third chapters, mainstream literature has identified processes of corporate capture in regional training systems according to how MNCs influence the state, receive customized training packages, distort local skill agendas and policies, recruit the most talented workforce from the local business community and from outside the region, and/or avoid knowledge sharing (Phelps 2000, 2008; Dawley 2007; Phelps and Fuller 2010). In this regard, mainstream literature has predominantly stressed how FDIs do or do not result in wider cluster benefits and externalization. Corporate capture is understood in relation to the unequal power relations in which the interests of MNCs versus the interests of governments are at play.

Although such a portrayal is important and valid, the processes of corporate capture in the regional training systems of Charleston and SJC reveal a need to expand this comprehension. Regarding what corporate capture looks like, the findings of this research reveal a much more detailed description of its particularities. For example, corporate capture can be conceptualized as permanent or temporary. The corporate capture of ReadySC Program by Boeing exemplifies a process that is sporadic and will end after the state of South Carolina delivers skills agreed upon to Boeing, while Embraer's customized training programs at the FATEC and at the ITA can be conceptualized as a permanent form of corporate capture, given that this process will exist as long as both parties are interested in keeping such arrangements. Another example concerns the specificities of customized training services.

Customized training services can assume different forms. In the case of Charleston, it includes not only the state training workers for firms free-of-charge and bureaucracy, but also practices such as the development and customization of curriculum and courses, the provision of instructors to teach on-the-job, reimbursement for firms to pay internal training, and travel

funding for firms to send their workers to other countries in order to receive training. Moreover, customized training can also involve the free use of educational institutions' infrastructure and apparatuses not only for training purposes but also for recruitment. For example, ReadySC Program in Charleston as well as the ITA and the FATEC in SJC allow Boeing and Embraer to use their apparatuses to recruit and leverage the number of applicants.

Another detail often neglected by scholars regarding the details of processes of corporate capture relates to how these processes are often marked by a lack of transparency. Furthermore, it reveals how MNCs circumvent the juridical form of national, subnational, and/or local states in regard to existing institutionalized training incentives and laws that apply for the business community in general. For example, in Brazil it is illegal for public educational institutions to provide free-of-charge customized training services for firms. As discussed previously, this is considered a type of lobbying. However, to establish customized training programs for Embraer, the FATEC and the ITA have used a not-for-profit institution (Foundation Casemiro) as a mediator for their relations. In such a way, the FATEC and the ITA are not supposedly related to Embraer, but to a not-for-profit organization. In the case of Charleston, the state of South Carolina has documents that establish the parameters and levels of training incentives for the business community; however, as demonstrated before, Boeing has received training initiatives that are way beyond what is established in such documents. Moreover, the whole bargaining process between Boeing and South Carolina happened in secret and the exact extension of incentives has not been fully disclosed, even today.

The cases of Charleston and SJC also point out to another major aspect of processes of corporate capture in regional training systems, which has been overlooked by scholars. This is related to its multi-scalar nature. When comparing the processes of corporate capture in SJC and

Charleston, it becomes clear that such processes can take place at different scales, result from isolated initiatives or broader structural and institutional dynamics, and can be fostered either by single firms and/or fractions of capital. For example, in SJC, processes of corporate capture are isolated initiatives, and take place at the local scale—under the influence of a single firm, Embraer—through informal and often one-on-one interactions. Different from SJC, in Charleston, processes of corporate capture are linked to broader institutional dynamics, taking place at the subnational scale, and are fostered under the influence of fractions of capital. The development of its Career Academies, Apprenticeship programs and ReadySC happened under the influence of South Carolina manufacturing fraction of capital. Additionally, processes of corporate capture in Charleston also originate associated to isolated initiatives like in SJC, under the influence of a single firm, which was illustrated through the case of Boeing and ReadySC.

Another major aspect of processes of corporate capture in regional training systems, revealed in both cases, relates to how such processes have been understood beyond the binary view of corporate capture versus externalization, and in relation to class and uneven development. First, as Phelps (2008) argued, processes of corporate capture are always partial, meaning that rarely will MNCs have the ability to fully capture the capacity of educational institutions. What the cases of Charleston and SJC demonstrate is that educational institutions will concomitantly develop firm-specific customized training initiatives along with general training initiatives, unless of course, if such institutions are intentionally designed to provide only customized training services, which is the case with ReadySC. The FATEC and the ITA in SJC provide customized training services for Embraer along with training services that are intended to provide skills for the business community in general. The same happens in Charleston, where governance actors, seeking to address the skill needs of its business

community, have worked with educational institutions (under the One-Region strategy goals) to expand their training centers, programs, and courses. Therefore, such dynamics in both regions imply that corporate capture in their regional training systems should be understood in relation to the degree of duality existing between customized firm-specific and general-skills training programs. As conceptualized on chapter three, regions are often based on what was termed dual regional training systems. The existence of customized training programs, or the influence of MNCs over the educational strategies of regions does not always imply a lack of training for the general business community, or distortions in local educational agendas.

Moreover, the processes of corporate capture in SJC and Charleston demonstrate a need to go beyond the dichotomy MNCs interests versus government and business community interests. Educational institutions can have their own interests in being captured. Such a capture can result in a closer relationship with major local employers, build experience and knowledge regarding the skill needs in the sector, and result in reforms in their existing educational programs, courses, and initiatives. As Rikowski's (2000) argued, education is a capitalist social form, and educational institutions have their own interests. In this regard, the success of educational institutions is partially dependent on having programs and courses that deliver relevant and up-to-date skills for employers. In this context, corporate capture of certain programs can allow educational institutions to work with large firms and to make their courses more valuable in the local labor market.

Going beyond this dichotomy also involves considering how processes of corporate capture are related to class and uneven development. This was particularly clear in Charleston and SJC. As discussed, the processes of corporate capture in SJC and Charleston reinforce class inequality. In the case of SJC, the Embraer's customized training program at the ITA, intended

not only to address a skill gap in the market but also to replace high wage, long-term employees—engineers—with highly skilled young engineers from the elite with much lower wages and career plans. Somehow such a process of corporate capture initially acted as a form of job “elitization” along with a form of job precariatization. In the case of Charleston, corporate capture reinforces class inequality in regard to how careers academies and apprenticeship programs are developed in low-income schools, where local actors seek to convince students and their parents to pursue vocational careers. As Bowles and Gintis (1978) would claim, working class jobs for working class students.

Another relationship of corporate capture to class, revealed in both cases, involves how their processes of corporate capture, and more specifically in relation to customized training programs, can result in training initiatives that do not provide possibilities for continuous, life-long education, and can provide skills that are not transferable to other firms due to the highly specific skill content of their curriculum, which are intended to meet the interests of single firm interests. While this is not the case of the processes of corporate capture at the ITA and at the FATEC, in Charleston, the corporate capture of ReadySC by Boeing resulted in the program giving the company *carte blanche* in regard to the design of curriculums and courses. Training for Boeing is highly specific, and many skills are non-transferable to other firms due to the specificity of aerospace production. Such issues diminish workers’ empowerment by reducing job mobility.

Finally, the processes of corporate capture in both regions, related to their customized training programs, have serious issues concerning wage and benefit requirements. In the case of SJC, these issues are even more drastic given that free-of-charge customized training is provided by the ITA and the FATEC without any requirements for Embraer to pay high wages, offer

benefits, or even hire registered students. In contrast to SJC, in South Carolina, state managers have put some requirements for firms receiving ReadySC services. For example, firms must generate a certain number of jobs, pay competitive wages, and offer permanent jobs with benefits in order to receive free-of-charge customized training services. Although this can be seen as a gain for the working class, “competitive wages” paid by Boeing in Charleston are 30% lower than the wages paid in Everett, Washington. Moreover, there is a lack of transparency and accountability regarding whether Boeing is meeting such requirements. No information is available in this regard.

In conclusion, when the processes of corporate capture in SJC and Charleston regional training systems are put in comparison, greater details regarding corporate capture in regional training systems are revealed. In this regard, comparing both cases not only allows this research to provide further details of what corporate capture looks like, but also enables this research to re-conceptualize it. As demonstrated, two major findings stand out. First, corporate capture is multi-scale process. Second, the detrimental outcomes of corporate capture surpass the binary view of corporate capture versus externalization and demands scholars to extend such analysis beyond MNCs interests versus government interests to incorporate its relation to class and uneven development. The table below summarizes these findings.

Table 10. Corporate Capture in the Regional Training Systems of SJC and Charleston.

Corporate Capture	Charleston	São José dos Campos
Temporality	Temporary	Permanent
Multi-scale Process	- Capture evolves at the subnational scale and then it is expanded at the local scale. Its evolution is intrinsically connected to SC accumulation strategy in which corporate capture works as a form to attract MNCs and foster structural coupling processes.	- Corporate capture happens locally. Different from South Carolina, it is not related to bargaining events. Capture evolves organically through informal one-on-one interactions. Embraer’s access

	<p>Subnational Scale:</p> <ul style="list-style-type: none"> - South Carolina’s Educational Strategy and Agenda. - Training Programs such as Career Academies, ReadySC and Apprenticeship Carolina. <p>Local Scale:</p> <ul style="list-style-type: none"> - The Charleston Career Academies Program. - The Charleston Youth Apprenticeship Program. - ReadySC Program under the “control” of MNCs such as Boeing. - Boeing’s influence over high schools such as R.B Stall High School. 	<p>to state managers is easily granted due to professional ties among local actors related to the aerospace sector and to the former national collective developmental project. Additional, Embraer’s economic and political power magnifies its power of influence.</p> <p>Local Scale:</p> <ul style="list-style-type: none"> - Program Designer Embraer at the FATEC. - Embraer Program of Specialization in Engineering at the ITA.
Incentives	<ul style="list-style-type: none"> - \$33 Million. - Cost-free recruiting. - Cost- and bureaucracy-free customized training for more than 3,800 workers in manufacturing positions. 	<ul style="list-style-type: none"> - Cost-free recruiting. - Cost-free customized training. However, Embraer pays for professors’ teaching hours.
Requirements for cost-free customized training	<ul style="list-style-type: none"> - Payment of competitive wages, provision of permanent jobs with benefits packages. But problematic. 	<ul style="list-style-type: none"> - No requirements.
Skill Transferability	Low	Medium
Transparency	<ul style="list-style-type: none"> - Lack of transparency regarding whether Boeing is meeting the requirements established by the ReadySC Program. - Lack of transparency regarding the amount of training incentives given by state managers. 	<ul style="list-style-type: none"> - Illegal association between Embraer and the FATEC and the ITA (considered lobbying).
Form of Relations	Asymmetric relations	Symmetric relations
Uneven Class Relations	<ul style="list-style-type: none"> - Low wages - Poor benefits package - No requirement for hiring locals for high edge jobs. - Vocational education and jobs targeting the working class. - Strong discourse to convince working class students to pursue vocational careers. 	<ul style="list-style-type: none"> - ITA: Training as a form of job “elitization” along with a form of job precariatization. Training to replace engineers with high salaries and benefits packages. - Workers typified as students during training.

	- Militancy against unions such as IAM. Maintain the right-to-work state status.	
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Source: Author.

Conclusion

This chapter sought to put in perspective the major findings of this research in regard to the processes of corporate capture in Charleston and SJC. By contrasting the major similarities and differences in the findings of both cases, I attempted to abstract some major conclusions in regard to the relationship between the state, local forms of governance, and processes of corporate capture. Regarding the state and its relationship to processes of corporate capture, my empirical evidence suggests that in SJC and Charleston, such processes are related to broader causes than levels of coordination and asymmetrical informal, being intrinsic and structurally related to their state and their state accumulation strategy, which provide structural advantages for MNCs such as Boeing and Embraer to advance their interests.

In regard to whether the local forms of governance of SJC and Charleston reinforce or minimize processes of corporate capture, a correlation between their states—more specifically their form, accumulation strategy and state selectivity—and the tendency of their local forms of governance to reinforce corporate capture was established. As revealed the tendency of their local forms of governance to reinforce corporate capture is related to their states, the mechanisms through which skill gaps are identified and addressed, to the multiple interests of governance actors in the commodification of education and workers as well as the political and economic power of MNCs like Embraer and Boeing.

Finally, in this chapter, by comparing the processes of corporate capture in the regional training systems of Charleston and SJC, I sought to demonstrate how such processes involve

dynamics at different scales and go beyond the traditional dualistic view of corporate capture, being related to uneven development and class relations.

Chapter 7: Conclusion

In today's globalized world, the power of influence of multinational corporations over the state and society is significant. MNCs have become giant global corporations whose size in terms of value added is greater than many nation states (Chandler and Mazlish 2005). In the last decades, the power of corporations has drastically increased not only due to mergers and acquisitions—which have resulted in some of the largest conglomerates of corporations in the world such as Unilever—but also due to how the liberalization of international trade has culminated in more fluidity of MNCs across nations (Chandler and Mazlish 2005; Hudson 2011; Featherstone and Mackinnon 2017).

This context allows MNCs to expand their influence over different areas of our society. Several studies have demonstrated how corporations influence, according to their interests, how schools, colleges and universities educate, how states design their environmental laws, how states regulate the use of pesticides, or the commercialization of certain medications, among many other things (Chandler and Mazlish 2005). The influence of large corporations over governments across the world has even led scholars to denounce them as a threat to democracy, conceptualizing this process as the privatization of democracy (Berrón and González 2016).

One facet of this is related to how MNCs are influential today in regard to how states have re-organized their roles, their functionalities and their operations to find ways not only to maintain the firms that are well-established in their regions, but also to attract new ones. One particular area is related to how states have actively advanced the commodification of education by, for example, aligning their educational agendas and strategies with businesses, or by creating training initiatives and programs as incentives to attract and retain firms (Markusen and Nesse 2007). Many scholars have conceptualized such an influence of MNCs over the state as

processes of corporate capture (Phelps 2008). It is in this context that this dissertation was developed.

As stated previously, the main goal of this research was twofold. First, it was to analyze the existing processes of corporate capture related to Boeing South Carolina and Embraer in the regional training systems of Charleston and SJC respectively. Second, this research sought to investigate how SJC and Charleston forms of state and governance accounted for differences in the evolution of corporate capture. In this respect, throughout this study, I strived to answer three main questions.

In the first question, it was asked: Do Boeing South Carolina and Embraer foster processes of corporate capture in the regional training systems of Charleston and SJC? In this regard, I believe this research not only answered this inquiry but was also able to advance the theoretical and empirical understanding of processes of corporate capture in regional training systems. As revealed, Boeing and Embraer do foster processes of corporate capture in the regional training systems of Charleston and SJC. In the case of Charleston, this research disclosed how manufacturing MNCs have influenced the educational agenda and strategy of South Carolina, fostering for example the creation of different programs such as Career Academies, ReadySC, and Apprenticeship Carolina. Moreover, this study explored how Boeing was able to obtain several training incentives, exploiting, for example, the institutional capacity of ReadySC, a public program from South Carolina that committed to provide customized training, free-of-charge, to Boeing. In the case, of SJC, this research revealed how Embraer fostered processes of corporate capture in the FATEC and the ITA, influencing these educational institutions to establish customized programs that could deliver highly specific skills, also free-of-charge, for Embraer.

When analyzing these existing processes of corporate capture in SJC and Charleston, this research realized that such processes were much more nuanced than what the FDI studies and GPN literature had presented (see Phelps 2000, 2008; Dawley 2007; Phelps & Fuller 2010). For example, processes of corporate capture in both regions were related to multiple scales, were marked by illegalities and a lack of transparency, and had clear links to class relations, going beyond the view of government interests versus MNCs interests often stressed by mainstream literature (Phelps 2000, 2008; Almond et al. 2014). This required this study to rethink the term theoretically. Engaging with Neo-Marxist scholars, this research sought to reconceptualize the concept of corporate capture in terms of uneven development. Such a reconceptualization also attempted to develop an understanding of corporate capture that is not dualistic (meaning that corporate capture excludes the existence of processes of externalization) and is more sensible to questions of scale. Empirically, this analysis was able to incorporate a much more detailed description of what is corporate capture in regional training systems.

In my second research question, I inquired: How does the state in each region account for differences in how corporate capture evolves? When examining the evolution of processes of corporate capture in the regional training systems of SJC and Charleston and its relation to their state forms, it was also clear the need to rethink mainstream literature explanations. In this respect, as demonstrated in the second chapter, the GPN literature and FDI studies had a problematic approach to explain the relationship between the state and processes of corporate capture based on the lack of specific assets and low levels of institutional coordination (Mackinnon 2012; Coe & Hess 2011; Yeung 2016; Phelps 2000, 2008). As FDI researchers claim, liberal states are more prone to capture than developmental states, given that such a lack of coordination results in an absence of initiatives fostering processes of externalization such as

cluster formation (Phelps 2008). The processes of corporate capture in SJC and Charleston posed a challenge to such conceptualizations. Corporate capture is present in both states, even in the state of South Carolina, which as described on chapter four, is marked by high degrees of coordination. Additionally, the state of South Carolina, according to its state accumulation strategy, seeks to be intentionally captured in some cases in order to foster structural coupling processes. Moreover, the case of SJC revealed that the “classic” developmental states are also prone to corporate capture. Both cases also pointed to the need for an approach more sensible to state scale, which could break with mainstream broad generalizations. Therefore, corporate capture could not be only a matter of existence/lack of specific assets or state coordination. Capture evolves in much more complex ways and at multiple state scales.

In this regard, drawing from the variegated capitalism literature as well as Neo-Marxists readings of the state, this research developed an approach, which could explain why and how corporate capture evolves in relation to the state. Answering the question posed, I demonstrated that in SJC and Charleston the evolution of their processes of corporate capture is intrinsically related to how their state accumulation strategies privilege manufacturing MNCs, providing them structural advantages. Furthermore, I revealed that such an evolution happens related to their state forms and degrees of autonomy, thus, at multiple state scales and through different mechanisms.

In Charleston, processes of corporate capture in training initiatives evolved at multiple scales but mostly at the subnational. As disclosed, the state of South Carolina has developed an institutional apparatus that privileges manufacturing corporations, given that accumulation is pursued based on structural coupling processes. Such corporations have influenced the state of South Carolina, advancing their interests in regard, for example, to vocational training. In this

respect, the state of South Carolina in the last few years went through a drastic change, further aligning its educational agenda and strategy with the interests of MNCs. This in turn has resulted in the creation of several vocational training programs, which I depicted as examples of corporate capture. I argued that the programs ReadySC, Careers Academies and Apprenticeship Carolina were intentionally created to be captured by MNCs as a form to foster structural coupling. Therefore, capture in this case was not about a lack of specific assets or state coordination but the opposite. This research went further to demonstrate that corporate capture in South Carolina is related not only to its manufacturing fraction of capital but also to single MNCs such as Boeing. In this particular case, I revealed that the ReadySC Program was automatically captured by Boeing, given that the company met its requirements to receive incentives. Nonetheless, as demonstrated, Boeing advanced the degree of corporate capture regarding ReadySC program to a higher level, receiving many more benefits and incentives than would a regular business from the local business community.

In the case of SJC, I unveiled how Embraer's processes of corporate capture evolved also related to its accumulation strategy. However, the Embraer case shows that the evolution of corporate capture happened through different mechanisms and at a different scale. As it was argued, Embraer's evolution of corporate capture at the ITA and the FATEC happened through an organic form. As disclosed, the Brazilian developmental state, under the collective developmental project, fostered an organic coupling process in SJC, which was based on the co-evolution/co-creation of the CTA, the IPD, the ITA, and later on, Embraer. Such a co-evolution established a professional aerospace community with strong ties. Main local actors in the state, educational institutions, firms, research institutes, and not-for-profit organizations have often worked or graduated at the ITA and/or worked for an aerospace firm. This created a professional

bond among local actors, which has granted Embraer access to educational institutions and an easiness to establish customized training partnerships with public local educational institutions seen as processes of corporate capture. Different from Charleston, capture in SJC involves informal symmetric power relations at the local scale and did not emerge as part of a bargaining event.

Finally, in my third question, I established the following inquiry: Do the local forms of governance of each region reinforce or minimize processes of corporate capture in the regional training systems of SJC and Charleston? When analyzing my empirical data in order to answer this question, it was clear that mainstream literature in regard to two main approaches was problematic: Workforce development systems and local forms of governance. First, mainstream literature has problematically depicted local forms of governance as collective modes of coordination, as marked by trust and reciprocity, shared power and interests, and as having a strong autonomy from the state was problematic (Blanco 2015; Davies 2011). However, SJC and Charleston forms of governance have a strong relationship to their state forms and accumulation strategy and are marked by hierarchical power relations. Regarding workforce development systems, the GPN literature has conducted their studies on a conceptualization based on market relations, overlooking the contradictory nature of labor and labor markets (Gereffi and Fernandez-Stark 2016; De Vries et al. 2016; Chin and Liu 2014; Fernandez-Stark et al. 2011). The workforce development systems of SJC and Charleston were contradictory, requiring discursive and institutional regulation. An analysis based on demand and supply of labor and training would not be sufficient to explain the dynamics taking place in both regions.

In this regard, this study engaged with Neo-Marxist conceptualizations of labor, governance, and the state to address such an issue (Jonas 1996; Phelps & Wood 2006; Lovering

2011; Block 1987; Offe 1984). This research developed an approach to local forms of governance and regional training systems that could provide a more refined explanation of the training dynamics of both regions. This was important for this research to demonstrate whether SJC and Charleston forms of governance reinforce or minimize processes of corporate capture in their regional training systems. I argued that the tendency of SJC's and Charleston's local forms of governance to reinforce processes of corporate capture is related to their state form, accumulation strategy, and type of state selectivity. Moreover, it was also claimed that even in regions where their forms of governance tend to minimize processes of corporate capture, MNCs are still able to influence and capture regional training systems despite subnational states' accumulation strategies and local forms of governance prioritizing domestic SMEs. This is due to the multiple interests of governance actors involved in the commodification of education and workers, as well as, the economic and political power of MNCs.

This argument about corporate capture has implications in regard to the nature of capitalism and the state. Despite Charleston and SJC being located in different national and subnational states and being marked by distinctive contexts and backgrounds, there was a relative similarity of the outcomes of corporate capture in their regional training systems. Such a similarity points out to how corporate capture is a structural feature of capitalism and the capitalist state. Acknowledging corporate capture as a structural feature of capitalism and the capitalist state enforces the importance of the concept of corporate capture. This is because the concept not only accounts for the nuances and degrees of corporate power and influence (MNCs and fractions of capital) over the interests of states and local business communities, but also acknowledges the dynamics and outcomes for the working class. Therefore, the concept is useful to account for the multiple actors and their interests around policies of inward investments, and

more specifically, around training policies and initiatives. Moreover, as conceptualized in this dissertation, the concept of corporate capture is sensitive to the multiple state scales in which corporate power and influence take place.

In SJC, I claimed that its local form of governance reinforces processes of corporate capture. This happens due to a combination of factors: How skill needs are identified and addressed based on clientelistic relations, how the local existing aerospace professional bond grants to firms easier access and cooperation with educational institutions, and how Embraer's economic and political power allows the company to take advantage of such features. As revealed, based on clientelistic relations—strengthened by the existing aerospace professional bond among local actors, as described before—skill needs are identified through informal one-on-one interactions among governance actors. Based on the same relations, skill needs are addressed through direct interaction between firms such as Embraer and educational institutions. Personal/professional ties are important for actors to present their interests and to be attended by state managers. In this context, clientelistic relations in local governance, the existence of professional ties related to the aerospace sector along with Embraer's economic and political power allow the firm to influence educational institutions, and thus, to reinforce corporate capture. The lack of formal studies and strategies to identify and address skill needs at the labor market, benefits single firm influence such as Embraer over public educational institutions.

In the case of Charleston, I also argued that its local form of governance reinforces processes of corporate capture. However, it was acknowledged that local actors have, although problematically, attempted to minimize such processes of capture. As was claimed, Charleston's local form of governance reinforces processes of corporate capture by implementing and expanding higher-state programs seen as forms of corporate capture. To illustrate my argument

two examples in this regard were given: The Charleston Youth Apprenticeship Program and the Charleston Career Academies Program. In the case of the Charleston Career Academies Program, it has allowed, for example, Boeing to exert influence over high schools vocational training programs such as at the R.B Stall High School.

One major difference from the SJC's local form of governance resided in the fact that skill needs are identified and addressed based on a different political culture (and legacy). Having a political culture based on urban entrepreneurialism, the local form of governance in Charleston has a much more technocratic and broad approach to identify and address its region's skill needs. Skill needs are identified based on sector-level studies and collective governance meetings, and are mostly addressed through formal four-year strategies such as the One-Region. Such studies and strategies serve as a tool for governance actors such as the CMCC and the CRDA to present the region's skills needs to local educational institutions and state managers. Governance actors such as CMCC use these studies and the One-Region strategy to influence educational institutions, so that they can reformulate, create or expand their courses and programs. Governance actors also used such studies and the One-Region strategy to represent (i.e. "to educate") the skill needs of the region to state managers, and more specifically, as a tool for lobbying for investments, expansion of educational institutions and programs, creation of new programs, courses and training initiatives, among others.

The existence of sector-level formal studies and strategies have the potential to decrease single firms' influence over the educational agenda and training initiatives of regions, as scholars such as Phelps (2008) have showed. However, as I argued, attempts to minimize Boeing's corporate capture of ReadySC Program have been problematic. Attempts to minimize Boeing's corporate capture of ReadySC have focused on long-term training initiatives. Additionally, the

responsibility regarding issues of corporate capture related to low wages and lack of transparency have been transferred to individuals and to the market. Local governance actors not only lack the state power at the local scale to address these issues, but also believe that providing the right skills along with firms' competition can deal with such wage problems.

This research, therefore, by engaging with labor geography studies and Neo-Marxists scholars attempted to contribute to the FDI and GPN literatures, more specifically, in discussions regarding the “dark side” of strategic coupling processes related to issues of labor and uneven development (Mackinnon 2012; Bair and Werner 2015). As scholars have stated, the GPN literature has overlooked these questions (Rutherford et al. 2018; Gutelius 2016; Coe 2015; Bair and Werner 2015). By addressing the relationship between the state, governance, and processes of corporate capture, this study hopes to contribute to other studies and scholars who have worked toward addressing similar issues. Moreover, this research's contribution to studies of corporate capture related to regional training systems can serve as an initial reflection (and for action) for state managers to rethink their practices when bargaining with MNCs. More specifically, this study by bringing some light to how MNCs have exploited the institutional capacities of regions in regard to training initiatives, hopes to provide some considerations—although not so direct—of what could be done to ameliorate issues related to labor. Additionally, this research calls our attention in regard to the need for the working class through its representatives such as unions to be more proactive, and thus more involved in MNCs/states bargaining events in terms of demanding, as part of the negotiations, better working conditions and more inclusive training initiatives in regard to gender, race, and ethnicity.

Worth noting, in my attempt to answer the research questions above mentioned, this study met several difficulties, having various theoretical and empirical deficiencies. Empirically,

some of the deficiencies presented in this research is associated to its task of comparing the evolution of corporate capture and its relation to the state of two regions located in different contexts. First, it was a challenge to compare the processes of corporate capture between two different forms of state. While the federal government in Brazil is much more active than the federal government in the United States, we see the opposite in regard to their subnational states. South Carolina was a major actor in the processes of corporate capture in Charleston, while the state of São Paulo had a much less significant role. Charleston was also much more active than SJC. In this respect, instead of starting this study with bounded units, comparing SJC and Charleston, their subnational and national states, this research departed with the processes and practices under study, more specifically their processes of corporate capture, and then their relation to the state. Yet, at many times this study had to deal with issues when comparing distinct realities and contexts.

Such a difficulty was not only related to differences in state power and structure, but also to the task of comparing the evolution of corporate capture in both regions in relation to their accumulation strategies, which had a historical mismatch. As described, the evolution of corporate capture in SJC was related to the Brazilian import-substitution accumulation strategy, which was replaced almost 40 years ago, while the evolution of corporate capture in Charleston is associated to its current accumulation strategy. Therefore, it was complex to compare issues that are related to different historical moments. Moreover, I compared regions with different levels of maturity regarding their labor markets and regional training systems. Boeing was established in Charleston in 2011, therefore, its influence, in a context in which the aerospace labor market and training system of Charleston are just being built, is much clearer than in the case of SJC, where its regional training systems and labor market are well established. This can lead

this research to consider that Boeing is much more influential than Embraer in their regions without contemplating that such an influence resides in the emerging aerospace labor market of Charleston.

This research also draws only on two case studies in order to make broad claims, and although this study analyzed other empirical studies to support its claims, more empirical studies are needed to strength and confirm the findings presented in this dissertation, and to assess its established theoretical approach and arguments. Hopefully, such an issue will serve as motivation to stimulate more studies in this regard.

Another issue is related to a lack of interviews with some key actors. First, a small number of interviews were conducted with representatives of aerospace SMEs in both regions. In total, six firms' representatives were interviewed, three from each region. Many researchers analyze matters of corporate capture based on the interest of MNCs versus the interests of governments along with the interests of their local business communities. In this respect, this research was not able to collect significant data in regard to the interests of the local business community of both regions. Several attempts were made to contact firms' representatives; however, the response rate was very low. Governance actors, public educational institutions and state managers provided substantial information in this matter but still, having more interviews with aerospace SMEs could enrich this research substantially. Second, as stated in the introduction, this research was not able to have interviews with representatives from Boeing. This is an important limitation encountered in this research. Boeing's representatives were contacted through several mechanisms such as phone calls, emails, and in-person. Some participants were also requested to ask Boeing's staff for an interview. All requests were denied. Boeing's refusal to participate in this research reinforces one of the claims presented in this

research: Processes of corporate capture often involves issues of transparency. Boeing has received from the state of South Carolina nearly one billion dollars in incentives and subsidies, still the company refuses to share information that is of public interest. The impossibility of collecting information directly from Boeing's representatives made the task of understanding Boeing's training strategies, influence over South Carolina's and Charleston's educational strategy agenda, skill deficiencies, and problems regarding the workforce much more difficult. Nonetheless, this does not invalidate this research. This research sought to mitigate this issue by directing questions related to Boeing to all research participants, and by analyzing secondary documents such as newspaper articles, yet, this still represents a significant a problem. In the case of Embraer, its representative was more than willing to participate in an interview, and this might be related to the predominance of clientelistic relations, as described previously, which prevail in the local political and economic culture of SJC.

Theoretically, one of the issues concerns the concept of corporate capture. Corporate capture cannot be easily measured or quantified. As the market requires state intervention in order to function, MNCs are always influencing the state and its actions. Therefore, what is the point at which the influence of MNCs can be considered or not considered a process of corporate capture? Additionally, the processes of corporate capture in SJC and Charleston did not always have the same resemblance. For example, corporate capture in SJC is not related to processes of corporate capture at its subnational state (São Paulo) like in the case of Charleston and South Carolina. Another example concerns the differences in levels of skill specificity provided in these regions' customized training programs. Training and skills in Charleston are much more firm-specific—therefore less transferable—than in SJC. This means that establishing variables to measure whether corporate capture exists in different regions can pose a challenge, given that the

ways corporations influence the state in terms of education and training can greatly vary across space, and thus, corporate capture can present different characteristics. Yet, in both locations, MNCs do influence their states' regional training systems.

Another issue is related to how the term corporate capture can mislead readers to a view that such a process only involves the interests of MNCs being advanced, neutralizing for example, the interests of states and public educational institutions. However, as the cases of SJC and Charleston revealed, corporate capture is more a process of accommodation than imposition, involving multiple interests. The state and public institutions also have their own interests.

Another theoretical deficiency in this research concerns its focus on the relation between capital and the state, which resulted in a lack of attention toward the role of the working class in processes of corporate capture. As some scholars have argued, such a disregard concerning the role (or agency) of workers in shaping the state is a common feature found in the work of scholars engaging with Marxist state theorists (Clarke 1991; Kelly 1999). This is the particular case of Jessop's strategic-relational approach (Pfister 2004; Las Heras 2018; Kelly 1999). Jessop's approach, by placing emphasis on the overdetermining role of capitalist structures, undermines the role that individual and collective actors (and more specifically of the 'dominated', such as the working class or social movements) have in the emergence and shaping of hegemonic state projects (Pfister 2004; Las Heras 2018). In other words, Jessop overlooks how the state continuously interacts with the 'dominated', responding to and therefore being shaped by their interests. As Davies (2013) stated, this is problematic because hegemony and consent under hegemonic state projects tend to be fragile, and often encounter resistance and confrontation from the 'dominated', who actions can lead to counter-hegemonic projects due to their emancipatory power.

As stated before, this illustrates one theoretical—and consequently empirical—deficiency of this research, which by engaging with Jessop and other Marxist state theorists, lacked attention to how workers in SJC and Charleston—who have been part of the processes of corporate capture—perceive, conform, or react to such processes. In this regard—and although unions’ representatives were interviewed—this research did not conduct interviews with workers, for example, to inquire about their experiences, views and evaluation regarding the training programs under study (such as main problems), or about whether workers push their own agenda, find ways to resist existing detrimental outcomes of corporate capture. Interviewing workers could also be of great contribution, for example, to further analyze whether Boeing has met ReadySC program’s requirements such as hiring trainees in permanent positions, paying competitive wages, etc. Therefore, a significant problem that this research acknowledges is that the working class and its representatives were scarcely given voice, and their agency barely recognized. Such an issue calls for the adoption of a more refined approach to labor agency, and provides some potential empirical guidance for future research.

The first potential topic for future research could be to analyze national and subnational states that are marked by a strong influence of workers in the functioning and design of their skill training systems and curriculum (Busemeyer & Trampusch 2011; Rutherford et al. 2018; Rutherford 1998). That is the case of national states such as Germany and Switzerland (the so-called, by VoC scholars, coordinated market economies), or subnational states like Quebec, and even some sectors such as the steel sector in Canada, which are marked by strong union representation and involvement in training initiatives (Deissinger & Gonon 2016; Busemeyer & Trampusch 2011; Rutherford et al. 2018; Rutherford 1998). For example, in Germany, unions and works council work with the state and capital (local chambers) to negotiate skill

improvement and qualification, codetermining its skill training system (Franz & Soskice 2005). Unions have a crucial role in advising the government on vocational and education training decisions, and thus, in the design and updating of training regulation for occupational profiles. Unions in Germany understand vocational training as a public issue, and thus, a matter of education rather than employment (Deissinger & Gonon 2016). In such a model, vocational training provides marketable/transferable certified skills (Busemeyer & Trampusch 2011; Franz & Soskice 2005). In this context even though this research sees corporate capture as a structural feature of the capitalist state, and thus, a common aspect of European coordinated market economies (see Tansey 2018), it would be interesting to examine whether workers, in states with strong labor representation in training like Germany, are able to minimize, or offset FDI processes of corporate capture in their regional training systems. In such a context, are workers involved in FDI training initiatives incentives, and able to minimize corporate capture in training?

The second potential topic for future research could be to analyze how labor can have a crucial role in amending processes of corporate capture even in more liberal forms of state like in the United States, where labor representation is often weak. Scholars such as Rutherford (1998) revealed, that even in more liberal states such as Canada, workers can have in some sectors greater power to advance their agenda, for example, developing more labor friendly training systems. For example, the author demonstrates how the Canadian steel sector has large corporate actors more opened to dealing with unions whereas in the automobile sector, companies are often hostile to union involvement in training, even when having industry-wide skill transferability is of their interest (Rutherford 1998). As this research overlooked the fact that labor, as an independent actor, can have an important role in invoking counter-narratives and pushing back

processes of corporate capture, it would be interesting to examine cases in which workers and their representatives were successfully able to oppose MNCs' processes of corporate capture. One potential case for future research could be the case of Amazon and its bargaining event with New York City. This well-known case could demonstrate how workers and their representatives can take part in MNCs' negotiations with states, contesting and resisting the influence and power of MNCs over the state, and thus, minimizing processes of corporate capture (see Goodman and Weise 2019). In this case, labor organizers, progressive groups and some city politicians worked together, using the New York City's \$3 billion offer in subsidies to Amazon as an asset to push the company to commit to union jobs (Riley 2019). Although resulting in Amazon withdrawing its deal with New York, such a study has potential to shed some light in regard to how labor can amend processes of corporate capture in more liberal forms of state like in the United States.

To conclude, some of the deficiencies present in this research point to the potential theoretical and empirical areas that I would like to engage in my future research. As stated, more theoretical and empirical research is needed in regard to how different actors with differential powers, such as labor, the state and MNCs, have important roles and capabilities to advance their interests and ideologies concerning how skills are socially constructed. More specifically, how workers are able to push their agenda over issues of corporate in regional training systems. This also involves the need to equally recognize the importance of geographic and historical specificity of such processes.

This research then, joins other scholars who have begun to give greater attention to the tensions around labor that emerge from the differential powers of key actors (Rutherford et al. 2018; Coe 2015; Werner 2018), and provides some relevant points for future research. Finally, by engaging with the GPN literature and attending some of its scholars' call to explore the "dark

side” of strategic coupling (Mackinnon 2012; Bair and Werner 2015), this research hopes to contribute to such a topic as well as to spark more discussions in regard to how GPNs, the state, MNCs, and labor are related to uneven development and issues of corporate capture in regional training systems.

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- Zhang, J., & Peck, J. (2016). Variegated capitalism, Chinese style: Regional models, multi-scalar constructions. *Regional Studies*, 50(1), 52-78.

Curriculum Vitae

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EDUCATION

Ph.D., Department of Geography, Syracuse University, October 28 2019
Dissertation: The State, Aerospace MNCs and Variegated Forms of Corporate Capture in Regional Training Systems: A Cross-National Comparative Study Between Charleston, SC, U.S.A. and São José dos Campos, SP, Brazil
Dissertation Adviser: Dr. Tod Rutherford

M.A., Department of geography, Universidade Estadual Paulista “Júlio de Mesquita Filho”, 2013
B.S., Universidade Estadual do Paraná, 2010

PUBLICATIONS

Refereed Journal Articles

In English

Teixeira, T. (2019). Fragmented and diverging strategies and initiatives as the pattern of governance outcomes in Brazilian local productive arrangements. *Journal of Latin American Geography (Forthcoming)*.

In Portuguese

Teixeira, T. (2013). An analysis of the Brazilian tableware industrial sector. *Revista Geografares*, 1, 227-267. DOI: 10.7147/GEO00.0000. Available at <http://www.periodicos.ufes.br/geografares/article/view/4530>.

Teixeira, T. (2013). Territory and Competitiveness. *Caminhos de Geografia (UFU)*, 14, 71-85. Available at <http://www.seer.ufu.br/index.php/caminhosdegeografia/article/view/21042>.

GRANTS, AWARDS & HONORS

- 2018 Interuniversity Research Centre on Globalization and Work. Total \$1000,00.
- 2018 Summer Institute in Economic Geography: Total \$1400,00.
- 2017 Work, Labor, and Citizenship Initiative Award. Total \$4,000.00.
- 2015 Program on Latin America and the Caribbean (PLACA). Total: \$1,000.00.
- 2014 Roscoe Martin Program. Total: \$500.00.

- 2013 Coordination for the Improvement of High Education (CAPES). Scholarship to support the development of my dissertation at Syracuse University. Total \$72,000.00.

INVITED TALKS

- 2017 The Brazilian Developmental State, Aerospace Strategic Coupling and Corporate Capture: The Case of Embraer and São José dos Campos Regional Training System, invited lecture presented to the Department of Geography at the State University of Paraná, Campo Mourão, Paraná, Brazil, May 15th.

CONFERENCE ACTIVITY/PARTICIPATION

Papers Presented

- 2019 Presentation of a paper at the annual meeting of the Association of American Geographers in Washington, DC. “The State, Aerospace MNCs, and Variegated Forms of Corporate Capture in Regional Training Systems: Charleston, South Carolina, USA, and São José dos Campos, São Paulo, Brazil in Comparison”.
- 2018 Presentation of a paper at the event *What Kind of Work for the Future? Disruption, Experimentation and Re-/Regulation*, organized by the Interuniversity Research Centre on Globalization and Work in Montreal, Canada. “The State, Aerospace MNCs, and Corporate Capture in Regional Training Systems: Charleston, South Carolina, USA, and São José dos Campos, São Paulo, Brazil in Perspective”.
- 2018 Participation at the Summer Institute in Economic Geography. Ghent, Belgium, July 8-13. Organized by Prof. Jamie Peck, University of British Columbia (chair of steering committee).
- 2015 Presentation of a paper at the annual meeting of the Association of American Geographers in Chicago. “Divergence, Fragmentation, and Stagnation: An Analysis of the Waste Governance at the Pottery Industrial District in Porto Ferreira, São Paulo, Brazil.”

TEACHING EXPERIENCE

- 2019 Instructor, GEO 361 Global Economic Geography, Syracuse University.
- 2019 Instructor, GEO 155 The Natural Environment, Syracuse University.
- 2016 Instructor, GEO 171 Human Geographies, Syracuse University.
- 2016 Teaching Assistant, GEO 103 Environment and Society, Syracuse University.
- 2015 Teaching Assistant, GEO 171 Human Geographies, Syracuse University.
- 2015 Teaching Assistant, GEO 155 The Natural Environment, Syracuse University.
- 2014 Teaching Assistant, GEO 155 The Natural Environment, Syracuse University.

RESEARCH EXPERIENCE

2011— 2013 During my master’s degree studies I was part of the research project "Modalities of Territorial Governance in the State of São Paulo". This project aimed at studying the forms of governance of several industrial clusters located at the state of São Paulo, Brazil, and their importance to regional development. It was funded by Fundo de Amparo à Pesquisa do Estado de São Paulo – FAPESP.

2009 As an undergraduate student I was part of the research group “Regional Studies: Geo-Historical, Socio-Cultural, Economic, and Environmental Education”. The objective was to study and provide information concerning the influence of natural elements in urban planning and in developmental policies at the region of Campo Mourão, Paraná, Brazil.

SERVICE TO DISCIPLINE

2014 — 2015 Graduate Student Representative, Geography Department, Syracuse University.

2008 — 2009 Undergraduate Student Representative, Geography Department. UNESPAR.